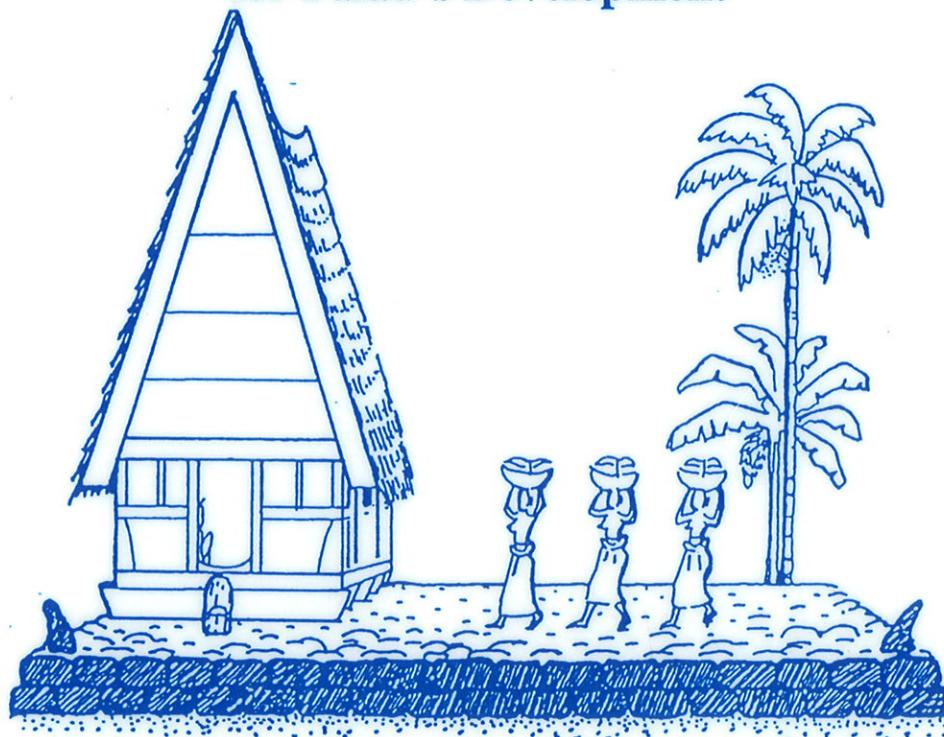


PALAU
2020
**NATIONAL MASTER
DEVELOPMENT PLAN**

**Issues, Options and Strategies
for Palau's Development**



**The Foundation for Development
Final Report**

April 1996

Senate free

Senate
Olbiil Era Kelulau
Koror, Palau 96940

PALAU

NATIONAL MASTER DEVELOPMENT PLAN

**Issues, Options and Strategies
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FINAL REPORT

The Foundation for Development

April 1996

Prepared For

The Republic Of Palau
Through a Project Jointly Funded by
United Nations Development Programme
and United States Department of Interior

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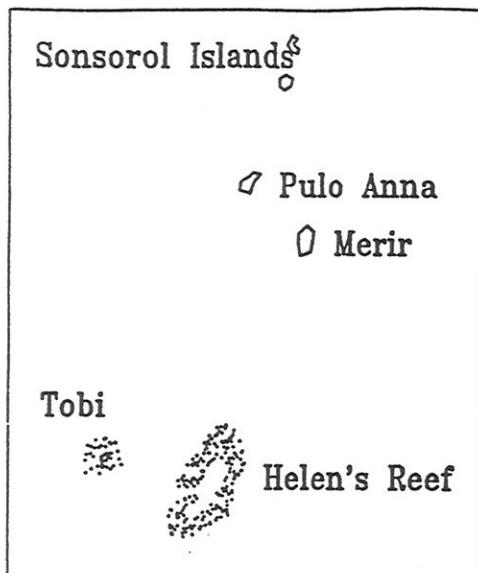
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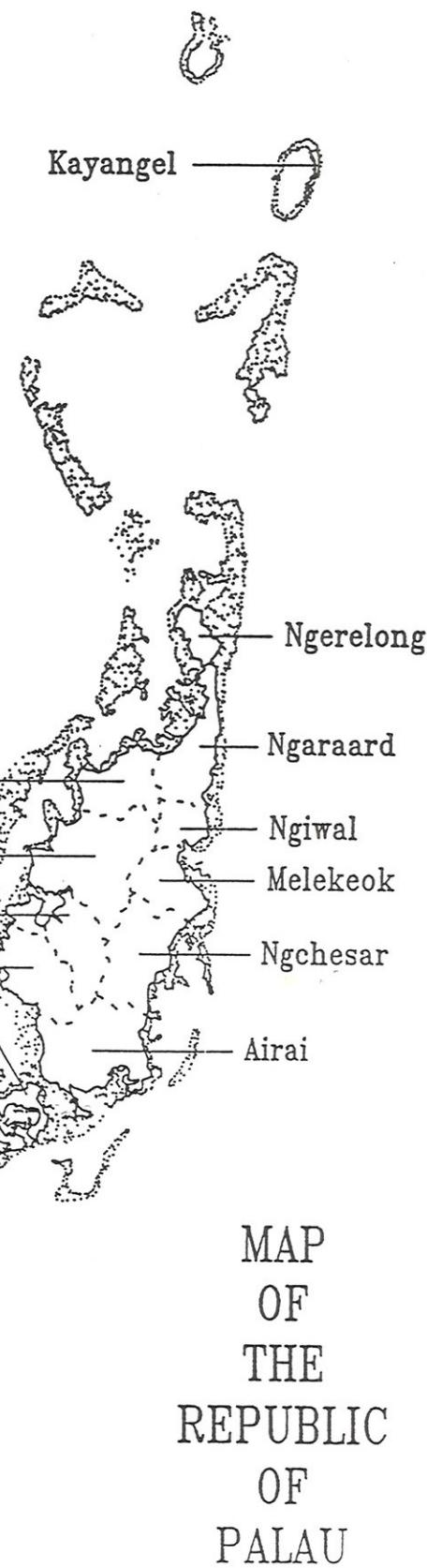
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INSET



