The Integration of Traditional and Modern Systems of Environmental Management and the Use of Public-Private Partnerships in Natural Resource Management and Tourism Development in the State of Yap, Federated States of Micronesia

A Field Study with Observations and Recommendations

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- Perelini S. Perelini, PE, Chief Operations Officer of American Samoa Power Authority, a long-time advocate of sustainable management of the environment with personal experience in many different Pacific island cultures;
- Howard A. Schirmer, Jr. PE, President of Transnational Associates, Inc., an environmental engineering and management specialist and a veteran of many infrastructure and tourism development projects throughout the Pacific island countries; and
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1 Executive Summary

1.1 Objective

As part of the preparation of the Pacific Region Environmental Strategy (PRES) the Asian Development Bank (ADB) has funded a field study in Yap State, Federated States of Micronesia with regard to traditional approaches to the management of natural resources and their relationship to modern resource management and to the development of tourism. It is intended that this study contribute to the guidelines of PRES for environmental sustainability and be of general use to other Pacific island members of the Bank.

The objectives of the study are to evaluate: 1) how traditional systems have played a role in natural resource management and in development, 2) how traditional systems could be productively integrated with contemporary approaches to resource management, and 3) how public-private partnerships have been employed in the development of tourism destinations in a Pacific island nation and could be employed in future development.

The study examines through interviews of locally involved persons the decision-making processes employed for the development of four resorts. Two are small locally owned facilities using traditional island design and two are larger, more complex and internationally or expatriate owned and operated facilities. Through the same interview process the study examines the traditional methods of natural resource management, how the traditional and modern state approaches have conflicted or complimented each other, and how they can be better integrated in the future for more sustainable environmental management.

1.2 Background

Government

Yap is one of four states in the Federated States of Micronesia (FSM). Within the federation Yap State is a constitutional democracy with great independence to set its own policies and operations.

Respect for tradition is incorporated into the constitution of Yap State, into the legal code, and into the very structure of the government where, in addition to the normal executive, legislative and judicial branches, there is a fourth branch composed of two councils of traditional leaders.

Traditional Leadership

Respect for the traditional culture and for the traditional leaders in Yap is still strong, though the observance of traditional practices and rights is weakening as Yap progressively enters the cash economy and adopts modern technology.

The traditional method of natural resource management in Yap is based in very complex systems of both traditional leadership and land tenure. In the traditional culture of Yap there is normally

not a single leader or "chief" for a geographic area. There are complex hierarchies of village and family structure, and for any single village and its lands there are multiple leaders of different rank, each with specific cultural and operational responsibilities and authorities. One of the leaders, not necessarily the most senior, has responsibility for the stewardship of the land and another has responsibility for stewardship of the water or marine resources.

As part of the system of multiple and specialized leadership roles, decisions are normally taken consensually, through community discussion from which the responsible leader gauges the consensus and announces it as the decision of the community. The Yapese culture is very non-confrontational, and it is often difficult for individuals to speak their opinion.

Decisions are taken for the overall welfare of the community, whether at the village or regional level. As much of the work in the past was done communally (e.g., fishing and building fish traps, building boats or houses, and repairing the stone paths that connected communities) there was ample opportunity for members of the community to slowly discuss issues and usually a consensus could emerge without confrontation.

Land Tenure

Land tenure is extremely complex and has significant implications for future development and management of natural resources. Some land or water may be held communally, but for most the right to use the resource is owned by individuals and is inherited in an equally complex hybrid matrilineal/patrilineal system. While the "owner" enjoys the exclusive use of the resource, the nature of that use is subject to the guidance or limitation of the traditional leader who has responsibility for stewardship of the resource. The owner has the right to take resources from the area for the welfare of his own family, but more extensive use, such as fishing by net or agriculture for sale is subject to the decision of the appropriate traditional leader.

Because of its importance land has been divided through inheritance until most of it is in small parcels. Less than ten percent of land in Yap has been surveyed and titled. There are many disputes over boundaries and because several persons may be named as owner it is often difficult to title the land. Tourism facilities have thus far been built on small footprints of land owned by the entrepreneur or on land in Colonia that is or was owned by the state. Any future development of tourism, especially dispersed eco-tourism outside Colonia, will face significant barriers in acquiring the clear title or access to land that will be acceptable to investors. Foreigners and foreign companies are not allowed to own land in Yap.

1.3 Findings

Natural Resource Management

The traditional systems of natural resource management are extensions of the very complex systems of traditional leadership, community cohesiveness and land ownership. The objective in the traditional system of stewardship of the natural resources was to assure sufficient food and shelter materials. Achieving that objective of course required sustained yield and productivity from the natural systems, but there was no distinct concept of the sustainable use of natural

resources. The consensual manner in which decisions were made and the ownership and authority patterns over the land and marine areas served to limit who could use the resources and how they could be used to meet a complex set of community needs and obligations. The available technology (e.g., stone fish traps and heavy hand-made nets) was such that its use within the ownership system could not easily exhaust the resources, and marine populations and land fertility remained stable. It was not necessary to plan for the management of natural resources and such planning was not part of the traditional culture.

These traditional systems of natural resource management have increasingly been unable to regulate the use of either marine or terrestrial resources in the sustainable manner that they once did. Weakened traditional authority and loss of community cohesion make it difficult to stop widespread poaching in violation of individual fishing rights, and technological changes allow an individual or small group to over-fish an area where previously the entire community fishing together and limiting the entry of other communities did not deplete the stocks. Certain fish species have almost disappeared, and there is widespread recognition that marine resources are endangered.

The greatest single impact on the marine resources has been the introduction of the small-mesh monofilament nylon net that has made lagoon fishing so easy that fish stocks inside the reef are being decimated. The traditional leaders recognize that there is a problem, but the traditional system of stewardship seems unprepared to deal with the issues and unable to stop the process.

Increasing variability in weather conditions has produced more extreme storm condition, causing substantially increased erosion and saltwater intrusion into coastal agricultural lands. The loss to saltwater intrusion of important taro producing land at the coastal fringes has caused the clearing of interior land for garden patches, with resulting steady increase in loss of already diminished forest cover. Traditional methods for the multiple use of agricultural land for higher productivity and sustainable yield have been largely lost, and the weakened traditional authority and community cohesion appear unable either to reintroduce traditional agricultural methods or to stem the continuing clearing of more land.

The state government has organizational units to plan and manage both agriculture and marine resources, but these units lack sufficient trained staff and funding to undertake effective outreach programs. The state management units meet resistance from the traditional system that sees state government as intruding on traditional usage rights, while the traditional system is itself unable or unwilling to confront and deal with the steadily deteriorating resource base.

There has been very little integration of traditional and modern systems of natural resource management. Traditional systems prevail by default even in their weakened form because of the reluctance of government to confront traditional land and water use rights. Communications between the state government and the traditional leaders and communities are weak, sometimes clouded in mutual suspicion, and the latter generally assume that the state is focused on economic growth, balance of payments, foreign investment, tourism promotion and other such "modern economy" issues and not concerned with the problems or opinions of the traditional leaders and communities.

The two councils of traditional leaders, established constitutionally among other purposes to avoid such a communications gap, have in most cases been unable to do so effectively, becoming more involved in the modern economy issues of the government.

Lack of effective channels of communication has made it difficult for state agencies to reach understanding with leaders and communities on the common objectives and interests of traditional and modern approaches to management and how they can be beneficially integrated.

Tourism

Tourism in Yap is of limited scale relative to its neighbors, Palau and Guam. There are seven hotel facilities with a total of 100 rooms on the main island of Yap and one hotel of 10 units on the outlying island of Ulithi. All facilities are relatively small, ranging in size from 4 to 24 units. Tourism is very important to the Yap economy. The Yap Visitors Bureau estimates that tourists spend US $3 million annually in Yap, a significant amount relative to Yap's annual gross domestic product of about US $40 million. It is believed that more than 80% of tourism revenue is connected to diving, which is in turn heavily dependent on the famous manta rays that can be seen year-round.

All but two of the tourism facilities are in Colonia, the capital of Yap with a population of about 1000 persons. All facilities in Colonia are on small areas of land, are connected to the municipal waste treatment system and have thus far had little impact on the environment or the natural resources base. There has been little growth in tourism since the 1997 Asian financial crisis.

The people of Yap are aware of the social and environmental problems that large scale tourism has brought to some of their neighboring islands and they want a different future for Yap. They recognize, however, that Yap has very limited resources to export or by which to attract foreign investment, and they therefore assume that their future is tied to the development of tourism. While there are fragments of a vision of future tourism, there is no plan or strategy as to how they will expand their current level of tourist arrivals and capture new markets.

Public-private Partnerships

None of the four tourist facilities studied involved any significant form of public-private partnership. Of the two larger facilities, one was built on land created by fill, owned by the state and sold to the developer and present owner and operator. The other is built on land leased from the state and through former colonial powers long ago alienated from any traditional ownership.

Of the two smaller facilities studied, one is built on land in Colonia purchased through traditional means (e.g., stone money and other obligations) by the Yapese family that owns and operates it. The other is outside Colonia and is built on land owned traditionally by the developer and operator. In both cases the facilities are built on land still within the traditional system of ownership and there are traditional obligations that still connect to the land.

There have been two attempts at public-private partnerships in tourism in which private capital partners with the village or community. A large development was being negotiated between a

municipality and a developer when investors withdrew during the Asian financial crisis. Another smaller venture was started in a partnership between a village and an American investor, but the facility was destroyed by a typhoon in 2001 when only two units had been built and it was barely operational. Though the concept seems acceptable there has been no real test of it in practice.

1.4 Recommendations

Four strategic recommendations have been derived from the study as programmatic guidelines that will enhance environmental sustainability of the use and management of natural resources, including for the development of the tourism industry. These recommendations reflect the comments and the recommendations of the people of Yap interviewed and are made with reference to the conditions and issues in Yap. But they are based on problems that are pervasive among the Pacific island countries. Specific actions to implement each must be tailored to the particular conditions in the location concerned.

Identify Shared Goals and Plan Strategically

When asked what they want for Yap, most Yapese answer with a number of common elements, including respect for traditional values, controlled progress into the modern economy, better education and health, development of high-end eco-tourism, preservation of the environment, better infrastructure, etc. But there is no forum in which these issues are openly discussed and there is no generally accepted statement of a vision for Yap or of how the commonly held values and objectives will be achieved.

Many Yapese feel that the government is pursuing economic development (e.g., trade, infrastructure, etc.) rather than development that focuses on bringing a better quality of life for many people. Development should be based on broad agreement of what the government and the people are trying to achieve and the values and priorities that comprise that vision. So long as there is no open discussion of issues or general agreement on values and a future for Yap it will be very difficult to integrate the traditional forms of natural resource management with modern management techniques. Integration will require using the tools and leverage of traditional authority and community cohesiveness working together with state government science and expertise to achieve common objectives relating to the sustainable use of natural resources.

Build Government to Community Communications

Communications between the state government and the communities is poor, and effective channels of communications must be built through systematic contact. The councils of traditional leaders are not successful in fulfilling their intended role of communications between government and traditional leaders. State government agencies have tried largely unsuccessfully to communicate with the municipalities, but need to do so more, systematically and with a willingness of government to listen rather than direct. Such a program will gradually create understanding through which the community and the state government can develop cooperation. Development programs must support the efforts of state agencies to mount well thought-out and systematic processes of communications with the people.

Agreed goals and a shared vision of the future are essential as a basis for selecting courses of action that integrate traditional and modern concepts and tools for management of natural resources. Development of a commonly held strategy must begin in the communities and progress up to the state level. Forums should be conducted at the community level to identify the community visions for the future, and those should collectively build a state vision. A vision developed at the top and passed down to the communities will be viewed as poor communications between state and community.

Strengthen Community Cohesion and Action

Traditional management of natural resources was based on the needs of the community, but more importantly on cohesion within the community that caused its members to communicate often among themselves and to understand their common needs and best interests. The advent of the cash economy and modern technology has caused the community to break down as an entity, with the result that its members and leaders often do not understand the issues of sustainable use of natural resources and are no longer able to act as an entity to enforce their collective will (e.g., preventing widespread poaching and use of gill nets).

Development programs should address creating community awareness and cohesion, supporting community forums and education to identify common problems and possible solutions. Communities also need the means by which to take action. A strong and focused community is a critical tool for sustainable management of natural resources. Without it sustainable management may in many cases not be achievable at all, especially given that a strong enforcement capability will always be both too expensive and culturally unacceptable.

Promote Public-private Partnerships

While public-private partnerships are relatively unknown at present, the concept fits well with traditional concepts of the role of the community or village in the management of natural resources. Partnerships should be supported through development programs at all levels. They will provide stability by engaging more stakeholders in the active management of resources, preventing resource owners from feeling taken advantage of by developers and investors.

Development of eco-tourism requires access to substantial land and water resources. With the prevailing complex system of land ownership, partnerships may be the only way that such development will be possible. Most Yapese asked responded that a public-private partnership between an outside investor and a community for the development of an eco-tourism destination might be the only way such a venture could access the land and water resources required. In such a venture the community would hold an equity interest in exchange for the guarantee of access to land and resources and over time would take an increasingly active role in the actual management of the facility. Development programs should build the institutional capability - the business and community advisory and legal services - to initiate and develop such partnerships.

2 Introduction

The Asian Development Bank (ADB) is formulating a Pacific Region Environmental Strategy (PRES) that reviews major environmental challenges in the Pacific region and formulates strategic objectives, guidelines and activities for ADB's assistance to its Pacific island member countries. The purpose of the strategy is that development in the member countries should be environmentally sustainable and that assistance given by ADB to its members should move development in that direction. As part of this undertaking ADB has supported several studies of discrete issues in the practices of environmental planning and management in the Pacific region.

One such issue is the integration of traditional practices of natural resource management with modern governmental practices, with particular reference to the impact of traditional practices on the development of tourism and visa versa, and the use and future appropriateness of public-private partnerships in tourism project development.

Traditional systems of natural resource management are extensions of complex systems of traditional leadership, community cohesiveness and land ownership. There was commonly no specific objective in the traditional system of managing the natural resources, other than to assure sufficient food and shelter. The consensual manner in which decisions were made and the ownership and authority patterns over the land and marine areas served in the past to limit who could use the resources and how they could be used to meet a complex of community needs and obligations. Moreover, the available technology was such that use of resources within the ownership system could not easily exhaust the resources, and marine populations and land fertility remained stable. It was not necessary to plan for the management of natural resources and such planning was not part of the traditional culture.

These traditional systems of natural resource management have increasingly been unable to regulate the use of either marine or terrestrial resources in the sustainable manner that they once did. New technology (such as the nylon gill net and the outboard motor), not foreseen in the traditional systems, has made it easy to overuse the resources. The growth of tourism has added another dimension to the use of the resources, and in most island settings tourism depends in turn on the condition of the natural resources for its very existence. Finally, governments have introduced programs for the management of natural resources using contemporary science and approaches, but they have been poorly funded and have immediately collided with concepts of traditional rights to the use of the resources.

A key question in planning future natural resource management is how the traditional and modern systems have interacted until now. One must also address how a weakened system of traditional leadership and community cohesion can be strengthened and engaged in collaboration with modern government to manage the marine and terrestrial resources of an island state. Another aspect of the question is how the development of tourism has affected and been affected by the traditional system of resource management, and if public-private partnerships between investors and traditional communities could make future development of the tourism industry both feasible within the traditional systems for the management of land and resources, and environmentally sustainable. The following field study attempts to address the above questions.

3 Background and Rational of the Study

As part of the preparation of the Pacific Region Environmental Strategy (PRES) the ADB has funded a field study in Yap State, Federated States of Micronesia with regard to traditional approaches to the management of natural resources and their relationship to modern resource management and to the development of tourism. It is intended that this study contribute to the guidelines of PRES for environmental sustainability and be of general use to other Pacific island members of the Bank.

Understanding the interaction of traditional and contemporary approaches to natural resource management is critical within the continuing shift away from traditional values and approaches. Traditional approaches have evolved over centuries, and while they do not always fit entirely with contemporary economies and objectives, they can often make a significant contribution in combination with contemporary approaches. At a minimum, modern developers should understand them so that serious conflicts are avoided. The most valuable and efficient solution, however, is likely to be one in which the traditional approaches can be integrated into comprehensive policies and approaches for environmentally sustainable development.

It is important and timely to examine the effectiveness of public-private cooperation or partnerships. Worldwide they are increasingly relied upon in lieu of strict regulatory approaches, and it is increasingly difficult to rely on either public or private resources exclusively for achieving sustainable development. This is a global trend and it is useful to understand how such partnerships have worked in the past and could better work in the future in the Pacific island cultures.

Tourism is an important potential growth industry for the Pacific islands. It also creates an environmental burden on the often-fragile Pacific island ecosystems and is itself highly dependent upon a largely undisturbed and appealing environment and ecosystem. Its development is therefore inextricably interlaced with issues of the sustainable management of natural resources, including traditional aspects of such management, their integration with modern management methods, and the complex land tenure systems involved.

Public-private partnerships offer a means to involve traditional systems in the development of tourism. More important, they may be the only means for tourism development to coexist with traditional systems of land tenure and right-to-use aspects of traditional resource management.

Both public-private partnerships and traditional approaches to natural resource management are key to the development of integrated natural resource management policies and strategies that can be effectively mainstreamed into overall development policies and strategies for a sustainable future. While each Pacific island group has different cultural imperatives and conditions, the island cultures have sufficient in common through geographic conditions, ethnic origins and other factors that conclusions and recommendations drawn from one island nation should have general replicability for policy and strategy across the region.

It is appropriate to undertake an examination of the implications of traditional systems of natural resource management on development in the tourism sector because a number of Pacific island countries derive a major portion of their foreign exchange from tourism, and many more are looking to tourism as their economic growth sector for the future. Most of the tourism is based on the use of coastal resources and has the potential for causing significant impact on fragile coastal ecosystems and on the traditional uses and access to the coastal aquatic resources.

Yap is dependent upon tourism as its largest source of foreign exchange other than funds from the Compact of Free Association with the US. It is also a cluster of islands with fragile coral coastal ecosystems. Moreover, Yap has been moderately successful in developing its tourism industry, apparently without serious resulting environmental damage until this time. There is concern, however, that unless it is carefully managed continuing development, especially any large-scale development, may overload the ecosystem with significant resulting impacts.

As it is particularly dependent on the sustainable use of coastal resources held in the traditional system of land tenure, the development of tourism may more often require public-private partnerships and the resolution of traditional use systems and modern development approaches. Economic development that does not adequately consider the environmental sustainability of its actions may systematically destroy the basis for development, especially in tourism. While the issues addressed in the study are not entirely new and have been previously addressed in many aspects, it does not appear that the particular combination of issues, traditional vs. contemporary resource management and the efficacy of public-private partnerships has been previously examined in an integrated fashion for the purpose of mainstreaming environmental considerations into development policy and strategy.