States of Sonsorol and Tobi are some
300 km.(180 miles) southwest of the
main archipelago.



MAP
OF
THE
REPUBLIC
OF
PALAU



ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AES	Agricultural Experiment Station
AESOP	Australian Executive Services Overseas Program
AGEM	Agency for Government Enterprise Monitoring
AIDAB	Australian International Development Assistance Bureau
AISP	Agency for Investment Screening and Promotion
BCM	Bureau of Contracts Management
BLS	Bureau of Land and Surveys
BNRD	Bureau of Natural Resources and Development
BOT	"Build-Operate-Transfer"
BPW	Bureau of Public Works
BTA	Belau Tourism Association
BTIC	Belau Transfer and Terminal Company
C/ED	Conservation/Entomology Division
CAT	Civic Action Team
CBI	Caribbean Basin Initiative
CCS	Comprehensive Conservation Strategy
CES	Cooperative Extension Service
CIF	Cost Insurance Freight
CIP	Capital Improvement Program
CITES	Convention of International Trade in Endangered Species
CNMI	Commonwealth of the Northern Marianas
COM	College Of Micronesia
CPI	Consumer Price Index
CSIRO	Commonwealth Scientific and Industrial Research Organization
CSO	Community Service Obligation
CTSA	Center for Tropical and Subtropical Aquaculture
DAMR	Division of Agriculture and Mineral Resources
DCE	Division of Conservation and Entomology
DESS	Division of Environment and Sanitation Services
DoI	US Department of Interior
E/D	Entry Departure
EDP	Economic Development Plan
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EIU	Economist Intelligence Unit
EO	Executive Officer
EPA	Environmental Protection Authority
EQPB	Environmental Quality Protection Board

FAA	Federal Airports Authority
FAD	Fish Aggregation Device
FD	Forestry Department
FDIC	Federal Deposit Insurance Corporation
FEMA	Federal Emergency Management Agency
FFA	Forum Fisheries Agency
FFPN	Family Food and Nutrition Project
FIAC	Foreign Investment Approval Certificate
FIAS	Foreign Investment Advisory Service
FIB	Foreign Investment Board
FOB	Free On Board
FSM	Federated States of Micronesia
GBE	Government Business Enterprises
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIS	Geographic Information System
GNP	Gross National Product
GRT	Gross Revenue Tax
GSP	Generalized System of Preferences
HRD	Human Resources Development
IAB	Industry Advisory Board
ICLARM	International Centre for Living Aquatic Resources Management
IPD	Implicit Price Deflator
JAC	Japan Airport Consultant Inc.
JTB	Japan Tourist Bureau
JTPA	Job Training Partnership Act
LCHO	Land Claims Hearing Office
LGP	Land Grant Program
MCT	Minister of the Commerce and Trade
MFN	Most Favoured Nation
MMDC	Micronesian Mariculture Demonstration Center
MOC	Micronesian Occupational College
MRD	Marine Resources Division
MWWTP	Malakal Waste Water Treatment Plan
NAFTA	North America Free Trade Agreement
NDBP	National Development Bank of Palau
NDP	National Development Bank
NEB	National Education Board
NETC	National Education and Training Council
NGOs	Non Government Organizations
NHA	Natural Heritage Areas
NMDP	National Master Development Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

NTO	National Tourism Organization
OEK	Olbiil Era Kelulau
OFCF	Overseas Fisheries Cooperation Foundation
OGRE	Office of Government Reform and Efficiency
OISCA	Organization for Industrial Spiritual and Cultural Advancement
OMIP	Operations and Maintenance Improvement Program
OSS	One Stop Shop
OTIA	Office of the Territorial and International Affairs
PAC	Palau Airport Corporation
PATA	Pacific Asia Travel Association
PCAA	Palau Community Action Agency
PCC	Palau Community College
PFA	Palau Fishing Authority
PFFA	Palau Federation of Fishing Association
PIC	Palau Investment Corporation
PITI	Palau International Traders Incorporation
PLA	Public Land Authority
PMA	Palau Maritime Authority
PMCI	Palau Modekngei Corporation Incorporation
PMIC	Palau Maritime Industries Corporation
PNA	Party to the Nauru Agreement
PNBC	Palau National Building Corporation
PNC	Palau National Code
PNCC	Palau National Communication Corporation
PNG	Papua New Guinea
PoA	Plan of Action
PPLA	Palau Public Land Authority
PPR	Palau Pacific Resort
PRI	Palau Resource Institute
PRPC	Palau Road and Port Corporation
PSIP	Public Sector Investment Program
PUC	Public Utilities Corporation
PVA	Palau Visitors Authority
PWWC	Palau Water and Waste Corporation
REA	Rapid Ecological Assessment
ROP	Republic of Palau
SBA	Small Business Association
SFS	School for Field Studies
SMA	Special Management Area
SPBCP	South Pacific Biodiversity Conservation Programme
SPC	South Pacific Commission
SPREP	South Pacific Regional Environment Program
STOL	Short Take Off and Landing
TNC	The Nature Conservancy
TTPI	Trust Territory of the Pacific Islands

UN ESCAP	United Nations Economic Social Commission for Asia and the Pacific
UNCED	United Nations Conference Environment and Development
UNDP	United Nations Development Programme
US DOE	US Department of Energy
USDA	United States Department of Agriculture
USFmHA	US Farmers Home Administration
USGS	US Geological Survey
VAT	Value Added Tax
VEMS	Visitor Expenditures and Motivation Survey
WAG	Wage Advisory Group
WHO	World Health Organization
WTO	World Tourism Organization
WWF	World Wide Fund
WWII	World War II

EXECUTIVE SUMMARY

CHAPTER 1: INTRODUCTION

This chapter examines the Palau National Master Development Plan preparation process and its interface with the Government of Palau's Economic Development Plan. The consultative processes as required under the contract for the preparation of the Master Plan are outlined.

The critical provision for the Master Plan is the necessity to put into place the institutions and policies for Palau which will guide it towards achieving economic sustainability and enable it to pay for the maintenance of its environment and culture. In this chapter, the focus of the Master Plan strategies are described as recommending:

- a substantial shift in economic activity from the public sector to the private sector aimed at increasing productivity, and efficiency of resource use. This is achieved through policies which minimize government intervention, and which provide a predictable framework for foreign investment and increase human resource training and development.
- strengthening government institutions to improve coordination of decision making processes, and focusing on greater accountability for performance, and approaches to improve selection and evaluation of projects, and effective resource allocation.
- identification of financing strategies to offset the decline in US assistance over time.

The chapter also outlines the format and introduces the logical framework matrix at the conclusion of each of the major sectoral chapters to assist in summarizing the programs and projects which will flow from the Master Plan recommendations . These programs and projects should be prioritized for the implementation of the Master Plan in the medium term and during the annual budget process.

CHAPTER 2: ASSESSMENT OF SITUATION AND PERFORMANCE OF THE PALAU SOCIO-ECONOMY

This chapter emphasizes the main factors relating to the performance of economic and social conditions. Key constraints which face Palau as they do other Pacific island economies include:

- a small domestic market spread across a number of islands;
- high unit costs for infrastructure and industry services;
- narrow resource bases;
- heavy dependence on external trade and foreign assistance; and
- price of exports lower than the price of imports.

Tables 2.1 and 2.2 compare some of Palau's economic indicators with its Pacific neighbors which show that Palau has performed better than most of its Pacific island neighbors, but does not match Guam and the Caribbean and Indian Ocean islands which have similar economies. Table 2.3 summarizes performance of the different economic sectors over a 10-year period showing that fisheries and tourism play a major role in the economy.

There is a high dependency on Government employment which constrains public policy decisions such as wages, restructuring and productivity changes . Indicators of foreign trade, prices, population, employment and wages, education, health and law and order are also summarized in this chapter. The overriding conclusion is that rarely do countries have such advantages and opportunities, but given these, economic performance could have been better.

CHAPTER 3: CONSTRAINTS, OPPORTUNITIES, VISION AND STRATEGIES

This chapter examines the constraints on development in Palau and the opportunities for advancement. From this analysis, through the community consultative processes that took place, a national vision and goals statement was developed and is outlined. The strategies are then outlined which will guide Palau towards achieving it's **vision** which is:

To substantially enhance the quality of life of Palauans and future generations of Palauans

The key **development goals** which are necessary to achieve this vision are to:

- increase real economic growth per capita on a sustained basis;
- share the benefits of economic growth on an equitable basis; and
- enrich and enhance confidence in the Palauan culture, raise national consciousness, and protect the natural environment of Palau.

An important element is the development of a partnership approach with the private sector, one in which the Government establishes a policy framework that helps and encourages private sector initiatives.

CHAPTER 4: MACRO ECONOMIC FRAMEWORK

This chapter examines the basic macro economic framework that will underpin the strategies for economic growth, including fiscal management, particularly related to Compact funds, and policies related to the monetary system, labor market and foreign investment. The key approach is to develop fiscal and financing policies that smooth the adjustments that the economy will need to make as recurrent grants from the US decline and the flow of Compact funds ceases. The policy response to this should be to accumulate budget surpluses over the coming years to enable the financing of budget deficits in latter years. This can be achieved by increasing revenue together with restraining public expenditure.

The impact of the dependence of Palau on the US dollar as its currency, and the implications for its continued use are outlined. The labor market issues that affect Palau's economy include:

- around 4,000 Palauans work offshore;
- substantial US recurrent funding that has supported relatively high civil service wages and employment levels; and
- importation of low wage foreign workers.