This approach is important because islands may be the first victims of global environmental impacts, while at the same time islands are best positioned to demonstrate to the world the economic, social and environmental benefits of a well-planned, comprehensive, and broad-based sustainability program. Islands have an inherent advantage in developing sustainability models because of their small size, cohesive social history and culture, limitations on natural capital and opportunities for tourism and other industry, and frequently a dedicated community of young people who are the next generation of leadership. Most islands have not been able to take advantage of such an approach due to their isolation and lack of human and economic resources. Too often assistance programs they receive are restricted to one or two sustainability components (e.g., sewage treatment or energy technologies) and the programs provide only short-term solutions in isolation from related sustainability components that would yield a holistic view.

The comprehensive and integrated approach of this study responds effectively to the mandate of the World Summit on Sustainable Development (WSSD) that small island states require immediate action to alleviate environmental impacts while improving community quality of life and establishing a strong and credible economic base. The analysis is designed to lead to a more achievable strategy to integrate traditional and contemporary approaches to environmental management and to promote beneficial public-private partnerships in economic development, facilitating achievement of the objectives of the WSSD.

4 The Study

4.1 Objective and Scope

The objectives of the study are to evaluate: 1) how traditional systems have played a role in natural resource management and in development, 2) how traditional systems could be productively integrated with contemporary approaches to resource management, and 3) how public-private partnerships have been employed in the development of tourism destinations in a Pacific island nation and could be employed in future development.

The purpose of the study is to generate recommendations to the ADB that will contribute to the PRES and its guidelines for achieving the environmental sustainability of future assistance to Pacific island member countries.

The study uses primarily personal interviews to examine the decision-making processes employed for the development of four tourism hotels. Two are small locally owned facilities using traditional island design and two are larger, more complex and internationally or expatriate owned and operated facilities. The research enquires if public-private partnerships or cooperation were achieved in these developments, if so where problems were encountered. Finally, comments are presented on how such partnerships can be promoted and better integrated into future development and management of natural resources.

Through the same interview process the study examines the traditional methods of natural resource management, how the traditional and modern state approaches have conflicted or complimented each other, and how they can be better integrated in the future for more sustainable environmental management.

The study also examines and contrasts the traditional natural resource management systems (such as restricted rights to the use of land and marine resources) with the concepts of resource management that have been employed by the state government. The analysis further examines how the traditional and modern approaches may have conflicted or complimented each other and how they can be better integrated in the future for more effective environmental management. Conclusions are drawn on the implications of the study's findings for efforts to mainstream environmental considerations into national, state and sectoral development plans, policies and programs in Yap and the other Pacific Developing Member Countries (PDMCs) of the ADB.

The analysis is designed to help the ADB and the Yapese organizations and agencies to better understand the interaction of public and private interests and of traditional and modern approaches to development and resource management. The recommendations for achieving more effective collaboration and integration of the different approaches provide broadly replicable guidance to ADB for inclusion in PRES and for mainstreaming policy and strategy for environmentally sustainable development.

4.2 Methodology and Implementation

The study is based primarily on interviews with a wide range of individuals in Yap. This list includes the managers of the tourism destinations concerned and those who may have direct knowledge of the decision processes and issues that were involve in their establishment. However, since the study involves broad issues of traditional versus modern approaches to the management of natural resources, and the efficacy and appropriateness of public-private partnerships within the context of the Yapese culture, a much wider range of individuals were interviewed than just those dealing with tourism. The full list is shown as Appendix 1.

Relevant documents such as the Constitution of Yap, the State Code of law, established and pending legislation, and various plans and conference reports were reviewed to gain their relevant information. The full list is presented in Appendix 3. However, the culture of Yap is one of verbal history, and beyond the relatively recently written legal code and regulations, much which is understood and widely observed by its citizens is not written. Very little in the manner of policy or economic or political direction is written. While most Yapese would agree on many issues or values, it is usually not possible to find those points in written form. The study therefore depends heavily on verbal information collected in interviews and in informal discussion.

Appendix 2 presents acronyms and abbreviations. Appendix 4 presents the Terms of Reference for this study. Appendix 5 presents an approach to integrated sustainable development for an island nation.

4.3 Issues

Collection of information has centered on a set of key issues, each of which translates in interviews into a set of questions that vary according to the situation. The issue areas and specific questions include the following:

Vision

- What are the long-term interests and objectives of the FSM National Government that will have impacts on the development of Yap?
- What are the interests and objectives of the State Government of Yap with regard to sustainable management of natural resources?
- What are the interests and objectives of the traditional leaders of Yap with regard to sustainable management of natural resources?
- What are the interests and objectives of the tourism industry of Yap with regard to sustainable management of natural resources?

Resource Management Approaches

- What is the relationship of the traditional leaders to the state government?
- How have traditional leaders managed the use of natural resources?
- What approaches does state government use to manage the natural resources sustainably?

- Have there been conflicts between traditional and modern approaches, and if so how have they been resolved?

Resource and Development Policies

- What are present state policies and strategies for economic development?
- What are present state policies and regulations as they affect environmental and resource conservation in development?
- Have policies and strategies for development incorporated traditional approaches?
- What are the state government policies, incentives and marketing strategies to attract new investors in tourism?
- Do present policies and strategies encourage and create conditions favorable to public-private partnership and collaboration in development?

Tourism Development Process

- What are the present processes, procedures and permitting and licensing requirements for the development of a tourism destination?
- What were the processes in place at the time of the development of the facilities examined in the study and did they incorporate traditional approaches?
- Were the procedures followed and were there problems?
- Were there public-private partnerships involved, and what problems were encountered?
- How did the development process for small-scale facilities contrast with larger facilities in issues encountered?

Conflicts and Synergy

- Overall, how have traditional approaches to management of natural resources conflicted with contemporary approaches?
- How can they be integrated into and be supportive of contemporary approaches?
- How do public and private interests conflict, and how can they best work together for mutual benefit?

Recommendations

- What policies and strategies can help to promote and create the conditions necessary to beneficial integration of traditional approaches with contemporary approaches for environmentally sustainable development, especially in the tourism industry?
- What policies and strategies can help to promote and create the conditions necessary to the use of public-private partnerships for environmentally sustainable development?
- What can ADB do in technical assistance and in guidance for lending to assure environmental sustainability in the development it supports in the Pacific island countries?

The findings and resultant analysis and recommendations are largely a synthesis of the answers received to the above questions from the more than fifty individuals interviewed in Yap.

5 Findings and Analysis

5.1 Background and Observations

Federated States of Micronesia

The Federated States of Micronesia (FSM) comprises the four island group states of Yap, Chuuk, Pohnpei, and Kosrae, and the million plus square miles of ocean surrounding the islands. The total land area of FSM is 207 square miles extending 1,700 miles from west (Yap) to east (Kosrae). The 133 square mile island of Pohnpei is the largest in the FSM and home of the country's capital, Palikir. Total population of FSM was estimated in July 2002 at 135,869.

In 1979 the Federated States of Micronesia, a former United Nations Trust Territory of the Pacific Islands (TTPI) under US administration, adopted a constitution and in 1986 independence was attained under a Compact of Free Association with the United States in which the US provides national defense and substantial grant funds. The FSM is currently renegotiating the Compact with the US for a period of an additional 20 years. The FSM is a member of the World Bank, the International Monetary Fund and the ADB.

Principal sources of revenue for the FSM are US payments, government work, fisheries, tourism, and subsistence agriculture. Present per capita GDP is about $2,000. FSM annual exports are $22 million (f.o.b., FY99/00) of primarily fish, garments, bananas, and black pepper. Its principal trading partners are Japan, the US, and especially Guam. Annual imports are $149 million (f.o.b., FY99/00), leaving a large balance of payments deficit that is largely covered by US payments under the Compact and by tourism.

Present economic concerns include large-scale unemployment, over-fishing, and over-dependence on US aid. Economic activity of FSM consists primarily of subsistence farming and fishing. The islands have few mineral deposits worth exploiting except for high-grade phosphate. The potential for more tourist industry exists, but the remote location and a lack of adequate facilities and transportation hinder development. In 1996, the country experienced a 20% reduction in revenues from the Compact of Free Association, the agreement with the US in which Micronesia received $1.3 billion in financial and technical assistance over a 15-year period ending in 2001. Since these revenues accounted for 57% of consolidated government revenues, reduced Compact funding resulted in a severe depression. Economic activity started to recover in 1999-2001.

The country's medium-term economic outlook is fragile due to possible further reductions in external grants to be made under the next round of funding for US Compact. Geographic isolation and a poorly developed infrastructure remain major impediments to long-term growth. However, a satisfactory outcome to negotiations for renewal of the Compact will provide a basis for future development if wisely utilized.

State of Yap

The traditional name of Yap is "Waab". In the traditional language "yap" means the oar of a boat. When the first European trading ship came to the island the sailors asked the name of the island, pointing down at the water. The islanders thought they were pointing at the oars of their boat and answered: "Yap".

Located in the Western Carolines, about midway between Guam and Palau, Yap State comprises a tightly clustered group of four volcanic islands Yap, Gagil-Tomil, Maap, and Rumung, which together with ten smaller islands are surrounded by a coral reef. There are another 19 inhabited outer islands and 115 uninhabited islands and atolls, giving a total land area for the state of 46 square miles. Two-thirds of the estimated 12,000 population of Yap live on Yap Island. Other islands with substantial land area and populations include Ulithi, Fais, Woleai, Ngulu, Satawal, Sorol, Lamotrek, Sowol and Eauripik. Only the first three are served by regular air service. Yap State includes a vast oceanic territory.

Yap's capital and center of business and government is Colonia, a small town with a population of about 1000, situated along the waterfront and around a bay.

Government

Yap is one of four states in the Federated States of Micronesia (FSM), and within the federation Yap State is a constitutional democracy with great independence to set its own policies and operations. On the mainland there are 10 municipalities and in the outer islands there are 2 island groups.

The Yap State Legislature has 10 representatives, called Senators. Six are elected at large from the main island of Yap and four are elected from districts that include the 19 outer islands. The Senators are elected for a four-year term, as is the Governor.

The Senators have no term limit but the Governor is limited to two terms. Normally the Senators are opposed in elections but equally normally they are reelected until they decide to retire. Most Senators are from mid-caste villages and most have been traditional leaders. The most recent election in January of 2003 was the first time that there was more than one a candidate for Governor.

The preamble to the Constitution of Yap recognizes traditional heritage and community life as the foundation of Yapese society and commits the government to integrate modern institutions and technology with traditional ways so as to realize prosperity and welfare for all. The Constitution establishes the Council of Pilung (COP) for the traditional leaders from the main islands and the Council of Tamol (COT) for the traditional leaders from the outer islands. These two councils constitute a fourth branch of government, in addition to the executive, legislative and judicial branches. Yap is the only one of the four states of FSM with this fourth branch of government. The councils do not pass legislation but they must be consulted on any legislation that affects the communities, the traditional culture, the traditional leaders or traditional rights. They can veto proposed legislation and have done so on one occasion.

The Councils were created by the present constitution and do not represent a traditional forum. However, there were other forms of council that brought the regions and the villages together as needed to discuss and resolve issues. The system was structured under the three paramount villages and leaders of the entire island, and they convened other leaders as needed, depending on the issue and the relationships.

The Councils are intended to be the communications link between the state government and the traditional leaders and communities. The original intent for the COP was that senior traditional leaders, one from each of the 10 municipalities, would sit on the Council. While this is still the case for the COT for the outer islands, the COP has evolved such that many of the representatives are not themselves a traditional leader but are chosen from the municipality to represent the community. Some of the representatives may have weak regard themselves for the authority or value of the traditional system.

The COP is intended as a force to work with the other organizations to preserve the traditional system, but the Council is somewhat ineffectual, has no clear mission, and many of the representatives in the Council actually do not know the traditional system very well. The Council discusses primarily modern issues and what the Governor asks them to discuss. Communities feel that some of the representatives do not return often enough to their municipalities to inform the community and to ask for advice and the wishes of the people.

The municipality is a new geopolitical construct, created by the colonial powers. The municipality boundaries often do not coincide with the traditional areas of responsibility of the traditional leaders. As noted above, many of the representatives in the COP are not the apparent traditional leaders. But the senior traditional leader may not be the person who has the traditional responsibility to represent the area of the municipality to other villages. The issue is so complicated that some traditional leaders find it easier to let the municipality select another person. Moreover, many of the traditional leaders are old and do not want to go to the city and deal with the issues of the Council

Legal and Justice System

Micronesia Legal Services Corporation (MLSC) is a non-profit organization with offices in each state, providing free legal counsel and services to those who cannot otherwise afford them. It is supported by both local sources and by the Legal Services Corporation of the US, which in turn receives a US Government grant to help provide the support.

The national legal system is small and cannot carry a heavy load of cases. There are only three state justices, one of whom has been ill for some time. All criminal cases are tried in the national courts. There is strong pressure, however, for civil matters to be settled in the traditional way in the village, in the municipality council or in the municipal courts. The family structure is becoming weaker as the traditional system (TS) weakens and the modern system (MS) dominates, so domestic issues and civil disputes over land ownership are growing. They are, however, mostly still resolved in the community.

The representative to the COP is automatically the presiding justice for the municipal court, and he selects two other persons, often other traditional leaders, to make up a panel of three justices to hear cases in the municipal court. Neither the Council representative nor the two others locally selected usually has training in the law, so they depend on what is sometimes a weak understanding of the traditional system to settle civil claims. The advantage is that cases are usually settled quickly on simple evidence rather than being drawn out into complex litigation. Most cases in the municipal courts concern disputes over land borders and inheritance.

There is only one private firm of attorneys in Yap, Mulalap & Mulalap, and Yap State has refused applications from others to establish legal practices in Yap. There is a State Office of the Public Defender that provides legal services for those who are brought before the criminal courts.

Economic Development

Yap State gross domestic product, adjusted for inflation, declined 3% in FY 2002 because of the drop in flow of funds from the Compact of Free Association with the US. Inflation adjusted GDP for FY 2003 is forecast to grow by 0.9%. Of the four states in FSM, Yap has been most prudent in the use of its share of Compact funds and has been able to save funds to provide a basis for some near-term infrastructure development.

Yap has enjoyed only limited investment and growth in tourism, but it is considered internationally one of the finer destinations for SCUBA diving. The environmental conditions remain relatively good, though some problems are starting to emerge and there has been some division within the government and the stakeholder community as to how to manage growth while protecting the environment in the process.

The export of manufactured garments earns the largest part of Yap's foreign exchange (other than from the Compact), totaling 82 % of exports in 2001. Yap vies with Palau as the world's largest exporter of betel nut, which in the same year represented 15% of exports. Small amounts of marine and agricultural products and handicrafts make up the balance of exports.

The practical economic development policies of Yap emphasize increasing exports of specialty agricultural products and oceanic marine products such as tuna, light manufacture such as garments and value-added assembly, and the expansion of tourism, especially high-end eco-tourism.

Present economic development goal, strategies and objectives for the state of Yap were set out in a communiqué of the State government following the First Yap State Economic and Social Summit in 1996. The overall goal is that Yap State should be a self-sustaining economy and society. The report of the Summit indicates that this goal reflects the type of society that Yap wishes to achieve and should be kept constantly in mind as decisions are made about the use of state resources.

The objectives and strategies focus on reducing reliance on external aid funds through greater efficiency in the public sector operations, diversifying sources of external funding and

investment, and increasing the size and competitiveness of the private sector. The latter is to be accomplished through policy reform, improving the efficiency of land use, and investments in human resource development, especially in health and formal and informal education.

The Summit endorsed the objective of sustainability of development, with special emphasis on management of the physical environment to provide the resources for continuing production to generate livelihoods for the people of Yap. It emphasizes the importance of preservation, enhancement and respect for the rich traditional culture as providing the social cohesiveness essential to human progress.

The report of the Summit contains detailed sections with status, objectives and proposed actions on topics such as agriculture, commerce and industry, education, health services, marine resources (focusing on the promotion of commercial fishing), tourism, transportation and infrastructure, and government reform and downsizing. It has only a limited statement, however, of goals and values for the environment and sustainable development, with no practical details as to what should be done. It states that a failure to conserve the natural resources will undermine the culture, and that the government of Yap should take the lead in protecting the environment. There is no mention, however, of the traditional management of resources or suggestion of collaboration between modern government and the traditional system.

While the overall resource and development policies of Yap do not actually address the issues of incorporating traditional resource management into the development process, in stressing the importance of the preservation of both the resources and traditional culture they create a policy environment that should be hospitable to such incorporation. Clearly it is not hostile to such concepts. It remains to the government, however, to take the initiative to bridge the gap of understanding with the traditional leaders to incorporate their management approaches into the dynamics of the development process.

Similarly, the present resource and development policies of Yap do not address or specifically promote the possible use of various types of public-private partnerships in the development process. However, in stressing the importance of traditional systems and the community they establish conditions hospitable to the use of such partnerships. The very traditional culture itself is the most powerful force encouraging such partnerships. Despite individual rights to the use of resources, the overall benefit of the natural resources is considered to belong to the community. Therefore the community and the individual owners are both logical participants in any venture or development that uses the resources. The concern of the traditional system with the stewardship of the resources should intrinsically serve to promote more environmentally sound investments and generally sustainable development.

The State of Yap is not very different from many other Pacific island countries in that it has a pervasive concern for sustainable development, but sometimes actual development programs are poorly designed and controlled and are not so sustainable. Findings and recommendation from the analysis of tourism development and concerning the integration of traditional and modern management of natural resources in Yap should therefore be broadly relevant and applicable throughout the Pacific region.

Traditional Culture

Yapese society has a caste or rank system comprising seven levels that are based in the rank of the village. People are recognized and respected according to their village. Each person is named after an ancestor, which ties that person to a certain piece of property. Every group of islands within the Yapese society has its own unique cultural identity and customs. Traditional life remains strong in the villages where fishing and weaving are still important parts of everyday life. Grass skirts for women and thu'us, a type of loincloth, for men are still seen as basic clothing in the villages, though today western clothes and styles are becoming more popular in use and are pervasive for the younger generation in school.

Dance is an art form in Yap. Through dance, legends are passed down, history is recorded and entertainment is created. The dances of Yap are often raucous and always colorful and well orchestrated. Both men and women start at an early age to learn this special Yap tradition.

Most Yapese live in their home villages located outside of Colonia. Villages retain many features that have remained for centuries, such as stone pathways and clan platforms. A major part of the tourism appeal of Yap is that it maintains many of its traditional characteristics. The stone paths wind through lush jungle and picturesque food producing landscapes of tree gardens and taro patch systems.