Four areas of reform to the labor market which are recommended are:

- entry of unskilled and semi-skilled workers to the public sector made less attractive;
- attractiveness of the private sector for unskilled workers enhanced;
- recruitment of foreign workers made less attractive; and
- facilitation of industries which contribute a higher *value added*.

A foreign investment framework is recommended that builds on the experiences of other countries which have been successful and incorporates the following features:

- active promotion of foreign investment opportunities that recognizes the benefits of increased competition;
- administrative simplicity;
- clear environmental and cultural guidelines involving inter-agency coordination;
- professional and fast assessment; and
- non-discriminatory.

CHAPTER 5: FINANCING DEVELOPMENT

The two major areas that will be of crucial importance to the Government and private sector in financing investment and development are examined. Taxation and charging systems, and the domestic financial sector. The four likely sources of finance and funding likely to be tapped by the public and private sectors are:

- revenue from taxes and charges;
- domestic financial sector;
- foreign investment financed from outside Palau; and
- offshore commercial borrowings.

Taxation criteria , that is, efficiency and equity are outlined and principles enumerated. Major recommendations include the formation of a Tax Reform Unit within the Ministry of Administration to manage the reform of a number of taxes and charges, and the creation of a streamlined business licensing system within the Ministry of Commerce and Trade.

The importance of encouraging the domestic financial sector is the way in which it helps to mobilize and increase domestic savings. It is fundamental to sustained economic growth. Palau's two pension funds could be major investors in the economy, providing confidence of potential foreign investors by setting an example. Banking supervision and regulation also helps to build confidence in the domestic financial sector.

Support for Palauan entrepreneurs through a partnership between the Palau National Development Bank, and the business sector that provides an advisory service is recommended. The aim of this program would be to increase the participation of small businesses across all sectors of the Palauan economy, by providing entrepreneurs with the skills to access PNDB loans.

CHAPTER 6: INFRASTRUCTURE

One of the important areas of government activity is the provision of infrastructure to underpin private sector endeavor and to provide those services to citizens that are essential for improving living standards. It is particularly important at this stage of Palau's development because of the attainment of substantial Compact funds for infrastructure spending. This chapter focuses on both the institutional and policy environment to enable the performance of infrastructure spending to be enhanced., and on feasible project outputs. Issues and problems that have impacted on project selection, evaluation and allocation are examined. The importance of pricing policies and performance, the development of a process to support the preparation of a Public Sector Investment Program is stressed and a model for sustainable funding of projects is proposed.

The model incorporates the concept of achieving, where possible, a return on public sector investment which aims for sustainability past the decline in Compact funding. It therefore focuses not just on the management of offshore funds but also on the evaluation of those projects over which Palau has discretionary spending. This integrates social capital projects as well as infrastructure projects which are fed into in the budget cycle under the Public Sector Investment Program.

CHAPTER 7: LAND USE

Clear property rights are a fundamental requirement for a modern capitalist economy. If Palau seeks to pursue a path towards such an economy, issues related to land tenure and effective land use planning will need to be resolved as expeditiously as possible. This chapter examines a number of essential tasks that need to be implemented by the relevant Palauan authorities to facilitate and hasten the resolution of these land-related issues. Guidelines should be formulated to provide the context and parameters within which public and private sector developers must operate, these could include:

- guidelines for screening development proposals;
- site specific performance standards;
- uniform building code;
- appropriate land management practices;
- management plans for environmentally sensitive locations; and
- guidelines on land-related matters for foreign investors.

CHAPTER 8: TOURISM

Palau has few resources to offer the rest of the world in order to support its desired lifestyle and enhance its culture and environment. However those which it has - a unique and fascinating array of reefs, waters and islands are in diminishing supply. They are also located adjacent to the world's fastest growing areas of demand. Necessity and proximity now combine to possibly threaten the fragile culture and ecosystem of Palau. The challenge to decision makers is to open up good quality tourism facilities to an increasing number of investors and visitors without causing the intolerable damage to the attractions and Palau social system. This chapter assesses the current situation and trends, the main issues, strategies and options for assisting growth in this sector. A key element is the active participation of the private sector in tourism promotion working in partnership with the Palau Visitors Authority. The chapter also recommends creating a function within the Ministry of Commerce and Trade to take responsibility for tourism policy, which should involve inter-agency coordination with Ministries whose activities impact on tourism in Palau.

CHAPTER 9: AGRICULTURE AND FORESTRY

Agriculture and forestry development in Palau has grown modestly in the past decade, but it has declined significantly relative to other sectors. Strong growth in domestic demand for food and forestry products has been largely met via imports. Motivation for involvement in the sector is generally low, and the range of agricultural commodities produced is relatively narrow, despite relatively high domestic prices. Key constraints to agricultural production are outlined. The strategy for agriculture and forestry must take account of:

- efficiency in use of natural resources;
- equity of development opportunities; and
- biological, economic and social sustainability of resource use.

Increased domestic market opportunities will be enhanced with the improvement of transportation infrastructure. Market analysis and development programs could support import substitution and some exports, providing the Division of Agriculture and Mineral Resources can improve its research and extension capability.

CHAPTER 10: INDUSTRY AND SERVICES

As Palau moves ahead with the development of a self-reliant and market-oriented economy, Government policies and institutions should provide a framework such that the focus of activity is directed towards Palau's comparative advantages. These advantages lie in tourism, fisheries, small scale manufacturing and facilitating service industries. This chapter analyzes the growth of the industry and service sectors which will contribute to economic growth and employment, and support the economy's lead sectors. The strategic approach outlined seeks to provide an environment which encourages private sector development through provision of supporting infrastructure, competitive economic and regulatory policies, adequate consumer and worker protection, and facilitative policies towards promoting development and employment.

CHAPTER 11: MARINE RESOURCES

Marine resources are a fundamental underpinning of the traditional system. This chapter examines the issues that impact on marine resources and recommends policies that enhance development and returns, while balancing any environmental impact. To ensure sustainable development of marine resources, adequate systems for research, extension, monitoring and regulation of inshore and offshore fisheries are essential. The responsibility for marine resources which rests with a number of different agencies is detailed. Regional cooperation options for offshore fisheries are outlined, and alternative policies listed in the absence of regional cooperation agreements. A key element is the need for National and State governments to share responsibility for surveillance and enforcement of inshore fisheries.

CHAPTER 12: ENVIRONMENTAL PLANNING AND MANAGEMENT

The choice between the standard of living to which Palauans aspire, and the potential for damage to the environment is a conscious decision for Palauans to make. It is of crucial importance that Palauans know beforehand in the development process exactly what the environmental consequences of any major development project will be. Decisions are then made with knowledge of the issues, or more importantly people know that decision have been made with their consultation. Environmental concerns need to be incorporated into legislative and administrative processes. This chapter addresses the physical and institutional framework for environmental planning and management in Palau. A key element is the framing of a comprehensive legislation on natural resource conservation and management.

CHAPTER 13: PUBLIC ADMINISTRATION

This chapter describes the Constitution of the Republic of Palau which is the fundamental law of the land, putting emphasis on the various elements and levels of government and public administration, taking into account the Executive, Legislative and Judicial Branches of the national government, the state governments and the role of the traditional leadership. The major roles of each of the branches of the national government as they coexist and work in a check and balance system of a democratic type government are outlined. The organizational structure and functions of the Execution Branch are also described. Issues of public sector reform are raised for consideration as Palau undertakes a process of economic social and physical development.

CHAPTER 14: HUMAN RESOURCE DEVELOPMENT

This chapter examines the population and labor market trends. Table 14.4 provides population and labor market projections based on a number of assumptions about expected economic growth rates and demographic factors namely:

- Palauan and foreign population growth will be influenced by the economic cycle;
- Palauan employment opportunities will depend on education and training policies;
- median age of the population will continue to increase;

- labor force will continue to increase;
- labor force will continue to expand with the decline of subsistence activities; and
- some areas of foreign labor demand will decline.

Education and training situation and institutions are described, and the key issues and recommendations raised in the Education Master Plan discussed.

CHAPTER 15: HEALTH

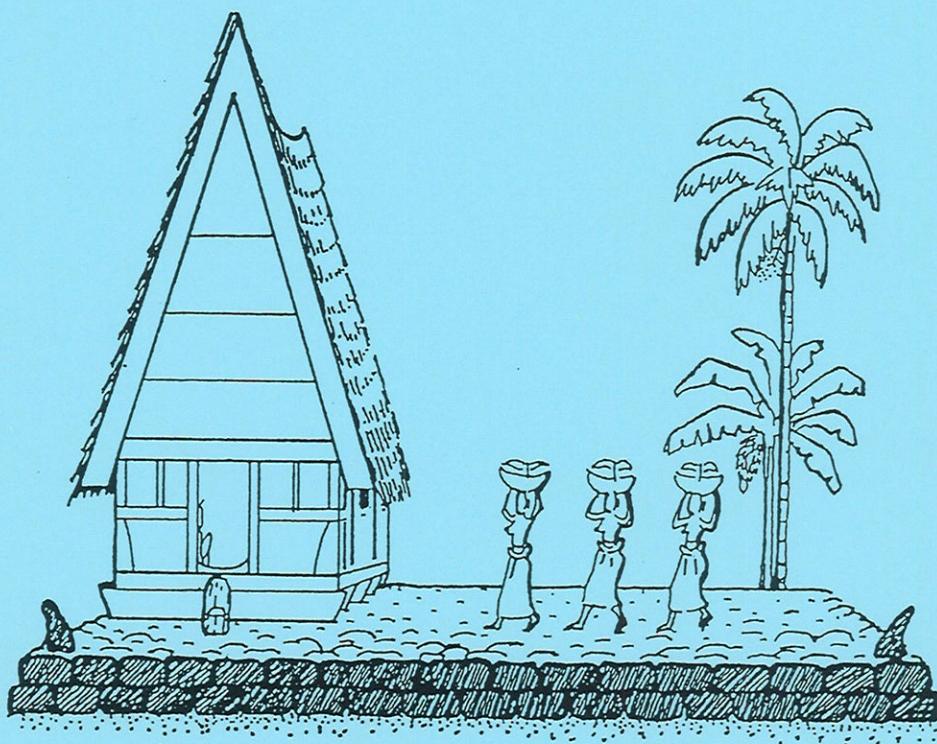
Improvement of the health status of Palauans is essential to the country's economic and social development. The changes in US funding of health services which have occurred since Palau's independence are likely to place increased burdens on both the Government and citizens. The impact of changing lifestyle on the health of Palauans and foreign residents are an important element in developing preventative programs. This chapter recommends a focusing of budgetary appropriations towards preventive and primary health care, and a more effective system for charging for health services which takes account of equity considerations.