Most of the islands east of Yap are coral atolls and are sparsely populated by a people different from the Yapese in culture and language. Four indigenous languages are spoken. These are Yapese, Ulithian, Woleaian and Satawalese. English is the official language and the state government is conducted in English, though some local government organizations still conduct business in the Yapese language. Some of the older generation of Yapese can speak Japanese from the long period of Japanese administration. Traditional Yapese was not a written language and has only been written phonetically in recent years.

Because of its remote position Yap was minimally affected when the Spanish colonized Micronesia in the 1500s and again during German occupation from the end of the 1800s to the beginning of World War I. There was more direct impact from the pre-World War II Japanese administration. By Micronesian and even by Pacific standards Yap remains relatively unaffected by modern society.

There are several institutions in Yap committed to the preservation of history and of traditional culture and forms of government.

Traditional Leadership

In the traditional culture of Yap there is normally not a single traditional leader or “chief” for a geographic area. The concept of a paramount chief or leader is one imposed by a succession of colonial powers (Spanish, German, Japanese and American) that wished to deal with a single leader with full authority. There are complex hierarchies of village and family structure, and for any single village and its lands there are normally multiple leaders, of differing ranks, each with specific cultural and operational responsibilities and authorities over different parts of the

community (young men vs. women vs. old people) and different functional areas (taro growing vs. grassy shore area vs. open lagoon area). One of the leaders, not necessarily the most senior, will have responsibility for the stewardship of the land and another will be responsible for stewardship of the water or marine resources.

While some land or water may be held communally, most is owned by an individual or family and the right to the use of an area of land or water is inherited in an equally complex hybrid matrilineal/patrilineal system. While the "owner" enjoys the exclusive use of the resource, the nature of that use is subject to the guidance or limitation of the traditional leader who has responsibility for stewardship of the resource.

Though there is personal ownership of land and water inside the reef, the owner does not have full authority over the use of that resource, as the traditional leader for the area has authority to approve or disapprove how the land or water is used. Because the leadership culture and the land tenure are so complex, foreign investors may become confused when they need to speak to the "chief" of an area because they want a decision on use of land or water resources. The person to whom they speak may be only one of a number of traditional leaders for the area, probably the one responsible for contact outside the community, and it may later evolve that they have not sufficiently consulted everyone necessary.

Normally the role of traditional leader is hereditary, but not always. The role can be earned, especially if the incumbent traditional leader has no appropriate successor, in which case a successor is appointed by consensus in the community.

The traditional leader positions are inherited through the father, but the more important bloodline is matrilineal. Women have very limited authority and are seen by men as not equals. Women are not allowed to fish. And yet the aunt names the children and the name is connected to ownership of land, so the women effectively control the inheritance of land. It is an extremely complex system of balances that is not truly either patrilineal or matrilineal, patriarchal or matriarchal.

The main island of Yap is divided into 10 municipalities and each municipality may have as many as 100 villages. Each village and municipality has its own structure of traditional leaders, normally three at the lowest level up to ten at the highest level. There is a village rank system of low, medium, and high caste villages, with a total of seven subcategories. An individual is normally considered to be of the rank of his village, but he may have linkages to a higher rank. A village can move up in the ranking. Originally vertical movement was accomplished by defeating (or being defeated by) a higher-ranking village, but the Germans stopped all warfare in the 18th century.

A person of low rank is usually a farmer or fisherman and the higher ranks have responsibility for his welfare, putting his interest above their own because they depend on the product of his work. As one goes up the scale to higher rank one normally has less personal rights to land and water and does less physical work such as planting and fishing, but one has wider authority and responsibility. The culture constantly seeks overall balance between authority and responsibility.

There are three paramount villages (Ngolog in Rull, Teb in Tomil, and Gachpar in Gagil) whose senior leaders are considered the three paramount leaders of all of mainland Yap.

As part of the system of multiple and specialized leadership roles, decisions are normally taken consensually through community discussion from which the responsible leader gauges the consensus and announces it as the decision of the community. The Yapese culture is very non-confrontational, and it is often difficult for individuals to speak their opinion.

Decisions are taken for the overall welfare of the community, whether at the village or regional level. In the past much of the work was done communally (e.g., fishing and repairing fish traps and nets, building boats or houses, and repairing the stone paths that connected communities). There was ample opportunity for members of the community to slowly discuss issues and usually a consensus would emerge without confrontation. This would include such issues as opening new land for cultivation or fishing with nets or working the community taro patch.

Land Tenure

Land tenure is extremely complex and has significant implications for the future management of natural resources. With certain exceptions of community land, individuals own all areas of land or water within the reef. The person's name is connected to the land (or water) and it is inconceivable for a man not to own land for he would then have no name. The aunt of a male child gives the child his name, determining the inheritance of land, and more than one person in an extended family may be named for a piece of land. They are each then owners of the land, each waiting his turn to be the prevailing owner. Only the owners of the land or water have the right to take resources from the area (e.g., to fish or farm the area).

Within the system of traditional leaders there are leaders with responsibility for stewardship of the land and the water. While they do not own the land or water, they have authority to advise the owners on how they should use it. The owner has the inherent right to take enough for the welfare of his own family, but more extensive use, such as fishing by net or extensive agriculture for community use or sale is subject to the decision of the traditional leader. This stewardship was exercised traditionally to make certain that there was sufficient food for the community as a whole since not everyone and not all villages had immediate access to sources of food. That particular aspect of leadership was exercised within a larger complex of leaders (some of which were not at all concerned about natural resources) and is what served indirectly to manage natural resources sustainably.

Because of its importance land has been repeatedly divided through inheritance until most of it is in small parcels. Less than ten percent of land in Yap has been surveyed and titled. There are many disputes over boundaries, and because several persons may be named as owner it is often difficult to title the land. Tourism facilities have thus far been built on small footprints of land owned by the entrepreneur or on land in Colonia that is or was owned by the state. Future development of tourism, especially dispersed eco-tourism, will face significant barriers in acquiring access to large aggregations of land in a manner that will be acceptable to investors. Foreigners and foreign corporations are not normally allowed to own land in Yap.

Land tenure is a critical issue in both inheritance and in development in the modern economy. The FSM Development Bank (FSMDB) can accept untitled land as collateral for a loan if the note is signed by the traditional leader of the municipality *and* of the village *and* by the apparent senior landowner (several family members may be considered to be the owners of the land in a hierarchy of succession). But it is difficult to use traditional land as collateral and land tenure has in he past stopped the issuance of loans for business development.

Even with three levels of endorsement on untitled land as collateral for a loan it is doubtful that the bank could actually take possession of land if the loan were in default. The bank would do absolutely everything it could to solve the problem and to resuscitate the project rather than try to posses the collateral. Even with titled land as collateral the bank would try to do the same rather than try to foreclose on the collateral. The entire concept of land as collateral is very questionable in Yap and this could be a significant barrier for a foreign investor in acquiring foreign debt financing.

A partnership relationship between an investor and the community could help to overcome the land title issue. The relationship would need to be worked out carefully as to how the community is involved, as the landowner has the last word on how the land is used. FSMDB would favorably consider a loan application from a partnership between an investor and a community.

Education

There are 10 secondary schools of grades 1-8, one school of grade 1-4 and one of grade 5-8 on the mainland of Yap, and eight-year secondary schools on all populated outer islands. There is one public high school and one private (Seventh Day Adventist) high school grade 9-12 on Yap mainland and there are high schools on two of the outer islands, Ulithi and Woleai.

Instruction in the first four years is entirely in the local language (which is different from Yapese for the outer islands). In years 5 and 6 English is introduced and the curriculum becomes progressively in English, with substantially all instruction in English from grade 7 up. Yapese is not traditionally a written language so there is a tendency for all written materials to be in English. This trend toward school curricula conducted entirely English risks losing skills in Yapese, and thereby knowledge in the traditional system.

It is difficult to separate language from culture. A different approach being considered would be to introduce English very early in school for practical purposes but also to retain Yapese or outer island vernacular as a subject with some cultural materials taught in vernacular throughout the grades in order to preserve the language.

At all levels there is a component called living arts which includes materials on the traditional culture, including such subjects as traditional ways of fishing and agriculture. The education system is progressively producing new instruction materials from the lower grades up, one year each year, and is presently revising grade 7. The new curricula increase the emphasis on the traditional values and understanding the traditional ways of living, including managing natural resources and the importance of preserving the environment. But they do not go into detail about

how the traditional natural resource management system works. There may be more detail in the curricula of higher grades.

Most teachers are relatively young and not expert in the traditional system, so it is difficult for them to teach about it convincingly. In some instances a traditional leader from the community is asked to talk to the students about the traditional system.

Language has been a significant problem in the development of the State of Yap. Everyone on the main island of Yap can understand each other in Yapese, though there are differences in traditional pronunciation. But the outer islands have three other language groups that are each enough different from Yapese and from each other that when the COT meets they converse in English in order to understood one another.

The educational system has a difficult problem balancing between wanting to preserve the traditional Yapese and outer island languages while also needing to promote English for efficiency, ease of access to information, tourism and trade, and in order to minimize the production costs of educational materials.

5.2 Natural Resource Management

Traditional Systems of Resource Management

Throughout the Pacific people have been discussing for years how to preserve the traditional systems of natural resource management. The Micronesian Traditional Leadership Conferences held in Koror in 1999 and in Pohnpei in 2002 emphasized this point. No clear solutions to the issue have emerged, however, and resolutions have been very broad with no direction as to how such preservation should be accomplished.

The traditional system of natural resource management is an extension of the very complex systems of traditional leadership, community cohesiveness and land ownership. It does not appear that there was a specific objective in the traditional system of managing the natural resources other than to assure a sufficient supply of food and shelter for the community. However, the consensual manner in which community decisions were made and the ownership and authority patterns over the land and marine areas served to limit who could use the resources and how they could be used to meet a complex of community needs and obligations. Moreover, the technology available was such that within the traditional ownership and use systems the resources could not be easily depleted and marine populations and land fertility remained stable. It was not necessary to plan for the management of natural resources, and such planning was not part of the traditional culture.

Within the system of traditional leaders there are leaders with responsibility for stewardship of the land and the water. While they do not own the land or water, they have authority to advise the owners of the usage rights on how they should use the resource. The owner has the inherent right to take enough for the welfare of his own family, but more extensive use, such as fishing by net or extensive agriculture for community use is subject to the decision of the traditional leader.

Personal fishing with a line does not require the approval of a traditional leader, but fishing with a net does.

This stewardship is exercised to make certain that there is sufficient food for the community as a whole as not everyone and not all villages have immediate access to sources of food. That particular aspect of leadership is exercised within a larger complex of leaders, some of whom are not officially concerned with natural resources, and it has served indirectly to manage natural resources sustainably.

In the outlying islands there are three broad patterns of control and management of the natural resources. On Ulithi atoll all reef and lagoon areas belong to the highest-ranking clan, whose chief is the paramount leader of the atoll. The marine areas are divided among the clans, however, for purposes of the right to use the resources. Members of a clan can fish within the area of their clan at any time.

On Woleai Atoll, however, there is no paramount leader with authority over the entire atoll and the ownership of the reef and lagoon are divided among the villages with the right to use the resources then divided among the clans in a village. The head of each clan controls the use of its own areas, including determining if the reef should be closed. Individuals can fish within their own clan's area at any time.

The third form of tenure and usage rights is found on Satawal Atoll, where the leaders of three ranking clans divide the authority and responsibilities for the management of the island. One of those three is designated as the chief of the sea and controls the use of all marine resources. While the use of the fringing reef is open to anyone, his permission is required for the use of the food resources of all other marine areas.

The structure of the land and water tenure system (ownership versus right to use the resource) and the authority over management of the natural resource varies significantly from Yap main island to the outlying islands, and even within clans and municipalities on Yap mainland. Overall, however, there is always some oversight by a senior leader as to how the marine or land resource is used, and that leader is responsible to the community as a whole to assure that the resource is used in a manner that assures the welfare of the community as a whole. While the term "sustainability is foreign, the basic concept is part of the fabric of the traditional tenure and management authority system.

The manner in which the oversight authority is exercised is equally varied. A great variety of rules and restrictions have served to protect specific resources. For example, in the traditional system on Yap only the high-caste villages were permitted to eat sea turtle and the lower-caste villages ate fruit bats. As there were many less high-caste villages this served to maintain the population of sea turtles, which with the weakening of traditional restrictions are now almost gone.

In another such rule, the land crabs that are considered a delicacy can only be taken when the wind blows from the west, during the season when storms make fishing too hazardous and fish

are in short supply. This use of the crabs as a reserve food has stabilized both the diet of the islanders and the populations of crabs.

The people still hold the power and authority over the use of the resources and they need to exercise that power through community cohesiveness supported by traditional leadership. It is important to engage the traditional leaders in addressing the issues and to both reaffirm their responsibility to care for the interests of the people (as well as their authority to do so) and give them the knowledge and the resources with which to take an active role again.

Management of Marine Resources

The most powerful single impact on the marine resources has been the introduction of the small-mesh monofilament nylon net that has made fishing so easy that fish stocks inside the reef of Yap main island are being decimated. The advent of the outboard motor has also contributed to this technological nightmare. While there is no scientifically recorded data on changes in fisheries resources, there is widespread agreement that the yields are steadily decreasing and that some species have almost entirely disappeared. The traditional leaders recognize that there is a serious problem, but the traditional system of stewardship seems unprepared to deal with these issues stemming from modern technology.

The change from traditional to more modern methods of fishing, often for commercial purposes, has placed enormous and widespread pressures on the fish stocks. A survey by the MRMD in 1987 reported a 22% increase in the use of motorboats in a decade and that seven out of ten households in Yap owned spear guns and gill nets. The report further indicated that 91% of villages participate in night spear fishing and 72% participate in gillnet fishing.

On the main island of Yap there is a growing problem with illegal entry of individuals into waters to fish, including frequent night fishing with gill nets or with lights and spear guns. There is also growing small-scale commercial fishing in the lagoons of the main island. Fishing for commercial purposes is a relatively recent phenomenon (post world War II). It has caused considerable concern among traditional leaders as it circumvents the traditional distribution system for the catch and encourages excessive, often wasteful fishing and depletes the fish stocks. The commercial exportation of fish is an even greater concern.

There is less commercial fishing and less illegal fishing in the outer islands. There is less opportunity there, but it also reflects the greater concern of the outer island traditional leaders over the sustainability of the fishing yield, on which they are more dependent. Some actions taken on some of the outlying islands reflect this concern and illustrate ways in which the stewardship authority of the traditional leaders is implemented.

Leaders of many of the outlying islands have banned the use of monofilament gill nets, recognizing that they would change the way net fishing is done, from a communal to an individual or small group activity, and that their use would result in over-fishing. Spear fishing with lights has also been banned in many of the outlying islands as a method that would allow reef fish to be over-fished.

On Woleai Atoll an area outside the atoll that regularly has schools of tuna is restricted to fishing with pole and line from sailing canoes. On Ifik Atoll the traditional leaders have banned the use of modern boats and outboard motors entirely. Only paddling and sailing canoes are allowed inside the lagoon.

Many of the islands close sections of the reef entirely after a senior leader dies as a sign of respect. Such closures may remain in effect for years. Also a closed section may be opened for other than management reasons, such as a tribute or a celebration. However, on Satawal Island, a raised coral island with a fringing reef and a high population density, a section of the reef is traditionally closed for long periods of time for the purpose of allowing the fish population to regenerate. For whatever reason the closings have been decreed, the islanders have quickly observed how dramatically the marine stocks have recovered. As a result more leaders are starting to close sections of reef for periods of time for the purpose of sustainable management of the marine resources.

In the outlying islands the management of marine resources has remained continuously under local traditional control even through the several colonial occupations and remains now generally stronger than on the mainland. Traditional systems of marine tenure, fishing rights, catch distribution and punishment of offenses are still usually observed. Most outer islands are a single community and there are no adjacent communities or clans to have disagreements on land ownership or the use of resources. Community cohesiveness and traditions remain more intact.

Traditional systems of natural resource management are still in effect both on the main island and on outlying islands of Yap but have been increasingly weakened by current political, economic, religious and educational systems. With the extensive adoption of Christianity following World War II a number of cultural restrictions on the use of marine resources were lifted and this, plus the entry of many people into the cash economy, has weakened the traditional controls on the use of natural resources. As a result, the traditional leaders have been increasingly unable to regulate the use of either marine or terrestrial resources in the sustainable manner that they once did.

Weakened traditional authority and loss of community cohesion make it difficult to stop widespread poaching of individual fishing rights, and technological changes allow an individual or small group of persons to over-fish an area where previously the entire community fishing together would still not have depleted the stocks. Certain fish species have almost disappeared, and there is widespread recognition that marine resources are endangered.

The commercialization of inshore fishing is believed to contribute to the erosion of traditional authority and obligations relating to fishing. Some non-local commercial fishing enterprises have circumvented local restrictions by forming alliances with local traditional leaders. Local communities seem to lack sufficient cohesion to stop their leaders from engaging in such illegal practices for their personal gain. The result is an overall loss of respect for the leaders and for traditional rules of resource management, and a further weakening of traditional authority. Communities then have greater difficulty instituting other management measures, such as bans on nighttime spear fishing, closure of protected areas or the protection of seeded giant clams.

Some Yapese concerned with the management of commercial fishing feel that traditional controls of the use of the water have a great advantage over government regulation because they make the people responsible for the use of the resources. They believe that attempts by the government to regulate the use of marine resources directly would be a mistake because they would shift the attention of the people from what tradition says they should do to simply what they need to do to evade the enforcement of the government. They say that too many people already think that the government will do everything for them, including taking care of the natural resources.

There are over 800 stone fish traps or weirs in the waters surrounding Yap. Most have not been used for a long time and are in disrepair. They represent a very sustainable form of fishing. The man-made stone walls are mostly below water at high tide and the incoming tide pushes fish within the area of the walls. The outgoing tide traps the fish within the walls as they appear above water, and fish can be easily selected and caught. Those not taken can swim away unharmed on the next high tide. Efforts are underway in Yap to revive the use of the traditional traps.

While traditional management of marine resources primarily concerns the lagoon within the outer reef, it does affect to a more limited degree the waters immediately outside the reef and the taking of pelagic species of fish. Pelagic fish stocks are also down, though not as far as the reef stocks. Inshore fish populations are most depleted.

Management of Terrestrial Resources

The terrestrial resources of Yap are equally complex and equally endangered as are the marine resources. Yap's ancestors developed the surrounding landscape into a complex food production and living system and that landscape in turn sustained the Yapese culture. Community forests consist of the trees, forests, secondary forest, agro-forests, tree garden/taro patch systems, watersheds and associated animal life and other natural resources in the areas where the Yapese live, and their urban and community area extends from town and village centers through agro-forests and into the natural forests where they collect medicines and other resources.

The Yapese developed food production systems that made use of simple wooden tools and natural processes to provide considerably higher yields of produce than are now achieved with more modern resources. One simple but elegant technique employed was pyramidal yam trellises about which yam vines were trained in order to gain more light and moisture and more vines per area. This technique was only named in the 1970's as thigomorphogenesis, but it had been used for hundreds of years in Yap. This way of growing yams also used less land and did not require the burning of trees to clear land.

In the uplands of Yap the land has been farmed traditionally with a complex system of ditches laid out in a grid to drain and irrigate the land. It is believed that the ditches developed bacteria to fix nitrogen that would maintain the fertility of the farmed area. The excavated soil was used to raise areas for houses, paths and tree planting. The system functions like a forest and provides a pleasant living environment as well. This practice was widespread and the outlines can still be seen, but the practice is now lost. Now people cut the canopy to open new space for gardens and

then move on when the land is depleted. Such practices produce damage also to the marine habitat from washout from the land exposed in the extensive clearing in the watershed areas.

Relatively little of the land remains in upland forest and that which does remain is decreasing rapidly. Present distribution of the land is 3% urban, 12% mangrove, 13% upland forest, 28% agro-forest, 23% savanna (where earlier ditching methods are seen) and other categories. The most common form of agriculture now is a taro or vegetable patch with some trees.

Increasing variability in weather conditions and rising sea levels have produced saltwater intrusion into coastal agricultural lands and erosion from more extreme storm condition. The loss of important traditional taro producing land at the coastal fringes has caused more clearing of interior land for garden patches, with steadily increasing loss of already diminished forest cover. Traditional methods of multiple use of agricultural land for high and sustainable yield have been largely lost and the weakened traditional authority and community cohesion seem unable either to reintroduce traditional agricultural methods or to stem the continued clearing of more land.

Historically the Yapese used more complex forms of agro-forestry, like the trenching system described above, which achieved significantly higher productivity from the combined land use than they now get from simple garden patches. Both the yams grown in the uplands and the taro in the low or wetlands were more productive and the soil was not depleted so rapidly. These integrated systems evolved over long periods of time to be the most productive approaches to the use of the land. Present agriculture is still very simple, using basic hand tools, but the complex approaches have been forgotten.

Without management of the agricultural land there will be less forest cover and more erosion washing down into the lagoons, impacting the marine resources. Individual farmers (usually women) are reluctant to try "new" methods unless the village as a whole supports the concept. Community cohesiveness and action is needed to reintroduce the more sustainable agriculture methods.

Modern Systems of Resource Management

Modern governments commonly divide responsibilities for resource management among different agencies that regulate specific resources such as fisheries and agriculture. Some agencies whose decisions may impact on these resources, such as economic planning and development through siting factories and infrastructure, have little requirement to consider their relationship to the resource agencies, and the linkages among all of the pertinent agencies is often weak. In Yap, as in many island countries, the problem is considerably complicated by the presence of traditional institutions of resource management, which in most instances have even weaker communications or linkages with the agencies of government than those agencies have among themselves.

Yap State has established the Marine Resources Management Division (MRMD) under the Department of Resources and Development. The MRMD has been very active in pursuing various planning efforts, participating in international programs, and trying to communicate

issues of the decline of marine resources to the communities and the traditional leaders. It has an ongoing program of visiting communities together with other agencies and organizations concerned with the environment to talk about marine resource management.

MRMD has undertaken specific programs to protect and to reintroduce species. Most successful has been a program to reintroduce the several species of giant clams (considered a delicacy) that have almost disappeared from uncontrolled harvesting. MRMD has raised seedling clams in artificial environment to the size of several inches and then reintroduced them into the waters of cooperating individuals and villages. This has been a successful collaborative effort between the modern and traditional systems and the clams are gaining ground in some areas. Unfortunately, the clams are often still taken too young through poaching and sometimes even by the cooperating water owner, impatient for a clam dinner.

Not surprisingly, MRMD does not have enough funds or staff to accomplish its full agenda. It is also still struggling to establish its image and legitimacy with the traditional leaders as an entity that wishes to form a partnership with them in the sustainable management of marine resources. As a government agency it is suspect of trying to usurp traditional authority.

With regard to terrestrial resources, the Department of Agriculture is concerned with increasing agricultural production but has not addressed the incorporation of traditional agricultural methods and land management techniques into modern agriculture.

The Yap Urban and Community Forestry Advisory Council (UCFAC) seeks to protect and enhance existing community forests and to expand the practice of community forestry to meet current and future needs and to maintain the vital connection between people's forests and culture. Yap's ancestors had developed the landscape into a living system and that landscape in turn sustained Yapese culture. The Council wishes to maintain and enhance this connection while progressing into the future.

One of the projects done under the Council and the Forest Resources Management Programs is reintroduction of the traditional yam trellis. While not a big project, it exemplifies collaborative efforts between the state and traditional systems for the sustainable management of natural resources. By reviving the use of trellises instead of burn-girdled trees to support yam vines, the traditional practice reduces the rate of deforestation.

In a recent project researchers compared the production of gardens using the traditional trellises with control gardens where the yams were allowed to grow up sacrificed trees - the common current practice. They found that the weight of the harvested yams was about 2.5 times greater per mound for the gardens with traditional trellises. Thus the practice appears not only to reduce deforestation but to significantly increase yield as well.

The support framework for the trellis project, which has now been carried out in most municipalities on Yap, utilizes a federal grant to provide tools (knives and shovels), a water chest, and a modest stipend for a teacher to village groups that want to do a project that helps both people and trees/forests. The teacher is generally a knowledgeable older person identified by the group who is willing to teach a group of at least eight apprentices. The government

administers the program and the community implements it. Further work is needed with the yam trellises to understand the science behind the system (plant physiology, soil microbiology, etc.) in order to identify the parameters of the system and deliberately manipulate them, and perhaps eventually utilize science to enhance the traditional practice.

The Yap Environmental Protection Agency (EPA) is considered to have the responsibility to implement the National Environmental Management System (NEMS) prepared for FSM in 1993 under ADB TA 54304-REG. The NEMS stresses traditional environmental management as a priority area for implementation, and the EPA does participate with MRMD and other agencies in outreach programs to traditional leaders, communities and to schools to explain the importance of protecting the environment, including both the marine and the terrestrial environments. The organization undertakes to prevent the discharge of toxic wastes into land or water, but the environmental regulations in Yap are minimal and the ability to enforce them is limited.

In 1996 the Government of Yap held the First Yap State Economic and Social Summit to consider the future of the state and to set directions for development. The goal of the state was expressed as "a self-sustaining economy and society". The Summit report on goals, objectives, strategies and projects for marine resources included recommendations to: maintain existing traditional resource regulations, develop and maintain adequate monitoring data on the various resources and set specific harvest limitations, implement the Marine Resources and Coastal Management Plan (MRCMP), and ban the commercial exportation of inshore fisheries resources to markets outside of Yap State.

The most recent planning document for marine resources is the MRCMP, started in 1991 and published in 1994, but not yet adopted by the government. Much of the basic data on fisheries resources and exports needed for its implementation have not yet been collected. In 1999 efforts were initiated again by the MRMD to revise and revitalize the MRCMP. However, to date there is essentially no marine resources management plan in effect, only a collection of valuable but fragmentary activities. The only policies officially endorsed by the state with regard to marine resources are those stated above from the 1996 Summit.

In 1999 an important initiative resulted from a mandate of the two councils of chiefs, the COP and COT. It established an Environmental Stewardship Task Force to work cooperatively with government to develop an environmental stewardship program for Yap. This initiative was subsequently merged with the initiative of the MRMD to revitalize the MRCMP to become the Environmental Stewardship Consortium (ESC).

The ESC includes the original task force of prominent individuals active in the issues of sustainable resource management and includes representatives of relevant government agencies, non-governmental organizations (e.g., the Yap Community Action Program (YAPCAP), the Yap Institute of Natural Sciences (YINS) and the Yap Women's Association (YWA)), and community representatives appointed by the councils of chiefs. Many of its approximately twenty members are very influential in state and traditional affairs and together they are representative of the many stakeholders in the sustainable management of the resources of Yap.

More than any other body in Yap at this time the ESC bridges the gap between traditional and modern approaches to resource management. It has intervened on several occasions in public issues, in the most notable of which runoff from highway construction was believed to threaten the habitat of the manta rays and the ESC forced the state to conduct a full and neutral environmental impact assessment. There is a bill before the present Legislature to formalize the ESC as the Natural Resources Advisory Council (NRAC) to assist the councils of chiefs and to link government, NGOs and other efforts with communities. The new government is very supportive of the concept of the ESC and the NRAC .

The ESC has also assisted with the development of the Yap State Biodiversity Strategy and Action Plan (YSBSP), which has become part of the FSM National Biodiversity Strategy and Action Plan (NBSAP). The concept of the integration of traditional resource conservation was incorporated into the NBSAP as endorsed in March 2002. The NBSAP begins with the vision: "The FSM will have more extensive, diverse, and higher quality of marine, freshwater, and terrestrial ecosystems, which meet human needs and aspirations fairly, preserve and utilize traditional knowledge and practices, and fulfill the ecosystem functions necessary for all life on Earth."

Unlike some other island countries, the Government of Yap does not consider that it controls the lagoon waters within the surrounding reef. Respecting traditional ownership rights, the Government finds it very difficult to try to regulate what is done in those waters. Therefore any form of regulation of the inshore waters is problematic. This situation makes it doubly critical that the modern systems and the traditional systems work together in a partnership for sustainable management of resources.

The present Governor would like to stop all together the use of nets in the waters inside the reef, but he does not feel that he has the authority to do so by regulation. He proposes instead to introduce fishpond production of food species of fish that can tolerate brackish water, and he would then make illegal the commercial sale of reef species other than those commercially produced. Government cannot control the fishing but it can control commerce. Direct government regulation or management of the marine resources, however, remains in doubt.

A Bill is pending before the State Legislature (Bill No 5-187 of the Fifth Legislature) that would give MRMD sweeping authority to regulate the use of the lagoon for the conservation of coastal and aquatic resources. The terms of this proposed act stand in stark contrast with the traditional concepts of authority over the use of natural resources, and the bill may therefore be unlikely to be enacted as it stands. However, it is an important start, and a compromise bill may give MRMD more authority and resources to enter into a partnership with traditional authority to achieve the same purpose.

A program is just starting sponsored by the Strategic Action Programme for the International Waters of the Pacific Small Island Developing States (IWP) to establish marine protected areas (MPAs) in the lagoon waters of four cooperating coastal villages. The villages and the individual landowners concerned have agreed to participate in a partnership with the Marine Resources Management Division of the Government of Yap in establishing four areas of marine reserves. These are at the northern and southern extremes of Yap in Rumung and Gilman municipalities

respectively and on the east coasts of the island in Gagil and Maap Municipalities. The purpose of the project is to demonstrate how damaged marine reserves can recover when protected or used for a limited take. The program is encouraging in that it represents cooperation between state government and communities and could be the precursor and model for an integration of traditional and modern approaches to natural resource management.

Integration of Traditional and Modern Management of Resources

The elements of state government responsible to plan and manage both agriculture and marine resources lack sufficient trained staff and funding to undertake effective outreach programs. Furthermore, the state management units meet resistance from some of the traditional leaders who view state government as intruding on traditional use rights, while the traditional system is itself unable or unwilling to confront and deal with the steady deterioration of the resource base. The traditional leaders resist resource planning as an incursion into their authority, but they are also not trained conceptually to deal with planning and action for management of natural resources and are often unable to understand what the state is proposing to do.

There has consequently been very little integration of traditional and modern systems of natural resource management, with traditional systems prevailing by default even in their weakened form because of the reluctance of government to confront traditional land and water use rights. Communications between the state government and the traditional leaders and communities are weak, sometimes clouded in mutual suspicion. The latter generally assume that the state is focused on economic growth, balance of payments, foreign investment, tourism promotion and other such "modern economy" issues and not concerned with the problems or opinions of the traditional leaders and communities. The two councils of traditional leaders, established constitutionally specifically to bridge such a communications gap, has in most cases been unable to do so effectively, becoming more involved in the modern economy issues of the government.

Lack of effective channels of communication has made it difficult for state agencies to reach understanding with traditional leaders and communities as to the common objectives and interests of traditional and modern approaches to management and how they might be beneficially integrated.

The traditional systems of resource management have a great intrinsic advantage in both their knowledge of conditions at the very local level and their ability to make decisions quickly. But in order for their role to be meaningful in the future it must be reconciled and integrated with that of the government agencies that are also charged with managing the resources for the welfare of all the people. As these traditional institutions and systems have become weakened they must be revitalized at the same time that the best of both traditional and modern management systems are integrated into a partnership seeking to achieve identified common goals.

Recognizing the limitations of government and the decline in traditional management authority, it has been suggested that where traditional systems still exist they should be embedded in a framework of "co-management", defined as the mutual accommodation and sharing of management responsibility between traditional and government systems. The concept of co-

management was presented and recommended at the Coastal Fisheries Consortium held in Pohnpei in December of 2000.

The MPAs being established by the IWP, the experimental programs with yam production and the activities of the ESC represent the leading edge in Yap in integration of traditional and modern environmental management. They are both promising, and the potential for their success is substantial. But true integration will only come with understanding of common goals, strengthened communities and effective communications between modern and traditional systems. Much work remains to be done to create those conditions, but collaboration and partnerships between government and communities and between government and individuals will be essential to the future sustainable management of the natural resources of Yap.

Weather Variability

Increased variability in weather patterns and rising sea levels have become major concerns in the last decade or more for the people of Yap, especially for those living on the 19 outlying islands that are coral atolls and rise only a few feet above sea level. There has already been some migration from the outlying islands to the mainland as a result of erosion of land and fears of future storms, and the present government is very concerned about the impact on the economic viability of Yap, including matters as basic as being able to raise enough taro root, if a significant portion of the outer island population (which is 40% of total population of Yap) should decide to move to the mainland. This phenomenon is culturally conceivable as the outer islanders are more economically dependent on the state government for survival than are the mainlanders and tend to look more to the government to help them survive.

No local scientific measurements could be found on Yap of the change in sea level, but everyone has a story of a set of rocks or other feature that within their memory was above sea level at normal tides. The perception that the seal level is rising is pervasive, ranging from 8 to 12 inches in the last decade, especially in the outer islands. But it is the increased variability in weather that has produced the more tangible effects. Storms are observed to be more frequent and more violent, with higher surge tides. Substantial portions of coastline have been eroded, and a number of villages have built concrete seawalls to try to stop the erosion. Unfortunately, violent storms often come over the seawalls and erode the land inside the wall, leaving it standing alone in the water.

In the outlying islands there have been many instances of saltwater intrusion into fresh water lenses as a result of the erosion. This poses a significant threat since the fresh water resources of the outlying islands is very limited as they have no mountains to form catchment basins. In one instance half the population of cattle on an island was lost because saltwater intrusion damaged the grasses on which the cattle grazed.

On the mainland the combination of high tides and saltwater intrusion has caused the loss of traditional taro growing land and consequent clearing of forest cover to open more land for agriculture. Ninety percent of taro production is on the coast and almost all traditional community taro lands were on the coast, often occupying small inlets that had been dammed and filled. By nature of their geology these are the first to be affected by saltwater intrusion.

Not only has loss of these special agricultural lands caused the loss of forest, it has speeded the weakening of community cohesiveness. One of the traditional activities conducted cooperatively by the community was the cultivation of the community taro patch. With the loss of such community resources members of the community have turned to independent family agriculture and community cohesiveness has suffered.

The variability of weather also impacts the traditional leadership and management systems. Historically traditional leaders specified fishing or planting according to the time of year as determined from the stars, because they could anticipate rain or certain sea conditions then. But now the unpredictable weather doesn't cooperate with the schedule and this variability serves to weaken the traditional authority.

5.3 Tourism Development

Tourism in Yap is of limited scale relative to that of its neighbors Palau and Guam. There are six hotel facilities with a total of 100 rooms on the main island of Yap and one hotel of 10 units on the outlying island of Ulithi. However, tourism is very important to the economy of Yap. A recent study by the Yap Visitors Bureau estimates that the 3289 tourist arrivals in 2002 spent a total of more than US$ 3 million in Yap. This is significant with reference to a 2001 GDP of US$ 40 million and is slightly more than the amount spent each year for the import of petroleum products. More than 80% of tourism revenue is connected to diving, which is in turn heavily dependent for marketing on the famous manta rays that can be seen year-round.

Yap has other attractions than the manta rays, however, and good potential for diversified eco-tourism development. There are numerous sand beaches and coral reefs for snorkeling. The network of stone paths offer the opportunity to walk through unspoiled dense tropical forests, mangroves and upland agricultural areas while observing a great variety of plants, birds and small animals and reptiles. Many stone paths have fallen into poor condition and disuse, but some have been rebuilt. One village (Kadai) has carefully rebuilt its entire network of paths as well as its platform and several traditional houses, and it offers tourists a guided walk through the forest and traditional dances in an authentic village setting.

All tourism facilities are relatively small, ranging in size from 4 to 24 units. All but two of the facilities (with a total of only 14 rooms) are in Colonia, the capital of Yap, with a population of about 1000 persons. All facilities in Colonia are on small areas of land, are connected to the municipal waste treatment system and have thus far had little impact on the environment or on the sustainability of natural resources. Tourism operators and facilities connected with diving have been very active in supporting government actions and in taking their own voluntary actions to preserve the pristine nature of the marine resources on which they depend.

Many of the people of Yap who have engaged in the modern economy have observed social and environmental problems that large-scale tourism has brought to their neighbors, Palau and Guam. They want a different future for Yap. They recognize, however, that Yap has very limited resources to export or by which to attract foreign investment, and they assume that their future is significantly tied to the development of tourism.

Everyone knows the term "eco-tourism" and assumes that it is low profile and does not disturb the environment. Though they may not understand well what it otherwise implies they want to see eco-tourism developed in Yap. The other term widely used is "high-end" tourism, conjuring visions of a small number of tourists who pay substantially for luxury services.

Tourism was expanding in the mid 1990's and much of the present capacity was built just before the Asian financial crisis in 1997. Since then, and especially since the threat of terrorism has reduced international travel, the tourism sector in Yap has been trying mainly to survive. Annual occupancy averages about 25 percent. While there are fragments of a vision of future tourism, there is no state or industry sector plan or strategy as to how Yap will capture new tourism markets.

The study compares the application of traditional management approaches and public-private partnerships in large vs. small tourism destination development. The developments selected and contacted for the study are the Trader's Ridge Resort and the Manta Ray Bay Hotel, both relatively large resorts (for Yap) of 23 and 23 units each. Both have international or expatriate ownership and management. The smaller facilities are the Pathways Hotel and the Village View Resort, both facilities of 9 and 10 units respectively, built in traditional architectural design and owned and operated by local families.

The first two facilities and the second two stand in sharp contrast physically. The study asks if their development also contrasted significantly and if there are lessons that can be learned for future environmental sustainability of development from the different issues they faced and resolved.