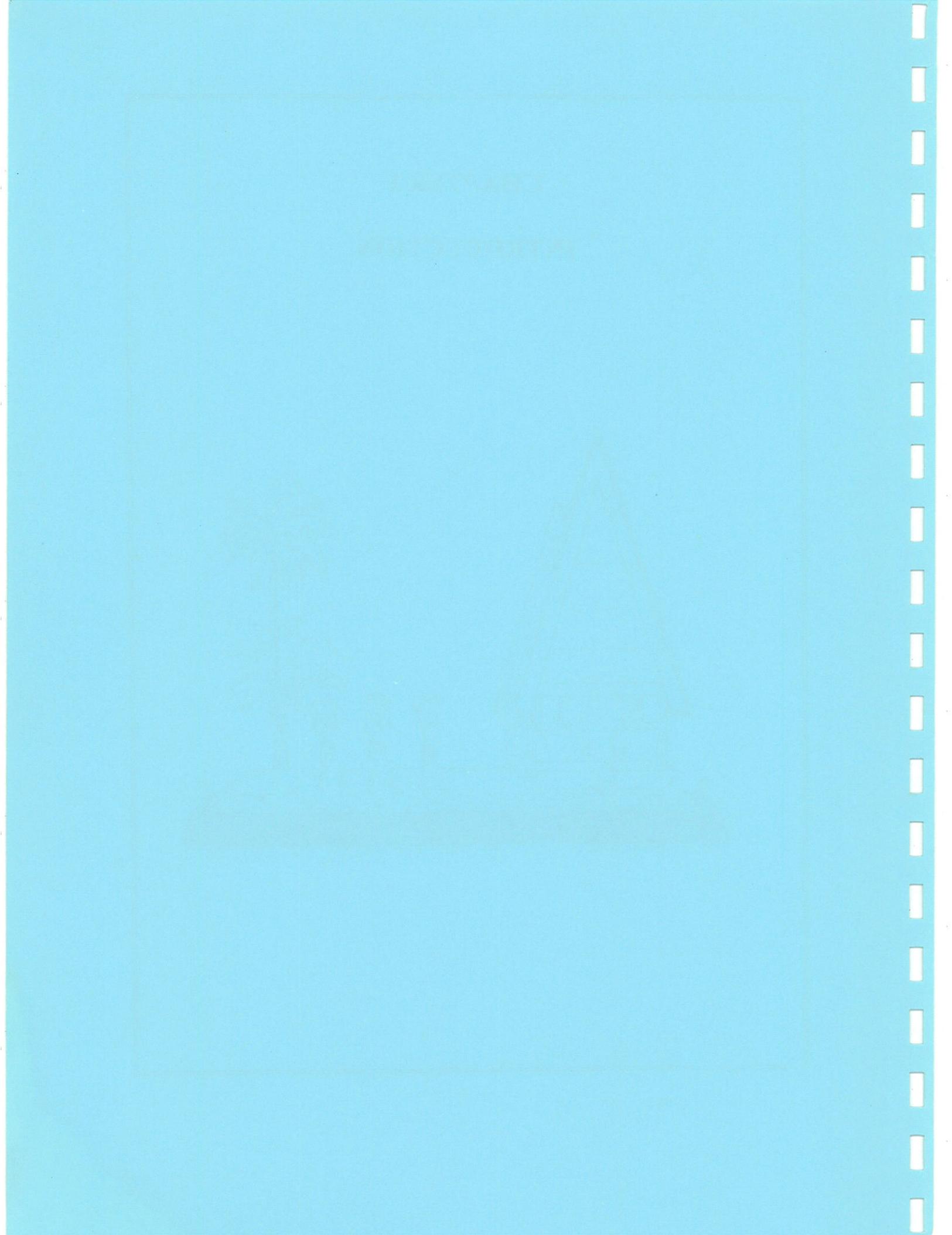
CHAPTER 16: LEGISLATIVE IMPLEMENTATION

This chapter provides a background to the implementation process of the Master Plan and presents a draft of a Joint Resolution of the OEK.

CHAPTER 1

INTRODUCTION





CHAPTER 1

INTRODUCTION

This Chapter examines the Palau National Master Development Plan preparation process and its interface with the Government of Palau's Economic Development Plan. The consultative processes as required under the contract for the preparation of the Master Plan are outlined. The critical provision for the Master Plan is the necessity to put in place the institutions and policies for Palau which will guide it towards achieving economic sustainability and enable it to pay for the maintenance of its environment and culture. This Chapter describes the approach of the Master Plan and its emphasis on institutional building and policies rather than project selection and allocation.

1.1 BACKGROUND

The Palau National Master Development Plan was prepared by SAGRIC International Pty Ltd under a contract with the United Nations Development Programme Office for Project Services (Contract No. TTP/92/001). The drafting of the Master Plan and the strengthening of the planning process were undertaken at the request of the Government of Palau, with financial support from the UNDP and the United States Department of Interior.