Traders' Ridge Resort

Traders' Ridge Resort (TRR) is wholly owned by the US based Robert Gumbiner Foundation and is associated with the Ethnic Art Institute of Micronesia located on the site of the present hotel. The TRR has 23 rooms with relatively luxurious appointments and facilities and was built in 1997, just before the Asian and world economy declined. The land on which the main buildings stand is leased from the Yap State Government on terms of an annual minimum payment plus a share of profits on a scale that declines as profits rise. There have not yet been any annual net profits so the payment has remained the minimum. There is no written lease for the use of the land.

The resort incorporates a previous structure that was quarters for US Navy Sea Bees under the US Trust Territory Administration (TTA) prior to the independence of FSM. The building was built by the Japanese administration that commenced after WWI, so the land has been alienated from traditional ownership for a long time.

However, some of the outlying buildings, such as the water sports center and dock, are on private land still held within the traditional system of land ownership. TRR has the verbal permission of the owner and the respective traditional leader to use the land and no rent is required. There are

however, undefined obligations that go with the use of the land, such as supplying refreshments for village festivities. Thus far the requests have been small but the ultimate extent is undefined.

The management of the resort has from the beginning sought to incorporate traditional leaders into the operation of the hotel. One traditional leader from the local village was employed in the resort. This did not work out well as he had difficulty carrying out his duties and was unable to adjust to working with Yapese of a lower caste or social level than himself.

The resort has created a committee of landowners bordering the lagoon on which it is situated and pays a traditional leader from the area to manage the work of cleaning up the lagoon. Progress has been limited and slow. Hotel management has placed trash barrels around the lagoon at its own direct expense and pays a local company to collect and dispose of trash placed in the barrels.

Present annual occupancy of TRR is about 25 percent. As it is owned by a foundation it has no debt and is not under the same pressure to make a profit that a normal commercial operation would be. It has therefore continued to make improvements and has maintained a full staff when a commercial operation would have been forced to drastically reduce operating costs.

Except for three expatriates (the General Manager, his wife who fills an active role in the operation of the hotel, and a water sports and technical manager) the entire staff of the resort is Yapese. It has been difficult to keep trained Yapese staff, and other hotels in Colonia have all turned to employing Filipino or other foreign staff in order to get the work done.

TRR at one point tried unsuccessfully to buy the Pathways Hotel, but the conditions placed on Pathways for the use of the land were that control of the hotel could never be sold to foreigners, as they would not understand the continuing obligations that go with the use of the land.

TRR has new management and is in transition, trying to identify its future market. The diving market is largely held by the other larger facility studied which has agreements with major dive travel marketing and packaging organizations in the US and Europe. Present management is looking at the retired high-end market.

Manta Ray Bay Hotel

The Manta Ray Bay Hotel (MRBH) has 23 modern units, is dedicated to the diving market, and advertises widely internationally. It is built on fill so there was never traditional ownership of the land. The land was titled to the Yap State and sold to WAAB, the local corporation operating the port, from which it was bought by the present owner, a former US Peace Corps volunteer to one of the outer islands of Yap. There is a clear title to the land. There are occasionally still people who claim that the hotel waterfront is violating fishing rights, but these claims have not been taken seriously by either the hotel or apparently by the traditional leaders of the area.

MRBH also operates Yap Divers, the largest dive operation on Yap. The traditional ownership of water rights has in general not been an obstacle to the development of diving tourism. Sport diving does not take resources from the water, and under the traditional system anyone can bathe

or swim in any water without seeking permission. To avoid any conflict, however, the five present dive operators each seek the permission of the water rights holder for each dive site that they visit, even though the operators believe that diving should be seen as no different from swimming. In most cases this permission is given freely with no request for payment as the owners of the rights merely wish to reconfirm those rights.

In one notable exception the historical owner of the Miil Channel, the area where the manta rays can be regularly viewed in their cleaning station, demanded payment for access. Because the site is key to the diving trade for Yap the operators made such payments. However, the usage rights (though not the ownership) had been lost in an inter-village war in the 19th century. The traditional leader of the village now owning the rights decided that there was too much controversy and told the operators to stop making payment. The operators have done so and the former claimant of the usage rights has threatened to take the issue to the municipal court. Thus far the present owner of the rights has not suggested that the village should receive any payment, only that the individual owner should not charge for access.

The Pathways Hotel

The Pathways Hotel (PH) has nine units built in 1996 in the traditional architecture of Yap, primarily native wood, bamboo and thatch construction. The owners of the hotel have from the beginning been very concerned to use the environment sustainably. The hotel labels itself an eco-resort specializing in eco-oriented adventure activities.

The hotel was established by and is still owned by a family of traditional leaders, but it is at the edge of Colonia in a location some distance from their village and authority. The grandfather of the present manager bought the land through traditional exchange of stone money and obligations because the family wanted a piece of land near Colonia where family could stay when visiting the city. When the father of the present manager decided to build the hotel the land was surveyed and titled. There was no consultation with the traditional leaders of the hotel's location about gaining approval to build the hotel.

No partnership with the local village was considered to be needed in its establishment. A long-time expatriate resident of Yap was taken in as a partner and three of the original eight units were sold up front as timeshare units and are still owned by the non-residents of Yap. This provided much of the capital to build the hotel.

Construction was held up at one point for several months because bulldozing the land for construction had eliminated taro-growing areas on which the villagers who sold the land depended to meet their obligations to the village. Traditional leaders of the village on which the hotel is located asked what the owners would do about it. The village that had given permission to sell and use the land was of a higher rank or caste than the owners of the hotel, so they could not ask directly what was wrong. They needed to listen to the traditional leaders of the local village but had to go through a friend of higher rank who could speak with the village traditional leaders.

An amicable agreement was found and the hotel owners reaffirmed that they had obligations to the village by nature of their use of the land. The traditional leaders wanted primarily reaffirmation of respect, not money. Subsequent demands to meet the obligations have been minimal.

Village View Resort

The Village View Resort (VVR) has ten units in five duplexes built on the oceanfront in a mixed modern and traditional architecture. The owner would have built entirely in traditional architecture but feared that with direct beach exposure the units might not stand up to the periodic typhoon winds.

The resort is established on land of the family of the owner in a village on the east side of Maap municipality, of which the senior traditional leader is the brother of the owner and operator of the hotel. Construction was started in 1994 and it opened in 1996. Approval by the traditional leader for establishment of the resort was never an issue, nor was use of the water in front of the resort as the family has the fishing rights for the adjoining water.

However, the village controlling the water to the south, which has excellent diving potential, refused to allow diving in the belief that it would disturb the fish. Other villages on the west side of the island do not allow diving because they do not understand the difference between local divers who spear fish and take turtles for food and the tourist sport divers who do not take sea life.

The resort also has a small diving operation operated by a Japanese investor/operator. When the diving operator proposed to introduce jet skis for the tourists the traditional leader, brother of the hotel owner, refused approval as he was concerned that the noise would disturb the fish.

Tourism and Natural Resource Management

In the development of the four facilities studied there was no clear process or set of procedures followed. A business license is relatively easy to get and at the time that the four facilities were established there was no requirement for an environmental impact assessment (EIA). There is now a requirement for an EIA for any construction involving major earth moving, but there is no particular process required for licensing of a hotel.

Neither with the establishment of the studied facilities nor now is there any state regulatory or licensing requirement that the traditional system be consulted. However, the obligations of traditional land tenure are still very real and any project utilizing traditionally owned land would be extremely foolish not to reconcile the use of the land or water with traditional resource management systems.

Each of the four facilities studied has had minor conflicts with the traditional system. Each has been different, and in two of the cases the conflict was quickly resolved through discussion and modest contributions to the community. In the third the facility simply complied with a

limitation set by the traditional leader, and in the fourth the conflict has not been taken very seriously by any of the parties concerned and has thus far been ignored.

The new licensing requirement enacted in 2002 specifies that a business license shall be denied if a business activity is injurious to the health and welfare of the citizens of the State of Yap. It further defines this to be the case if the applicant or the business activity: 1.) will create permanent damage to the natural environment of the State, 2) is not environmentally sustainable, 3) exploits Yapese or other Micronesian culture, 4) will cause damage to traditional social structures, 5) has not obtained permission for the activity from the local community, 6) has not satisfied the requirements of the EPA, or 7) has engaged in other activities in violation of environmental protection laws. While it is too soon to know how this wording will be interpreted and applied, it certainly provides the government ample leverage to prevent any business practice that is not environmentally sustainable or that conflicts with traditional practices.

At the present level of tourism in Yap there is thus far no apparent impact of the industry on the environment or on the sustainability of the natural resources. This is a result of the size of the facilities, the fact that almost all are on the municipal waste treatment system of Colonia, and their dependence on maintaining the condition of the reef and lagoon for diving. Future development could be very different. It would probably be located in more remote areas of the island and possibly use a higher level of services and resources for more luxurious services and facilities.

Development outside Colonia will require more planning in terms of how to make the operation of the facilities sustainable with regard to the natural resources. It should also have some government guidelines for how the development is to occur and may require some infrastructure of legal/cultural expertise to support development of the needed public-private partnerships.

Larger-scale development outside Colonia will also engage the traditional systems of natural resource management and especially the traditional land tenure systems more directly than has tourism development to date. The facilities examined in this study have either occupied land outside the traditional system leased or bought from the state, or they are on relatively small pieces of land owned by the family of the operator within the traditional land tenure system. The scale of facilities concerned has avoided any significant conflict with the traditional systems.

The diving aspect of much of the tourism has come into conflict on occasion with the traditional resource management system. This has resulted from some misunderstanding of the nature of sport diving versus local diving in which fish and turtles are taken for food. Some owners of water resources have therefore been unwilling to allow sport divers to enter their areas.

On the other hand, the diving operators are concerned with the depletion of marine stocks from over-fishing as it degrades the quality of the diving experience. They therefore back the desire of the government to regulate the use of waters within the reef, and in such they are in further conflict with the traditional systems of land tenure and resource management.

The tourism and diving operators hold the position that diving is no different from swimming and that under traditional rules anyone can swim or bathe in any water, regardless of ownership.

Noting that the tourism of Yap is overwhelmingly dependent on diving, the dive operators would like for the government to take a public position that diving does not take or damage the resources of a site and that there should therefore be free access to all waters for diving. They have been disappointed that the government has failed to take such a position concerning open access because it is reluctant to challenge traditional concepts of the rights of the landowner to determine the use of the water. Traditional leaders have only rarely intervened in this issue.

Tourism and traditional resource management have a common interest, though for different reasons, in sustaining the resources. Their common interest has thus far kept the tourism industry and the traditional leaders from coming into serious conflict. Some of the tourism facilities are owned and operated by traditional leaders. So long as tourism remains at its present level there will probably continue to be an uneasy co-existence between tourism and traditional resource management.

But the modern economy hopes for substantial growth of tourism, and in ways that will affect larger areas of land and water. For that to happen without conflict it will be essential for the government to take an active role in setting guidelines and in working with traditional leaders to achieve understanding in how development can be designed to work within the traditions and to bring true, positive development to the people of Yap.

Achieving the expected growth in tourism, and especially in a sustainable manner, will also require a clear strategy and action plan that is consistent with and integrates both traditional values and modern aspirations. The default development in the absence of careful planning is likely to be disappointing economically and environmentally unsustainable.

5.4 Public-Private Partnerships

Tourism

None of the four tourist facilities studied involved any significant form of public-private partnership. Of the two larger facilities one was built on land created by fill, owned by the state and sold to the developer and present owner and operator. The other is built on land leased from the state and through several former colonial powers long ago alienated from any traditional ownership.

Of the two smaller facilities studied, one is built on land purchased through traditional means and processes in Colonia by the Yapese family that owns and operates it. The other is outside Colonia and is built on land owned traditionally by the developer and operator. In both cases the facilities are built on land still within the traditional system of ownership and there are obligations that continue to be associated with the land. For example, the one in Colonia still makes periodic contributions to the village of its former owner for the taro that would otherwise come from the taro patch that was destroyed in constructing the hotel. In the facility outside Colonia the traditional leader with stewardship responsibility for the water in front of the facility forbade jet skis for fear that they would frighten the fish. The point is that a facility on traditional land is always in a low-level form of partnership with the community that controls the land.

There have been two known attempts at real public-private partnerships in tourism in which private capital was or was proposed to be in partnership with a village or community. In the early 1990's there was a project proposed in the village of Chool, Maap Municipality by a Japanese investor/developer for a large operation called Nature's Way. It would have included accommodations, food production, community development and much more. In retrospect the project seems a good vision, but it was ahead of its time. The community did not understand the project or their relationship to it and was having difficulty in agreeing to it. When investors withdrew during the Asian financial crisis the project collapsed.

Another smaller venture was established as a partnership between a small village and an American investor. Destiny Resort was located in Gilman Municipality on the far southern tip of Yap. It was started in 1995 by an American investor from Hawaii in partnership with the small village (perhaps 20 persons) that owned the coastal area. The village was not incorporated. The venture was a public-private partnership in which the village held 40% of the equity and received a minimum US$1000/mo. payment until their share of profits would exceed that figure. Payments were made to the village chief, not to the individual landowners, but all of the payment was probably returned to the landowner.

Initial construction was on one parcel of beachfront land, surveyed and titled to one member of the village. There were two other surveyed and titled parcels owned by other villagers and designated as expansion space for growth. The entire village was surveyed and titled in one month with no problem at the beginning of the project. Members of the same family owned all three parcels. As it was a high-caste village there were no problems of layers of obligation on the land from higher-caste villages. Unfortunately the facility was destroyed by a typhoon in 2001 when only two units had been built and it was barely operational.

The Ulithi Adventure Resort on Ulithi Island is a partnership of three foreign investors, one of whom served in the military on Ulithi during World War II, and a local citizen who owns the land. Neither the village nor the clan is involved in the venture. The hotel has comfortable facilities but has never attracted much business because of lack of marketing. Annual occupancy is probably less than 15%.

Though the concept of public-private partnerships in tourism seems acceptable, there has not yet been a real test of it in practice because of obstacles of weather or finances.

In the state government sector there are no examples of public-private partnerships. The state government had an exceptional opportunity to enter into such a partnership when it decided to remove the national public utility from direct government operation. However it decided to corporatized the utility rather than seeking private capital or management, and it is still wholly state owned.

The entry of Continental Airlines into Micronesia prior to national independence was in some ways a public-private partnership, as Continental was previously a solely domestic US carrier and the Trust Territory Administration invested in the infrastructure needed to support the air routes. A proposal from private investors is presently under consideration by the government of

Yap to expand the air service to and within the state in a partnership involving investment by the state.

Many in Yap see the concept of public-private partnerships in business and development as useful and the government may consider it for future infrastructure projects. However, the state government may need help in developing the legal guidelines and infrastructure for public-private partnerships involving the government.

Substantial future expansion of tourism outside the capital is almost certain to involve partnerships between outside private capital and expertise and the communities that own or have traditional influence over the use of the land and water resources.

Natural Resource Management

A different type of partnership has been tentatively tried in the past and is presently being explored through new initiatives. It consists of public-public-private partnerships in which the state government, the community and the private land or water rights owner all cooperate to achieve objectives of sustainable management of natural resources. The approach could apply equally to marine resources and terrestrial resources, but where sustainability is concerned the focus has been on the marine resources.

In the Yapese tenure system the right to the use of land or water is inherited and is individually owned. The community does not have the authority to commit the land or water to a venture and the owner must be a participant to any partnership involving its use. But a traditional leader has stewardship authority as to how the land or water is used, so the traditional leaders and thereby the community or village also become party by default to the partnership.

The MPAs being established by the IWP and the activities of the ESC to establish an environmental stewardship program for Yap are both examples of partnerships between the traditional and modern systems for the sustainable management of resources. They are both promising, and the potential for their success is substantial. But their success and future public-public-private partnerships must be built on understanding of common goals, strengthened communities and effective communications between modern and traditional systems. Much work remains to be done to create those conditions.

5.5 Communities

As part of the system of multiple and specialized leadership roles, decisions are normally taken consensually through community discussion. From the discussions the responsible leader gauges the consensus and announces it as the decision of the community. The Yapese culture is very non-confrontational and it is often difficult for individuals to speak their opinion.

Decisions are taken for the overall welfare of the community, whether at the village or regional level. In the past much of the work was done communally and there was ample opportunity for members of the community to slowly discuss issues. Usually a consensus would emerge without

confrontation. This could include such issues as opening new land for cultivation or fishing with nets or working the community taro patch.

There are now very few activities at the village level, such as communal fishing or building or even community discussion. One rarely sees community discussions with the representative to the COP. Television and the cash economy are fuelling a transition from the village community to the nuclear family, in which everyone goes to work or to school in the day and comes home to watch TV at night. There are some signs, however, that the communities themselves are recognizing this shift and are starting to encourage more community activity.

Community taro patches are becoming overgrown because no one works them. Everyone works only what they will use for themselves. Stone fish traps are abandoned because there is no community fishing, and also the species of fish for which they were built have largely disappeared. Nets have replaced the traps.

Yap has been trying to establish marine protected area for many years, with some success. The Marine Resources Management Division (MRMD) has tried to establish marine life reserves to let the fish reproduce, but too many people do not respect the reserves. Most notable has been the program to establish protected areas for re-establishing giant clams, in which some communities have cooperated. Still, reseeding of giant clams is failing because of poaching and impatience to eat the clams. Young people sometimes fish illegally with nets for fun, letting the catch spoil and not caring about the diminishing fish stocks.

Not enough traditional leaders are really trying to stop the over-fishing and violation of restricted areas, and the communities have lost the cohesiveness that might allow community members to either take action themselves or urge the traditional leaders to do so. The traditional leaders know they should try to stop the violation of the reserves but they are discouraged by no one listening to them. Many just do not care any more and the traditional authority is disappearing.

Children are being taught about environment in school but not enough about the value or effectiveness of traditional methods of natural resource management. Therefore the new generation tends to disregard the traditional systems of resource management. Information on environmental issues and marine conservation does not reach communities easily. It is essential to reach the younger people in the community with information, while at the same time showing respect to the traditional leaders.

MRMD and the Environmental Protection Agency (EPA) have programs to take information to the communities and into the schools, but still the government is unable to do enough to educate the communities. Education is the key, starting from the lowest levels of public education up to the traditional leaders themselves, who might do much more to help manage the resources if they better understand the issues.

Unfortunately, some traditional leaders are exploiting their communities by using community resources for business gain in the cash economy, especially through fishing. As a result there is some trend for communities to reassert their collective authority over the use of the marine resources.

There have been consultations on environmental issues and resource management in the municipalities and the villages by representatives of the Historic Preservation Office (HPO), MRMD, EPA and other organizations, but it has appeared to the state government that no one was listening to them so their frequency has diminished.