The contractor (referred to in the contract as the "Master Planner") was required to assemble and analyze the data necessary for the planning effort, to review existing plans and studies, to become familiar with the needs and preferences of the people of Palau and the development constraints and opportunities which they face. With the guidance of the Palau Master Plan Task Force, the Master Planner was required to establish a consultative process based on public meetings, sectoral committees, and through close working relationships with counterparts and leaders at the National and State level. The major outputs of the project are:

- A Master Plan for the sustainable economic, physical, and social development of Palau, including identification of development potential for the 16 States. The First Draft of the Master Plan was presented to the Palau Master Plan Task Force, whose responsibility was to coordinate its review through a series of public meetings with comments being incorporated by the Master Planner into the Second Draft Master Plan. The Second Draft Master Plan and a designation of its critical provisions was submitted to the Office of the President of Palau and UNDP in December 1994, for comments which have been incorporated into this final report.
- Provision of assistance to the Office of the President in the preparation of a strategic plan for legislation necessary for the implementation of the Master Plan;
- Provision of assistance in building national planning capacity and mechanisms for policy analysis, review and decision making in line with the aims and strategy of the Master Plan.

1.2 APPROACH TO PREPARATION OF THE MASTER PLAN

The Master Plan has been developed using a bottom-up approach. It has attempted to set forth strategies in accordance with the desires of the Palau people based on their preferred development path. To achieve this, the Master Plan team has undertaken extensive consultations with representatives from all States, special interest groups, Government officials, elected representatives, traditional leaders, business owners and private individuals. While many discussions resulted in conflicting demands and aspirations, nevertheless, the Master Plan has attempted to coalesce these divergent views into a number of consistent strategies.

On July 26-27 1993, the Project held an Inception Workshop which focused discussion on describing the Vision for Palau in 25 years' time, and on identifying constraints and opportunities. During the same workshop, sector consultative groups were formed. From August to November 1993, State, community group and sector consultative meetings were held to focus on issues which Palauans considered were important to be addressed by the Master Plan. On December 14, 1993 a Planning Workshop attended by over 60 community and Government leaders was held followed by a National Forum on the Development Agenda on January 26-27 1994.

Sector specialists conducted many interviews and discussions with Palauans and foreigners in the public and private sectors as well as visiting consultants who in many cases have been directed to the Master Plan office for information or guidance.

The collection and analysis of data and reports has been and continues to be an ongoing process. This proved to be a very difficult part of the preparation phase of the Master Plan because of the lack of a coordinated approach to data collection in Palau. The wealth of information which has been collected is reflected in the bibliography in Annex 2 of this volume. Not all of the material listed has been referred to in the Master Plan, however much of the material has provided background and appreciation of Palau's situation. Rather than produce a separate appendix of tables within the document, the Master Plan has incorporated relevant data into its Chapters to support recommendations.

The sector reports which comprised volumes 2 and 3 of the First Draft Master Plan reflect the situation as encountered and analyzed by the short term specialists who contributed to the Master Plan during the period September 1993 to June 1994. In some cases, recommendations made within sector reports may be different from those made in this volume, reflecting the refinements made to the macroeconomic and institutional frameworks developed during the final synthesis of the Master Plan. The sector reports should be regarded as supporting documents to the Master Plan.

After submission of the First Draft Master Plan on July 29 1994, a series of consultations were undertaken with a broad range of informants, including the leadership, community groups, private enterprise and sectoral interest groups. Six formal consultative meetings were required to be conducted under the Master Planner's Scope of Services, and these were undertaken under the sponsorship and guidance of the Palau National Master Development Plan Task Force, and with the participation of the Government's counterparts. The six meetings were held with:

- Council of Chiefs (September 19, 1994 at Council of Chiefs Office);
- Traditional Women Leaders and Womens Organizations (September 21, 1994 at Bai ra Metal);
- National Government Representatives (September 22, 1994 at Greenland Restaurant);
- State Government Representatives (September 26, 1994 at Greenland Restaurant);

- Private Sector & Industries (September 28, 1994 at Greenland Restaurant);
- General Public Meeting (September 29, 1994 at Greenland Restaurant).

Written submissions were invited from any interested individuals or groups, and the Office of the President coordinated submission of national government responses to the First Draft. The deadline for submissions was October 30 1994. Submissions were received from:

Office of the President
 Ngarchelong State
 Land Claims Hearing Office
 Ngchesar State Government
 Koror State Government (2 submissions)
 Hatohobei State Government
 Melekeok State Government
 Kayangel State Government
 Palau Chamber of Commerce
 Sonsorol State Government
 Palau Community Action Agency
 Foreign Investment Board
 Bilung Gloria G. Salii

Many other Palauans, and resident and visiting foreigners also provided valuable informal comments during the consultative phase, for which the Master Planner is very grateful. A response was made to the Comments provided by the Office of the President to enable the Office of the President to more easily locate changes in the Second Draft, or be directed to the answers to questions which were raised in the document.

In early 1995, the Government of Palau and UNDP, provided comments on the second draft, all of which have been incorporated into this volume. A significant change was the inclusion of the health and education sectors which had hitherto been omitted from the Scope of Works, but which underpin the growth of any economy. These were incorporated as Chapters 14 and 15.

In January 1996 in a response to the draft Final Report dated August 1995, the Government of Palau advised that a decision had been reached that the Executive Branch would not be expanded or restructured, necessitating a change to most chapters of the Master Plan where reference was made to proposed new structures.