Outreach seminars or consultations are done now in the outlying islands and are well received. The traditional leaders there do not see the modern system as competing with their authority, are much more open to new ideas and have more confidence in their own authority. They have adopted modern methods where they seem more practical, still keeping the traditional systems where useful. Overall, however, the traditional systems may be actually weaker in the outer islands.

The traditional leaders still have the ability to direct the communities to take action, but something must focus their interests, as well as that of the communities. The community is the real force for change and for action to preserve the resources. The traditional leaders make decisions only when they perceive the intent of the community, rarely against the wishes of the community as a whole.

There has been very little community participation in national decisions. Management of natural resources was originally completely a community function. The cash economy and the state government have largely ignored the communities and the communities therefore assume that government does not care about their opinion. This has weakened the traditional system. The cash economy and the new authority of the state have also left the communities expecting that government should do whatever is needed, and if participation of the community is required they should be paid for their efforts. For example, the state government offers funds for villages or individuals to repair the stone paths on their land. Traditionally the villagers would have done it for themselves. Now everyone expects to be paid by the government for such community efforts.

The communities need to do things for themselves, but to do so they need stronger leadership and to come together to discuss what to do. Where the community has taken action it has usually been the result of a single person in the community animating the community, and it has not always been the traditional leader who has risen to the occasion. An emerging leader, however, will still need at least the passive endorsement of the traditional leader.

Both the state and the communities need a long-term vision of where they want to go, such as on what type of tourism they want to develop and where, and how they want to manage their natural resources. There may be a lot of agreement among the people on what type of world they want, but the vision is not expressed, nor are ideas discussed on how to achieve it. For example, in political elections there are no platforms of policy or plans or issues, only campaigns on personal popularity laced with clan affiliation.

Communities and education hold the keys to a coherent and widely desirable future for Yap, a future striving to gain a vision rather than one arrived at by default.

6 Lessons Learned

6.1 Problems

- The traditional leadership and the communities feel that they are not part of progress. They see government as concerned with economic development rather than true development that focuses on the improved welfare of all the people. Consequently, they do not respond well to government overtures.

- Communications between the government and the traditional leaders and the communities is weak or nonexistent. The Councils of traditional leaders established by the Constitution to bridge that gap have not fulfilled their intended role, and government agencies are sometimes inept at communicating with the traditional leaders or communities.

- Traditional leadership has been weakened by a number of forces, including the cash economy, new technology, religion, and villagers working in Colonia, Palau, Guam, Hawaii or elsewhere. Yet, their authority still exists though often not well exercised. Tourism and the impact of foreign visitors do not appear to have been significant factors in this change.

- Communities have lost cohesiveness for many of the same reasons that the traditional leaders have lost authority. Communities rarely work together any more, nor do they come together often to discuss issues.

- The extraordinarily complex traditional system of land tenure causes frequent disagreement over ownership and use and is an obstacle to coherent regulation of the use of natural resources and to investment for development.

- Traditional systems for the management of natural resources are significantly weakened, partially because of the general weakening of traditional authority but especially because of the introduction of technology not anticipated within the traditional system.

- Environmental sustainability is currently not directly addressed in traditional systems or adequately addressed in government functions. While there are individuals in both systems who are very concerned for the future sustainability of the culture and the environment, they are not yet integrated into a planning process to achieve that sustainability.

- Very little in the way of policy or economic or political direction is written. Most Yapese may agree on many issues or values, but it is seldom possible to find the position in written form. Yap has a tradition of verbal history and much that is widely agreed remains unwritten.

- The Yapese culture is very non-confrontational and public debate is rare, even on issues crucial to the future of the state. There is no common expression of a vision for the future of Yap, from the government or from the traditional system, nor is there any forum that encourages the discussion of ideas.

6.2 Challenges

- The overriding challenge is to make the traditional systems of leadership and community feel that they are partners with the state government in moving forward toward true development.

- Establishing good communications between government and community and traditional leadership will be the greatest challenge. It must be done in a manner that is truly collaborative and not patronizing on the part of either party.

- Reaching agreement among traditional leaders and government regulators and managers over the integration of traditional and modern approaches to the management of natural resources will be difficult and will require building understanding and trust in common interests.

- Achieving development of tourism beyond its present basic level will require innovative approaches to working within the land tenure system and new mechanisms for partnership between developers and communities for common gain and true development.

- A major task will be to develop a state strategic plan in which vision, objectives, actions and implementation plans are established for the whole state. This must then be realized through the establishment of policies, enabling legislation, implementation mechanisms, enforcement, monitoring and evaluation.

6.3 Opportunities

- The traditional system is weakened but still sufficiently intact to be a strong force for sustainable management of natural resources; but it must be informed of issues and engaged in a partnership with state government.

- The education system is strong and dynamic, and bringing understanding of common goals and a vision for the future of Yap to school children may be the most effective means to reach the larger population in the long run.

- There is a new state government that is in the early stages of developing its policies and has expressed the purpose of establishing better communications between the state government and the communities.

- There is widespread tacit agreement among the people on a vision for the future of Yap, and the process of debating and articulating that vision from the ground up should require only the leadership and the open forum in which to make it happen.

- There are excellent opportunities for the development of eco-tourism, but they will require partnerships between developers and communities. These partnerships and developments in turn have the potential to greatly strengthen the communities, the traditional leadership and the collaboration between traditional and government systems of natural resource management.

7 Recommendations

The following recommendations reflect the comments and the suggestions of the people of Yap and are made with reference to the conditions and issues in Yap. He strategy and actions are specific to the needs of Yap. But they address problems that are pervasive among the Pacific island countries.

7.1 Strategy

Yap currently has unsustainable patterns of use of its natural resources and faces the risk of serious and possibly irreversible depletion of those resources. Moreover, its economy is heavily dependent on a tourism sector that is in turn dependent on the condition of those same natural resources, lacks any development plan and faces significant obstacles to growth in the traditional tenure of the land and water.

The two problems may have different roots, but the possible solutions are interrelated. Both require collaboration and partnerships between public and private entities. In order for those partnerships to develop there must be an identification of shared values and objectives, better communications between the modern and traditional sectors, a strengthening of communities and traditional leadership, and a common strategy and plan for the future of Yap against which to measure individual actions and ventures.

Integration of traditional and modern approaches to the management of natural resources, like the development of eco-tourism, requires that the traditional and modern, the community and the government, the private and the public sectors all communicate better and understand each others values and objectives. While genuine differences are sure to remain, they can be better managed and compensated when mutual misunderstanding and suspicion are reduced through honest exchange.

The strategic recommendations below address the cultural and political roots of problems in both natural resource management and tourism development. The elements of the strategy are focused on the environmental sustainability of the management of natural resources and the development of the tourism industry, but they support all aspects of development. Collectively they go a long way toward making up a larger strategy for environmentally, socially and economically sustainable development for Yap.

It is easier and perhaps more understandable to address the elements of that strategy rather than a single very large continuum. They are therefore presented as four strategic elements:

- Identify Shared Goals and Plan Strategically
- Build Government to Community Communication
- Strengthen Community Cohesion and Action
- Promote Public-private Partnerships

The subsequent recommendations concerning goals/strategy/planning, strengthening communities and improving communications between government and traditional leaders and

communities will collectively create the conditions in which public-private partnerships and the integration of traditional and modern practices for resource management will be possible.

At present the potential for cooperation is good but the environment for its realization is weak, and the mainstreaming of traditional environmental management and the formation of partnerships for development are unlikely until actions are taken to correct the underlying problems of institutional structures and the lack of communications.

Identify Shared Goals and Plan Strategically

Clear and agreed commonly held goals and direction are essential, both for the management of natural resources and for the development of tourism, and the two must be internally consistent.

Most Yapese agree on what they want for Yap – respect for traditional values, controlled progress into the modern economy, better education and health, development of high-end eco-tourism, preservation of the environment, better infrastructure, etc. And yet there is no forum in which these issues are openly discussed and there is no generally accepted statement of a vision of the future for Yap or of a strategy or plan for how the shared values will be preserved and the objectives will be achieved.

Economic and social development, especially including achievement of sustainable use of natural resources, must be based in broad agreement on what the government and the traditional communities are trying to achieve and on the values and priorities that comprise that vision. So long as there is neither open discussion of issues nor broad agreement on values and a future for Yap it will be very difficult to integrate the traditional forms of natural resource management with modern management techniques. Integration requires that the tools and leverage of traditional authority and community cohesiveness work together with the science, expertise and financial resources of state government to achieve common objectives for the sustainable use of natural resources.

Both government and traditional leaders must truly believe in the importance of the integrated and sustainable management and development of all natural resources for the effort to be successful. Development of a state vision and strategy will fail if they don't. Both parties must repeat the same message down the ranks, to the different sectors of government, to the private sector and to the traditional communities.

There must therefore be a forum for discussion of values and aspirations for the future of Yap. The forum is figurative, not literal, and may have many aspects, including everything from the traditional village council to debate between differing viewpoints on television. Government and traditional leaders must share their viewpoints in front of the general citizenry, so that a consensus of shared values, goals and objectives can grow. And in the village council and in the television debate both traditional and modern viewpoints must be represented in order to bridge the communications gap and resulting suspicion that have grown between traditional and modern systems of leadership.

Identifying shared goals and building a vision and a strategy for the future of Yap are introduced here as the first strategic objective because they are the paramount and overriding requirement for all aspects of balanced and sustainable growth. But they are also integral to two of the strategic elements below – building government to community communications and strengthening community cohesion and action.

Better communications between the government and the traditional sectors is needed in order for a forum on state values and goals to be effective, and the act of opening public discussion on these issues will in itself open new channels of communications and enhance existing ones. Similarly, some level of community organization must exist in order for the community to engage in the discussion of state values and goals, but the very act of participating in the forum and engaging in the discussion as a community will build community cohesion and a sense of community empowerment.

Building shared values and goals and a vision, strategy and action plan for Yap should be widely debated and involve the entire cross-section of the community, including government, traditional and private sectors. Implementation actions and committees should include representatives from traditional communities, the private sector, government and non-governmental organizations who share the same goals, vision and inspiration - to improve the quality of life of the people of Yap.

The entire process of building a consensus should proceed from a clear strategy of its own, which should be agreed among representatives of the various parties and sectors involved. It should start with informal mediation among leaders of the traditional and modern sectors to find basic agreement on their own values and objectives and on a process for building a state vision and strategy. This agreement would then probably include an extensive process of state government conferring with community councils, in the communities, to discuss goals and values, while simultaneously building communications channels for the long-term.

As the people become more involved in the debate through community councils and the media, the debate would then move up to a state level forum or convention where decisions could be drawn and directions set for the future, to be passed back to the communities for their further debate and eventual concurrence. A second round of state level discussion could be required, but the process of reaching agreement should not be forced and all parties should feel that they have had adequate opportunity to make their viewpoint heard.

This process will include the issues of management of natural resources and the development of tourism, but it should touch on other important issues for the future (e.g., use of resources, foreign investment and the development of industry) and encompass broad values and the general future of Yap.

Specific actions to implement the strategic objective of identifying shared goals and planning strategically are presented in section 7.2 below.

Build Government to Community Communications

Communications between the state government and the communities is poor. The councils of traditional leaders do not fulfill their intended role well for a number of complex reasons, and occasional forums of agencies of state government into the municipalities only serve to underline to the people in the villages how great is the gap of understanding between state and community.

Government is seen as too secretive and as not communicating sufficiently with the communities. As a result many people in the villages assume government does not care about them. A more comprehensive newsletter or newspaper is needed and the government should help to support it by paying for space in which to communicate its plans and actions to the people. The Governor and other senior officials should talk to the people by regular radio program and issues of national values and goals should be debated on radio and on television. These and more should be part of a concerted program of the government to communicate better with the people.

State government must take the initiative to build effective channels of communications through systematic contact. The same visits of government that may create confusion when done occasionally, if done systematically and with a willingness of government to listen rather than direct will gradually create understanding through which the community and the state governments can develop cooperation. Cooperation in small ways and useful projects can steadily build understanding and willingness to listen from both sides. Development programs must also support the efforts of state agencies (e.g., for health, agriculture, environment and marine resources) to mount well thought-out and systematic processes of communications with the communities and the people.

The public education system should play an important role in building communications. Children are taught about environment in school but not enough about the value or effectiveness of traditional methods of natural resource management to keep the new generation from dismissing the traditional ways, including for resource management. It is essential to reach the younger people in the community with information, while at the same time showing respect to the traditional leaders.

The schools can also be an important part of the broader forum for discussion of values, goals and strategy for the future of Yap. Children who are themselves asked to discuss and consider such questions can both take ideas home to their parents and prompt the parents themselves to consider the issues.

It is essential that a vision of the future for Yap develop from the community up to the state level. This vision will serve many purposes, as the basis for selecting courses of action that integrate traditional and modern concepts for the management of natural resources, as the basis for decisions on the development of tourism, and for many more issues. But for all it is important that forums conducted at the community level identify the community visions for the future, and that those collective visions filter up to form a state vision and strategy. A vision developed at the top and passed down to the communities will be seen as one more example of poor communications between the state and the communities.

Specific actions to implement the strategic objective of building government to community communications are presented in section 7.2 below.

Strengthen Community Cohesion and Action

Traditional management of natural resources was based on the needs of the community, but more importantly on cohesion within the community that caused its members to communicate often among themselves and to understand their needs and their best interests. The advent of the cash economy and modern technology has caused the community to break down as a cohesive entity. As a result its members do not understand the issues of sustainable use of natural resources and they are no longer able to act as an entity to enforce their collective will on issues such as preventing widespread poaching and the use of gill nets.

Strengthening the communities will facilitate and stabilize the difficult transition for the traditional culture of Yap to the modern cash economy. More important for the management of natural resources, more cohesive communities may be the only entities capable of enforcing decisions reached collaboratively by government and communities on resource management. And with regard to the development of tourism, given the complex system of land and water tenure the community may be the only feasible partner for development of eco-tourism requiring access to substantial areas of land and water

State and donor programs should address creating community awareness and cohesion, by supporting community forums and education for the community concerning its common problems and possible solutions. Development programs should also help provide the means for communities to take action to address their problems (e.g., materials for repairing traditional fish traps or for marking boundaries of marine preserves). Strengthened and focused communities are not only the most important tool for sustainable management of natural resources, but without them sustainable management may not be achievable at all in the absence of an enforcement capability that will always be both too expensive and culturally unacceptable.

Specific actions to implement the strategic objective of strengthening community cohesion and action are presented in section 7.2 below.

Promote Public-private Partnerships

While public-private partnerships are relatively unknown at present, the concept fits well with traditional concepts of the role of the community or village in the management of resources. Traditionally the community leadership has an important voice in the use of resources, even though ownership is individual. It is therefore logical that the community should be a partner in a venture that involves the use of resources, especially if multiple owners in the community are involved. Partnerships are a workable idea and should be supported through development programs at all levels. They will provide stability by engaging more diverse stakeholders in the active management of projects and by preventing the owners of the resources involved from feeling that they may have been taken advantage of by the investor or entrepreneur.

Development of eco-tourism requires access to substantial land and water resources. With the prevailing complex system of land ownership partnerships may be the only way that development will be possible. Many different people were asked their opinion of the feasibility of a public-private partnership between a foreign investor and a community for the development of an eco-tourism destination. In it the community would hold an equity interest in exchange for the guarantee of access to the needed land and resources, and the community would take a progressively active role in the actual management of the facility.

Without exception those asked answered that they felt it would be the only way such a facility could gain access to the needed land and water resources, and that they believed that communities (whether village or municipality) would be willing to incorporate if needed in order to be a viable legal partner in such a venture.

It will be important to further investigate and describe the possible forms for carrying out such partnerships and to build the business and community advisory services and legal support to actually initiate such ventures. State government can play a major part in business to community partnerships and should develop guidelines for ventures that will minimize misunderstanding or conflict and maximize benefit to communities. Investors will also want the assurance of government that their actions are consistent with state policy and regulations. While government involvement should be limited, it can assure that projects are in line with state and community interests.

Similarly, public-private partnerships among state government, communities and private owners of the rights to land and water will be essential to the integration of traditional and modern methods of natural resource management and the successful future management of natural resources for sustainability. Limited authority of state government over the use of natural resources makes it imperative to enter into a partnership relationship with the community and private owners in order to manage the resources in an organized fashion to meet common objectives.

The nature of these partnerships will evolve with time and experience, but in order to work at all they require good communications and the establishment of clear common goals and objectives. A successful partnership must be transparent and must meet some of the objectives of each party involved.

Specific actions to implement the strategic objective of promoting public-private partnerships are presented in section 7.2 below.

7.2 Actions

Each of the following recommended actions has been suggested by one or more person interviewed in Yap. They are grouped and presented here in the same structures the strategic initiatives above. In many cases they overlap and would support each other. Obviously, they collectively make up a larger program for environmentally, socially and economically sustainable development. It remains easier and perhaps more understandable, however, to address them in groups rather than as a single very large continuum.

The individual items are specific actions that the government can take, in most cases collaboratively with the other stakeholders, to carry out the strategic directions outlined above. Within a category the action items are presented in a loose temporal sequence in which they should be undertaken, though some actions might be logically initiated simultaneously.

Identify Shared Goals and Plan Strategically

- Initiate a process of identifying and defining shared values and goals for the future of yap – in essence a state vision. Start with small group discussions among a few leaders representing both the modern and traditional leadership sectors, the private sector and NGOs and other stakeholders. Establish this group as a state committee to identify the probable common ground and the key issues to address, and to set a strategy and plan for the process of developing a state vision and strategy.

- It may be useful to bring an outside party with some experience in state visioning and strategic planning to organize and facilitate the initial discussions and the design of the subsequent process. The individual should be from outside the culture in order to have objectivity and the ability to suggest without restraint, but he/she should be careful to facilitate rather than direct.

- Organize the process of developing a broad-based and integrated state vision and strategy from the community level up. Government must support the process of municipal and village meetings and other forums needed to build a state vision and strategy from the bottom up. A systematic process of discussions at the community level should occur at a minimum in each municipality and if possible within individual villages or groups of villages on the issues of shared values and goals and the citizens' vision of the future of Yap. Involve multiple representatives of state government, from the legislature and the executive and its various functional agencies (e.g., environment, education, health, marine resources). While not every part of government can be involved in each discussion, all parts of government should have the opportunity to engage in some discussions and to sense the community perspective.

- Involve the two councils of traditional leaders in the consultations between government and communities. They can form the interface and make the necessary arrangements. Their involvement will both facilitate the discussions and strengthen their expected role as an intermediary between the traditional and modern systems.

- If it is seen as too difficult to approach the larger issues of the future of Yap directly, an alternative approach is to stimulate an open dialog starting with an all-stakeholder conference on the issue of natural resource management. The discussion can then develop into the need for a state vision and direction in order to make any strategy or plan for management of the natural resources work. This approach may be more palatable than a direct approach to the larger issues of a state vision.

- Based on the findings in the community the organizing committee should draft a set of issues and apparent values and positions of the communities and other stakeholders with regard to

each. These should be circulated and publicized in the newsletter and in radio and television debate.

- Convene a state forum to develop a strategic plan for Yap. The convention or conference should have widespread stakeholder representation, and it is important that no significant stakeholder be excluded. An outside moderator with skills in strategic planning might be of assistance. It is important that the conference start by addressing values and goals and strategic direction, and not limit itself to specific action items as did The First Yap State Economic and Social Summit.

- Convene a regional forum for the discussion and exchange of experience on the development of state/national vision, goals and strategic plans. With so many physical, cultural and economic issues in common, the Pacific island countries could gain much from the experiences of each other.

Build Government to Community Communications

- Establish a systematic program in which representatives of various elements of government visit communities to discuss the concerns of the community and what government is trying to do to meet the needs of the community. These discussions should occur at a minimum in each municipality and if possible within individual villages or groups of villages. Involve multiple representatives of state government, from the legislature and the executive and its various functional agencies (e.g., environment, education, health, marine resources). While not every part of government can be involved in each discussion, all parts of government should have the opportunity to engage in some discussions and to sense the community perspective.

- At some point the community discussions with government may overlap with the process of seeking community perspective on values and goals for a state strategy. Unlike the focused discussions on goals and values, however, this process should be ongoing and permanent and should address the more practical issues that will cause the community to feel that state government is responsive to its concerns and needs. The practical issues of natural resource management will be a continuing theme in such meetings.

- Local governmental and non-governmental organizations concerned with traditional authority should organize together to take an active role in the statewide program of outreach to communities and to traditional leaders.

- Government should set out an organized media program to communicate with the people. A more comprehensive newsletter or newspaper is needed and the government should help to support it by paying for space in which to communicate its plans and actions to the people.

- The Governor and other senior officials should talk to the people by regular radio or television programs, and national issues should be discussed and debated among different stakeholders on radio and on television.

- Use the media campaign and public debate also as a means to preserve knowledge of traditional culture and especially traditional methods of managing natural resources.

Strengthen Community Cohesion and Action

- Organize a statewide program of community revitalization. This program will be managed by representatives of the communities and of NGOs concerned with community development. It could be an independent agency or it could be embedded within an NGO such as YAPCAP.

- Set up small-scale pilot projects to test principles and strategies, and then use lessons learned from these pilot projects to design new larger scale programs. Use small projects that rebuild community pride and that require the collaboration of many individuals within the community, such as rebuilding stone paths and traditional buildings. Try to develop projects for the sustainable management of natural resources, such as rebuilding stone fish traps or surveying natural resources.

- Establish grant and loan funds for development and revitalization actions undertaken by communities. Make these easily accessible to all communities subject to performance-based conditions. State government should provide financial support for the convening of community forums to discuss issues, including management of natural resources.

- Train community leaders, both interested traditional leaders and emerging new non-traditional leaders, in how to revitalize community cohesiveness.

- Send someone well rooted within each municipality outside the community (within FSM or overseas) for training in business development and natural resource management. Select someone young who is not offended by training and yet who will have the stature to advise the traditional leaders when he/she returns.

- Introduce special materials on traditional leadership systems and the traditional role of the community into public education, possibly through a traditional leader who is a roving lecturer to the school system. Develop guidelines on how the schools can help to facilitate community communications and revitalization.

- Convene a regional workshop on the revitalization of communities and the traditional systems of authority in order to generate exchange of experience across countries and cultures.

Promote Public-private Partnerships

- Train legal counseling services, business development services and municipal leaders in the issues and techniques of developing public-private partnerships between developers and communities, for tourism or for other projects, and between developers/investors and state government for infrastructure projects.

- Establish tax and other incentives in the investment and tax regulations for development ventures that are built on a public-private partnership.

- Establish a revolving loan fund for private sector development to provide funds for the development of business proposals, the incubation of entrepreneurs, the marketing of opportunities, and seed money to start or expand small investments using public-private partnerships. This might be administered through the FSM Development Bank with the technical support of the Small Business Development Center and the advice of YAPCAP on community issues.

- State government should establish a public information program and a publicly available training program to provide information and training for village landowners to equip them with the business, financial and management skills that will enable them to start small businesses, including small-scale tourism facilities, using various forms of partnerships.

- Examine how to use land held in the traditional system as collateral for loans. Involve the financial and banking community in a careful analysis of how the traditional land tenure system limits the capitalization of land and thereby hinders domestic sources of investment financing because landowners cannot use their land as collateral. Identify solutions to the obstacles and develop any needed legislation or regulations.

- Convene a regional workshop on the past experience and future advantages of public-private partnerships for development. Examine how they fit within the traditional systems in the various cultures and how they can be used to best advantage to achieve sustainable management of natural resources.

Integrate Traditional and Modern Management of Natural Resources

- Empower the Environmental Stewardship Consortium as the planner, coordinator and integrator of state programs to achieve sustainable management of natural resources. It already has a membership that well represents both the modern and the traditional systems and it is the best positioned organization to seek the practical means to integrate the traditional and modern systems of management. It should remain an independent body, not a state organization. But it should have the endorsement of both the state executive government and the councils of traditional leaders as the planning and integrating agency to find the best solutions and to marshal and allocate the available resources, public and private, local and donor, to achieve sustainable management of natural resources.

- Support partnership initiatives such as the new IWP program to establish marine protected areas. Examine closely the progress and results of this initiative to identify how future partnerships between government and communities and individual land and water rights holders can be better designed for collaboration among government, resource owners, communities and traditional leaders. Note particularly the motivations of the resource owners and the traditional leaders to participate in the partnerships and how they gain from the process. As neither party has sufficient authority, resources or skills to accomplish sustainable management of natural resources alone, it is essential that they collaborate in

order to achieve the objective. But each party to the partnership must achieve its own objective in the process in order for the process to continue or to be repeated.

- Establish a state program to promote public-private partnerships for the sustainable management of natural resources. This program should cover both marine and terrestrial resources, such as the reintroduction of traditional methods of agriculture. Build on the experience of the IWP program and if needed seek the assistance of outside parties such as SPREP in mediating among the interests of state, resource owners and traditional leadership.

- Provide special training or briefings for members of the councils of traditional leaders and for other traditional leaders to enhance their understanding of issues in natural resource management and the relationships and common interests of traditional and modern approaches to management. Assist them to convey these concepts to their constituency. Draw the members of the councils into a central role in seeking means to integrate traditional and modern methods of natural resource management.

- Provide short-term training for a variety of state government employees and local experts and consultants in natural resource management so that they can participate in the process of government to community meetings and communicate more knowledge more effectively to the communities.

- Provide medium-term training for a select number of key individuals (program managers and innovative leaders, both government agencies and NGOs) in natural resource management and in community leadership so that they can lead and animate programs to communicate more knowledge more effectively to the communities.

- Secure outside experts in natural resource management to accompany local teams in outreach programs to reach communities. Experts from outside the culture, especially off-islanders form other Pacific cultures, can make a valuable contribution because they have inherent status with regard to the traditional leadership and they help to attract their attention to the issues discussed.

- Seek the participation of traditional leadership in improved enforcement of both traditional restraints to use of resources and modern state regulations. The traditional leaders and the communities are the best positioned to control excessive demand on the resources, but they are only likely to do so if they see that such is in their own best interest. This becomes possible as part of the larger processes of establishing communications between state government and traditional leaders, strengthening communities and traditional leadership, and educating communities and traditional leaders on the issues and importance of sustainable management of natural resources.

- Convene a regional forum focused specifically on the integration of traditional and modern approaches to the management of natural resources. While this subject has been raised in a number of regional and Pacific area forums, it has not enjoyed the exclusive and focused attention that it requires, and there are still few concrete conclusions on how to facilitate such integration.

Develop Tourism

- Commission a study of the possibilities for tourism development in Yap. Focus on ecologically sustainable tourism and include activities other than diving. Address issues of traditional land ownership and how it may be an obstacle and the possible ways to deal with the issue. Examine possibilities for community-culture-based tourism and how such tourism might serve also to preserve traditional culture, rebuild traditional artifacts such as stone paths and clan platforms, and to strengthen communities.

- Based on the analysis above and on the work on the shared goals and values identified in the overall visioning and planning for Yap, develop a tourism development strategy and plan for Yap. Involve representatives of both the modern sector and the traditional sector in the planning process. Hold public discussion in order to get feedback on the important elements of the strategy and plan.

- Seek outside technical assistance in building a state strategy for the development of tourism and associated air and water transportation, with special concern for eco-tourism and its interaction with the management of natural resources.

- With a clear strategy and plan for tourism development, review existing law and regulation for consistency and for support of the chosen direction. Initiate new legislation to fill any voids or correct any obstacles identified to implementing the plan, such as obstacles to encouraging the types of investment and partnerships needed to realize the tourism development plan.

- Initiate coordinated action to attract needed foreign investment for both the tourism destinations and the service infrastructure (e.g., transportation, medical services, etc) required to realize the tourism development plan.

- Convene a regional workshop on eco-tourism development and its relationship to the sustainable management of natural resources. Yap and other islands have similar resources and are targeting the same tourism market. They can in many ways learn from the successes and failure of similar development and implementation plans in other Pacific islands, and from the impacts that similar development may have had on the sustainability of natural resources.

7.3 Applicability to Other Pacific Island Countries

Pacific island countries are similar in remoteness and isolation, small land masses, fragile ecosystems, small populations, weak economic development, and culture and traditions related to land tenure and natural resources. They tend to lack skilled personnel and the financial resources for economic development other than for fishing, agricultural, and tourism industries.

Pacific island people share a voyaging tradition and their societies and cultures have evolved over the millennia through migration. While they may each have different imperatives and local

traditions, the island cultures still have much in common as a result of geographic conditions, ethnic origins, regional history and economic conditions.

They also share a broad concern for the preservation of their natural environment and for sustainable development, but sometimes their actual development programs are poorly designed and controlled and are not so sustainable.

The advent of modern technology, the cash economy and other forces such as religion have had similar impacts on the traditional cultures across the Pacific. All are in various stages of transition from the traditional to the modern world. Consequently island communities also share the decline of traditional authority, the difficulty of communications between the modern government and the traditional leaders and communities, and in most cases the weak and unsustainable management of natural resources.

Hence, conclusions and recommendations drawn from one island nation should have broad replicability for policy and strategy across the region. Implementation, however, will need to be tailored to the specific situation under consideration.

It is a common vision of all island countries to develop tourism without damaging the culture and traditions that have sustained the people of these islands for centuries. This requires champions with mission-driven vision to better the quality of life of their people and to spread the benefits of development to as many citizens as possible.

The integrated development of tourism with tradition and culture under a village environment through public–private partnership has worked well in some of the island countries. The success of such partnership requires strong leadership and the commitment of government, traditional leaders and the community at large.

All Pacific Islanders attach great cultural importance to land, and land tenure systems in other Pacific islands are just as complex as in Yap. Overall, about eighty percent of the land in the islands is communal land owned by large families. Communal land cannot be sold. It can only be leased to developers or condemned by government for public purposes. Chiefs are heads of these families, and a consensus of chiefs and family members is needed before part of the communal land can be leased to developers. Consensus is not often easy to obtain. Families are wary of allowing part of the communal land to be leased to outside developers. Increasing population and constant clearing of bush land for garden patches and for plantations puts pressures on natural resources like native forest, watershed areas, wetlands and ultimately marine areas.

Governments of all islands place great importance on rural development programs that include the improvement of infrastructure, construction of schools and medical clinics, and the development of businesses and commercial activity to create employment. General government policy is that what is good for urban areas is also good for rural areas.

The approach for development of tourism in Yap is very applicable to other Pacific island countries, and some of the other islands are already on the road of similar development as

proposed for Yap. Yap could well learn from the mistakes and successes of such islands as Fiji, Samoa, Cook Islands and Tahiti.

Development of tourism in rural areas is promoted in most of the island countries. Governments encourage villages or individuals to establish small tourist facilities in the most attractive locations on these islands. Governments, working hand in hand with village councils and other village organizations, have developed plans to encourage protection of such natural resources as wetlands, mangroves, wildlife, coral reefs, native forests and village communities.

Small, rural tourist developments are done by local village families. Beautification of the villages and planting of ornamental plants is encouraged by government and villages. Other businesses spin off from these rural tourist developments. These include handicraft work, weaving and carving. The return benefits to the village communities create employment in rural areas and slow the migration of people from villages to the central townships that creates new social problems.

So one sees that not only do the island countries share a wide range of geographic, economic and social conditions, they share many of the specific issues and aspirations of Yap. It is therefore reasonable to expect that the broad recommendations made above for strategies and actions derived from the study of conditions in Yap will have broad applicability across the diversity of Pacific island countries and cultures.

7.4 Next Steps for Strategic Planning

The strategies above identified through this study of the State of Yap are similar to those that would be employed for most Pacific island countries:

- Identify Shared Goals and Plan Strategically
- Build Government to Community Communication
- Strengthen Community Cohesion and Action
- Promote Public-private Partnerships

There is often a disconnect of interests and values among the traditional community, the modern government and the private sector. There is seldom a common vision in specific terms, although most might agree on generalized terms such as improvements in the economy, education, health-care, and management of natural resources. Yet, each sector perceives and defines these terms in its own set of priorities. Their visions are viewed through different lenses, and their common vision suffers in specific terms from poorly developed and ineffectual relationships among all three sectors.

The four strategy recommendations above, however, would create an opportunity for taking new, innovative, progressive directions that not only provide solutions to the challenges within the State of Yap, but also address challenges faced by a majority of other Pacific island countries.

How does one create effective partnerships and what are the catalysts? To begin one must recognize that effective partnerships are not products of a process or of a set of policies. They are

the process itself. They are dynamic. They must constantly adjust to new conditions and challenges. They must be flexible, capable of adaptation and compromise. Therefore, the action items must address the process and the products separately. This has great advantages. While attention is directed to developing a particular product, meaningful partnerships can evolve among the three sectors. Attention to which sector has the most influence, the most benefit, or the most self-serving results disappears. The common vision becomes intertwined in the process and not forced or manipulated up front.

Therefore building a common vision and values and evolving partnerships for specific products are an iterative process. Some existing common vision helps a partnership to take definition, and the experience of developing partnerships for specific goals helps to shape the common vision and values. They proceed together in an organic process of continual change.

So the next steps for a nation or a state, whether in integrating traditional and modern methods of natural resource development or in other issues of development, is a dual track. Some discrete actions need to be taken early to improve community cohesion and communications between modern and traditional society. But at the same time the process should start, slowly and carefully at first, to explore common values, concerns and goals toward the evolution and articulation of a common vision.

Action items outlined in section 7.2 of this report are the first stage in establishing a knowledge base, identification of stakeholders, and building a formative dialogue. They will create the conditions in which members of communities can better work together in the interests of the community and in which state government can work collaboratively with communities and traditional leadership toward common goals and values. The results in implementing such action items will demonstrate when an island country is ready for a second stage of engagement. This second stage requires new and innovative approaches to integrated planning and development and is illustrated by examples given in Annex 5.

8 Appendices

8.1 Appendix 1: Persons Interviewed

- Al Ganang, CEO/General Manager, Village View Resort
- Andrew Ruepong, Paramount Traditional Leader and Associate Justice (Acting Chief Justice), Yap State Court
- Andrew Yatilman, General Manager, Yap Visitors Bureau, member of the Environmental Stewardship Consortium and former Lt. Governor of Yap
- Andy Tafeilechit, Division Chief, Marine Resources Management Division, Dept of Resources and Development, Government of Yap
- Ben Tured, Attorney and Yap representative, Micronesia Legal Services Corporation
- Berna Gorong, Editor, *The Yap Networker*
- Bill Acker, General Manager and CEO, Manta Ray Bay Hotel and Yap Divers
- Bruno Tharngan, Acting Chairman, Council of Pilung (council of chiefs for the main island)
- Charles Chieng, Executive Director of Yap Community Action Program (YAPCAP), Chairman of Yap Environmental Stewardship Consortium, Chairman of the Board of Directors of the Environmental Protection Agency, representative to the Council of Pilung, traditional leader.
- Charles Falmeyog, Executive Director, KCCDO (a tourist attraction in Kadai village) and Customer Service Manager of Yap State Public Service Corporation
- Charles S. Chiang, Member of the Yap State Legislature and of the Committee on Resources, Education and Development
- Charles Yalaarow, Manager, Yap participation in Strategic Action Programme for the International Waters of the Pacific Small Island Developing States (IWP)
- Christopher J. Buchun, loan officer, FSM Development Bank
- Christy Xavier, Publisher, *The Yap Networker* (Yap's weekly newsletter)
- Cyril Chugrad, President, WAAB Corp.
- Dave Vecella, General Manager, Beyond the Reef Divers
- James Gilmar, Director, Department of Resources and Development, Government of Yap
- James Limar, Director, Small Business Development Center, former developer and manager of Destiny Resort, member of the Council of Pilung
- Jesse Damel, Deputy Director, Department of Resources and Development, Government of Yap

- Jimmie Townsend, CEO, Moy Inc. (a business development service with emphasis on preservation of the traditional culture of Yap)
- Joe Habuchmai, Lieutenant Governor of Yap State
- John Mangefel, first Governor of Yap, principal member of the Yap State Environmental Stewardship Consortium, chairman of the Board of ACE
- John Mootmag, Law Clerk to the Yap State Court
- John Pong, Traditional Leader, Kadai Village, representative to Council of Pilung
- John Wayaan, Owner and Manager, The Pathways Hotel
- Joleen Chumrod, student, granddaughter of Tamag, daughter of Sen. Ted Rutun
- Joseph J. Urusemal, Senator from Yap and Floor Leader, Congress of the FSM
- Kevin Rhodes, consultant to SPREP for IWP
- Leo Flawaw, Administrator for the Council of Pilung and representative to the Council from the Municipality of Gagil
- Leo Pugram, Coordinator for Curriculum and Instruction, Yap State Department of Education
- Leo Yinug, Director, Environmental Protection Agency, Government of Yap
- Lonnie Fread, Manager, Yap Art Studio and Gallery
- Margie Falanruw, Director, Yap Institute of Natural Sciences, regional representative for the US Forest Service
- Michael Gaan, Chief, Commerce & Industries, Dept. of Resources and Development, Government of Yap
- Michael Gumbiner, General Manager, Traders Ridge Resort
- Patricia Leon, The Nature Conservancy, Pohnpei, FSM
- Peter Stelzer, Attorney, Public Defender's Office, Government of Yap
- Peter Tharngan, Manager, Yap Branch, FSM Development Bank
- Robert Finnginan, loan officer, FSM Development Bank
- Robert Ruecho, Governor of Yap State
- Sabino S. Sauchomal, Floor Leader of the Yap State Legislature
- Samson Samasoni, South Pacific Regional Environmental Programme (SPREP), representative to Yap for IWP
- Scott Davies, Manager, Media Shop, Yap State Department of Education
- Stan Fillmed, founder and owner of The Pathways Hotel, traditional leader of Kadai Village
- Tamag, traditional leader from Maap, master builder, host of Bechiyal Cultural Center

- Ted Glenn, Executive Director, Academy For Culture and Education of Yap
- Theo Thinnifel, Interim Manager, Yap Fishing Authority, Government of Yap
- Tiare Holm, The Nature Conservancy, Koror, Palau
- Tony Falthin, Director of the Office of Rural Development (FSM institution funded by USDA and providing loans primarily for housing)
- Tony Ganangiyan, President of YCA (Yap Cooperative Association, a private company) and Speaker of the Yap State Legislature
- William Yad, Traditional Leader of Gachpar Village, historian and translator for Historic Preservation Office (HPO)
- Yuruw, Traditional Leader, Tomil, representative to Council of Pilung

Names: In the traditional system Yapese are given a single name. The name relates to their land and is a clan name but not a nuclear family name (i.e., not necessarily the same as the mother or the father). Where a western style name appears first it is a Christian or baptismal name. Where there is a single name it is the traditional name, though the individual might also have a Christian name.

8.2 Appendix 2: Acronyms and Abbreviations

ADB	Asian Development Bank
BDS	business development service
CFA	Compact of Free Association with the United States
COP	Council of Pilung
COT	Council of Tamol
EIA	environmental impact assessment
EPA	Environmental Protection Agency
ESC	Environmental Stewardship Consortium
FSM	Federated States of Micronesia
GDP	gross domestic product
GEF	Global Environmental Fund
GOY	Government of the State of Yap
HPO	Historical Preservation Office
IWP	Strategic Action Programme for the International Waters of the Pacific Small Island Developing States
MPA	marine protected area
MRBH	Manta Ray Bay Hotel
MRCMP	Marine Resources and Coastal Management Plan
MLSC	Micronesia Legal Services Corporation
MRMD	Marine Resources Management Division
NBSAP	FSM National Biodiversity Strategy and Action Plan
NEMS	National Environmental Management Strategy
NGO	non-governmental organization
NRAC	Natural Resources Advisory Council
PDMC	Pacific Developing Member Country
PH	Pathways Hotel
PIC	Pacific island countries
PRES	Pacific Region Environmental Strategy
SPREP	South Pacific Regional Environmental Programme
TEM	traditional environmental management
TNC	The Nature Conservancy
TRR	Traders' Ridge Resort
TTA	Trust Territory Administration
TTPI	United Nations Trust Territory of the Pacific Islands
UCFAC	Urban and Community Forestry Advisory Council
WAAB	a corporation operating the port of Yap and other businesses
WSSD	World Summit on Sustainable Development
YAPCAP	Yap Community Action Program
YCA	Yap Cooperative Association, a corporation operating various businesses
YINS	Yap Institute of Natural Science
YSBSP	Yap State Biodiversity Strategy and Action Plan
YSPSC	Yap State Public Service Corporation
YWA	Yap Women's Association
VVR	Village View Resort

8.3 Appendix 3: Bibliography

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8.4 Appendix 4: Terms of Reference

To Prepare a Case Study on: An Analysis of Public-Private Partnerships and the Integration of Traditional Environmental Management Systems in Tourism Development in the State of Yap, Federated States of Micronesia

Background

The Asian Development Bank (ADB), in cooperation with the Government of New Zealand (NZAID), is now implementing a RETA aimed at formulating a strong and well-articulated regional environmental strategy that will review major environmental challenges in the Pacific region and clearly formulate the strategic objectives and activities for ADB's assistance for 2004-2008. To undertake this objective, ADB is supporting the preparation of case studies documenting a wide range of environmental planning and management approaches in order to gain an improved understanding of such practices in the region. Consistent with this, an analysis of the public and private partnerships and the integration of traditional environmental management system in tourism development is deemed an important area of study that can shed light and valuable information on how environment and environmental concerns could be mainstreamed in development processes.

Understanding the interaction of traditional and contemporary approaches to environmental or natural resource management is critical within the continuing shift away from traditional values and approaches. Traditional approaches have evolved over centuries, and while they do not always fit entirely with contemporary economies and objectives, they can often make a significant contribution in combination with contemporary approaches. At a minimum, modern developers should understand them so that serious conflicts are avoided. The most valuable and efficient solution, however, is likely to be one in which the traditional approaches can be integrated into comprehensive policies and approaches for environmentally sustainable development.

Both public-private partnerships and traditional approaches to natural resource management are key to the development of integrated natural resource management policies and strategies that can be effectively mainstreamed into overall development policies and strategies for a sustainable future. While every Pacific island group, and in some cases every island, has different cultural imperatives and conditions, the island cultures have sufficient similarity through geographic conditions, ethnic origins and other factors that conclusions and recommendations drawn from one island nation should have broad replicability for policy and strategy across the region.

It is appropriate to base the analysis on development in the tourism sector because a number of Pacific island countries derive their largest source of foreign exchange from tourism, and many more are looking at tourism as their economic growth sector for the future. As most of the tourism is based on the use of coastal resources, it has the potential for causing significant impact on fragile coastal ecosystems, and on traditional uses and access to the coastal aquatic resources. The choice of Yap as site for this case study is most appropriate for it is both dependent upon tourism, as its largest source of foreign exchange, and its cluster islands have fragile coral coastal

ecosystems. Moreover, Yap has been moderately successful in developing its tourism industry, apparently without serious resulting environmental damage until this time. There is concern, however, that continuing development, especially any larger scale development, may overload the ecosystem with significant resulting impacts unless the development is carefully managed.

General Activities and Outputs

The consultant will examine the processes employed in the development of two resorts; one a small locally owned facility using traditional island design, and the other a larger, more complex and internationally owned resort, both in the State of Yap, Federated States of Micronesia. The output of the study will indicate how public-private partnerships or cooperation were achieved in the process of these developments and where problems were encountered.

The consultant will also examine and contrast the traditional natural resource management systems (such as restricted rights to water and fishing) and the more current or western concepts of resource management that may have been involved. The analysis will further examine how the traditional and modern approaches may have conflicted or complemented each other and how they can be better integrated in the future for more effective environmental management.

Finally, the consultant will develop a matrix of interaction on dimensions of traditional vs. modern systems and large versus small resort developments. The findings of the analysis are expected to help ADB and the Yapese organizations and agencies to better understand the interaction of public and private interests and of traditional and modern approaches to development and resource management. The findings and recommendations for achieving more effective collaboration and integration of the different approaches will provide broadly replicable guidance to ADB for inclusion in PRES on mainstreaming policy and strategy for environmentally sustainable development.

Specific Tasks

Generally, the consultant will compare the application of traditional management approaches and public-private partnerships in large vs. small tourism destination development, using the Manta Ray Bay Hotel and the Trader's Ridge Resort (for large hotels) and the Pathways Hotel (for small resort) as study sites.

Specifically, the following task will be undertaken:

1. Analyze and describe position and approaches of the government, the local people, particularly the traditional leaders, and the tourism industry with regard to environmental sustainability and mainstreaming of environmental considerations in economic development processes and management.

2. Identify and discuss the resource management approaches used by (i) the traditional leaders for the sustainable use of natural resources (e.g., limited fishing rights); and (ii) the national and state government in incorporating environmental sustainability in economic development. Also, describe the conflicts encountered, if there's any, between traditional and modern approaches and how they were resolved.

3. Analyze the existing national and state resource and development policies directed towards economic development and environmental management and discuss if such policies have incorporated or included traditional approaches in the development process. Determine also whether these policies encourage and/or create conditions favorable to public-private partnership and collaboration in promoting environmentally sound investments and sustainable development.

4. Describe the development processes and procedures specified in the development of a tourism destination, with emphasis on: 1) incorporation of traditional approaches, 2) problems encountered, 3) involvement of public-private partnerships, and 4) contrast between the small-scale development with the larger development.

5. Determine and describe cases of conflicts and synergy vis-à-vis traditional approaches vs. contemporary approaches in tourism development.

6. Recommend policies and strategies that can help promote and create the conditions necessary to: (i) integrate traditional approaches with contemporary approaches for environmentally sustainable development; (ii) use of public-private partnerships for environmentally sustainable development; (iii) mainstream environmental considerations into national and sectoral development, plans and programs; and provide guidance to ADB in assure environmental sustainability in its technical and financial assistance to FSM and other Pacific island countries.

7. Present the results of the case analysis in a regional workshop to be organized by ADB in March 2003;

8. Submit the final draft report of the case study by 1 April 2003 and the final report no later than 15 April 2003; and

Timeframe

The case study will be carried out intermittently over a period of three months. Approximately 35 calendar days of consultant time will be devoted to the case study preparation, with at least 25 calendar days field work in Yap.

The assignment will begin by 22 January 2003 and will be concluded by 15 April 2003.

8.5 Appendix 5: A Strategic Approach to Sustainable Development

The Strategy of SINBAD - Sustainable Island Nations Business And Development [1]

The SINBAD approach is constructed in five main parts:

1. Visioning
2. Sustainable Capability
3. Design Tools
4. Sustainability Certification
5. Performance Diagnostics

In each part of the methodology one must ask a number of key questions and build the strategy for sustainable development so as to take into account the answers.

1. Visioning and Planning: Overriding Values
    a. Historical Past (pre-human colonization, if possible)
        i. What characteristics of the island's past (cultural, environmental, economic, etc.) are considered valuable to keep, target, restore for the present and future?
        ii. What natural capital existed historically? E.g., flora, fauna, agriculture, minerals, marine ecosystems, climate, etc.
        iii. What island characteristics have changed dramatically from past to present? E.g., sea levels, arable soils, fresh water sources, active volcanoes, climate, flora and fauna species, beaches, marine ecosystems?
    b. Present
        i. Same as above: What are valuable, positive assets of the present, in terms of human and natural capital?
        ii. What are negative assets: societal or environmental?
        iii. What are debts to the island community, foreign entities, to natural stock (depletion, degradation: flora and fauna)
    c. Projected Future
        i. What are the various stakeholder definitions of 'sustainability'? ADB, Yap government, village leaders, tourism industry, women, children, etc.? If there is a disconnect here, how is it resolved for future planning?
        ii. Pay attention to, and seek to integrate, economics, human and natural capital into the 'sustainability' definitions.
        iii. What components are considered necessary for life-support on the island? E.g., elimination of poverty, sustainable supplies of fresh, potable water, sources of nutrition, safe and comfortable shelter; communication systems, clean air, mobility to and from the island, steady revenue generation, learning opportunities, meaningful commerce, literacy, equity, good governance, omission of crime, human conflict, protection from natural hazards, etc.?

[1] SINBAD is a service program of Pangaea Global Development Corporation, a for-profit sustainable development company based in the United States.

2. Sustainable Capability
    a. What is the carrying capacity of the island today? How much human and natural stock would be required to support sustainability today, if it were a perfect world?
    b. How much stock is currently available on the island without imports?

3. Design Tools
    a. What mechanisms are currently used to manage human and natural capital? E.g.: Instructional policies; supervised/monitored policies, regulations, codes, laws, mandates; penalties;
    b. What design tools are currently used to define, qualify and construct these mechanisms?
    c. What tools are currently used to measure or quantify the processes?
    d. Are the results quantifiable, tangible, user-friendly, implementable in practice, etc.?

4. Sustainability Certification
    a. What, if any, are the existing standards to qualify or certify positive 'sustainability' processes and results?
    b. Are these standards accepted by the local village, region, ADB, international community?
    c. If none exist, what existing standards, from what sources, would be appropriate?

5. Performance Diagnostics
    a. What, if any, diagnostic tools are currently used to monitor, correct, modify performance of 'sustainability' processes, mechanisms, systems, policies, etc.?
    b. If none exist, what existing tools, from what sources, would be appropriate? ISO standards, ADB or World Bank guidelines, EPA, diagnostic industry, other?

SINBAD methodologies to address the five topics above cover the following eleven sustainability components. They are selected to create a systems integration approach that is all inclusive, comprehensive and that targets the triple bottom line: economy, environment, and community:

1. Physical Geography
2. Air
3. Water
4. Energy
5. Waste
6. Buildings and Building Systems
7. Materials
8. Transportation
9. Communications
10. Biodiversity: Flora and Fauna Communities
11. Human Communities

The following examples illustrate how and where the SINBAD methodology has been applied.

Example 1

The island nation of St. Kitts & Nevis, located in the West Indies, consists of two islands with a combined population of approximately 60,000 inhabitants and over 100 small communities. The capital is Basseterre where the majority of commercial, industrial, educational, and governmental institutions are based, including the only airport, marina/port, and university. Common to all islands in the Caribbean, tourism is a dominant if not central industry. Competition among the islands for tourism is the strong and plays a key role in influencing policies. The competition focuses on environmental uniqueness, historical and cultural richness, security, comfort, and achievement in protecting 'paradise'. A meeting was held between a local developer (with respected ancestral heritage), government ministers, and an internationally based sustainable development company, Pangaea Global Development. Although the original focus of the meeting centered on the development of a stand-alone eco-tourist resort, discussion soon shifted to how eco-tourism strategies and sustainable development policy for the entire island nation could be integrated. This meeting was the birth of an innovative, international initiative called **SINBAD, Sustainable Island Nations Business and Development**.[2] The program, although still in development, can be described as having the following features:

1. A tourism destination facility will be designed and constructed in the marina/port of the capital. The government will donate this site, as it is situated near the Customs House and existing tourism information center and amenities, such as car rentals, travel agencies, and tour operators. Tourist arrivals at the port include cruise ships, corporate and private yachts, and buses or taxis from the airport. The facility will become the debriefing center for tourism throughout the two islands; in other words, the first stop for all visitors to become acquainted with the islands' history, culture, environmental assets, tourist lodgings, expeditions, and other recreational amenities.

2. However, this will not be typical of any ordinary tourist information center. It will be staffed by school children, university students, and island 'experts' in a variety of subjects including history, native culture, local arts and crafts, marine biology, botany, forestry, fishing and traditional agriculture, to name a few. This facility will become the control center for a more extensive sustainability program that encompasses both islands. Data collection and inventories of various layers of information will be funneled to this center each hour every day of year from three main sectors: government, community, and private business.

3. The sustainability program that will be fully integrated into the tourism destination facility is based on components of a Sustainability ToolKit.™[3] The five ToolKit components will be incorporated into the school curricula throughout the islands,

[2] SINBAD is a service program of Pangaea Global Development Corporation, a for-profit sustainable development company based in the United States.

[3] A proprietary software and training product developed by and provided by Pangaea Global Development Corporation.

from Grades 1-12 and university, so that children and young adults throughout the communities can actively participate in collecting data across multiple disciplines. This will require them to leave the classroom and patrol their beaches, their forests, their farms, and their villages and towns, to compile and collate data, and to deliver it to central command at the tourist facility at the capital. They will alternate roles staffing the center as well, under the direction of older students or other representatives of the community, such as businessmen and women from many different fields.

4. The Sustainability components will be integrated throughout the islands' infrastructure, particularly in water supply, wastewater and solid waste management, and in energy production and supply. Innovative system technologies will be developed in such a way that they will become tourist destinations. For example, ecologically-engineered technologies for sewage treatment will consist of a series of aquatic gardens, fields of flowering plants and aqua-culture farms, where tourists can enjoy classes in fly-fishing, following tours through the gardens and wetlands that attract bird species. A special outdoor, interactive exhibit on the islands' use of water, from freshwater to marine ecosystems, will attract tourists. This 'living museum' will be called HYDROUS: World of Water. It, too, will be integrated into the school curricula, where the island's youth will be tour guides and volunteers in the open-air laboratories and simulation exhibits.

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5. The Government of St. Kitts will incorporate the Sustainability ToolKit ™ components into the organizational structure of its various ministries. For example, the Minister of Tourism and Environment will be the director of the entire island sustainability program; the Minister of Education will oversee the multi-layered educational program now fully integrated into the businesses and tourist industry; and the Minister of Transportation will launch a program consistent with the sustainability program to promote use of electric car rentals, bicycles and natural gas buses.

6. A telecommunication program will be key to the control center. In collaboration with the island media organizations, the government, local businesses, and schools, a campaign will be launched to bring the entire island into the information age. International sponsors of SINBAD will donate computers. The control center will be connected via satellite to similar centers on other islands. This will create an extensive communication bridge among islands so that children can share information with each other and tourists can be exposed to more destinations.

7. The capital to establish this program and to design and build the control center will be provided through a collaborative arrangement among SINBAD and other private sector, multi-lateral, and bi-lateral institutions. Business partnerships will be established with the island community as a rule, not as the exception.

The end result of this process is that the island has not only created strong partnerships with all stakeholders that are intertwined in the implementation phase, but it has established a vibrant product, a revenue engine within the tourist industry. This engine will be fully incorporated and

integrated into the fabric of the island's government, educational institutions, commerce, agriculture, and infrastructure. And perhaps more importantly, the young people, will have harnessed it, embedded into their daily lives. What better framework could build the future leaders of the island toward sustainable development?

Example 2

A meeting was organized by a professor and businessman of Palermo, Sicily in 2000. The participants included the President of Sicily, mayors of 10 communities, local businessmen, and the representative of Pangaea Global Development. The purpose was to discuss how to develop an island-wide sustainability strategy. The concept of SINBAD was presented, describing the purpose of a tourist-focused control center that embodies eleven key components of sustainable development, and the Sustainability ToolKit™ that will be comprehensively integrated into government structure, educational curricula, infrastructure improvements, and tourism programs. Candidate sites were visited and respective mayors and community leaders hosted the team.

Due to the competitive nature of the communities, each vying for selection, it was decided to split the control center into three distinct but complementary sites. One site at Agrigento, the valley of temples, will focus on ancient Greek and Roman history. Another site will focus on marine archaeology, merchant marine trade, and the Mediterranean Sea assets. The third site will focus on land management, farming, animal husbandry and hill town communities.

As described in the example of St. Kitts, the island program based in Sicily follows a similar direction. The Government of Italy so favors the program that it is providing 100% of the infrastructure costs and 40% of the building costs.

It is planned that the island of St. Kitts and the island of Sicily will be linked by satellite so that the young people of both islands can begin to share information in 'real' time.

In October of 2003 the island Government of Malta, in the Mediterranean, will host an international conference on island sustainability strategies. The concept of SINBAD will be among the featured presentations. Similar programs have been initiated in Costa Rica, southern Italy, and the United States.

Pangaea Global Development has conducted preliminary site visits and meetings with government leaders, NGOs, and local communities for the application of the SINBAD development concepts in Fiji. The proponents of the approach are interested in discussing how a SINBAD program approach could be developed for other islands in the Pacific region.