1.3 ECONOMIC DEVELOPMENT PLAN

Under Section 231 (a) of the Compact of Free Association with the United States, there is a requirement for an official national development plan to be promulgated by the Government and concurred with by the Government of the United States prior to the effective date of Compact implementation. The implementation of the Compact on 1 October 1994, meant that it was necessary for the Government of Palau to develop a specific plan targeted at complying with Compact requirements for submission to the US Government. An Economic Development Plan 1995-99 (EDP) was released in June 1994 for this purpose.

In 1987, in anticipation of Compact implementation, the Government developed the First National Development Plan. In developing the EDP, this earlier plan was updated and revised. In particular, the EDP focuses on the 5 year period following Compact implementation and provides a prioritized program of capital infrastructure projects that are expected to be financed through Compact monies, as well as infrastructure projects that have existing obligations. The EDP also outlines additional projects in the event that there are any remaining funds after completion of the prioritized projects. The overall aim of the EDP is the rational allocation of scarce capital resources available to Palau to maximize sustainable social and economic development.

The commencement of the development of the Master Plan preceded that of the EDP. While the two plans have different purposes, they are consistent in objectives and broad strategies and, therefore, complement each other. Many of the spending priorities targeted in the EDP are tied to specific programs and/or projects. These priorities are also assumed by the Master Plan along with State priorities. The Master Plan has suggested additional priorities where there is discretion in capital spending from Compact allocations, such as the \$52 million capital improvements monies.

While the main focus of the EDP is on the development of a five year capital spending program, the focus of the Master Plan is much broader and encompassing. It is less concerned about the allocation of funds to specific capital projects than on the framework and policies for sustained economic and social development, of which project evaluation is but one part. In this respect, institutional building is a strong element of the Master Plan. The Plan is much longer term in focus and generally projects out to 2010 to take account of, and plan for, the cessation of US Compact assistance after 2009.

In the third and final draft, the Master Planner has, at the request of the Government of Palau, incorporated specific material contained in the EDP to facilitate integration of both plans.

1.4 MASTER PLAN CRITICAL PROVISION

1.4.1 ASSUMPTION

The Master Plan has made one very important assumption - that long-term sustainable social and economic development is preferable to more rapid short-term development at the cost of future generations in Palau. While this may not seem a contentious issue, fast rising lifestyle expectations, human nature, and the election system, combine to shorten the time horizon of most political leaders. In many developing nations the path of short-term rapid growth is frequently chosen because the euphoria of immediate benefits obscures the magnitude of future costs, and often those future costs will not be borne by the same social groups who receive the initial benefits. Compact funding provides Palau with a unique opportunity to plan with greater foresight. Such opportunity is not available to most other developing nations.

1.4.2 STRATEGIES

The scope of work for the Master Plan, which has been agreed to by the Government of Palau and the UNDP, also defines certain strategies around which the preferences of Palauans should be intertwined. Many of these strategies are long-term in nature and are in conflict with the more immediate desires and interests of some Palauans. However, these strategies are based on international experience, and there is increasingly widespread consensus in the international community as to the soundness of such strategies.

These strategies include:

- a substantial shift in economic activity from the public sector to the private sector aimed at increasing productivity and, in general, the efficiency of resource use. In this regard, policies should minimize government intervention, improve operations and management of infrastructure through, for instance, increased use of user fees and privatization, establish a coherent and predictable framework for foreign investment and increase human resource training and development;
- strengthening of government institutions through improved coordination of decision-making processes, greater accountability for performance while, at the same time, reducing the relative size of government through the rationalization of government activities, by commercialization and privatization strategies; and
- the identification of financing strategies, including appropriate taxation arrangements and cost recovery measures, and improved fiscal management to offset the decline in US assistance over time.

1.4.3 IMPLEMENTATION

Many policies that emanate from these strategies are complex and difficult to comprehend. These policies can therefore be difficult for the political process to implement. Master Plan implementation rests on the ability of Palauan leadership and the will of the people to implement policies that improve the long-term prospects of the nation, but which may have considerable short-term costs for some members of society.

Expectations of large redistributive benefits from Compact implementation have been heightened to gain widespread acceptance by Palauans during the process of achieving independence. However, the financial benefits are likely to be substantially less than current expectations and the cost of independence will become more apparent as time passes. It is therefore very important that the Palauan economy not waste its scarce Compact resources.

To meet the vision stated in Figure 3.2 'To substantially enhance the quality of life of Palauans and future generations of Palauans', Palau needs to:

- improve its project selection and evaluation capabilities and all the decision-making processes concerned with capital expenditure allocation;
- implement structural adjustments which improve the efficiency of resource use throughout the entire economy.

This is the only way to ensure that the economy is placed on a sustainably higher economic growth path, such that it can meet the rising income expectations of the Palauan people, while at the same time providing sufficient resources to safeguard the natural environment and major elements of Palau's culture for future generations. The earlier the hard economic decisions are taken, the smoother the adjustment path, and the lower the level of economic instability and social conflict.

It is against these conflicting ends that the Master Plan has been drafted. It attempts to travel along that difficult path that tries to satisfy as many of the short-term desires of Palauans as possible, while, at the same time, develops strategies and institutions that will ensure long-term sustainable economic and social development.

1.5 FORMAT OF THE MASTER PLAN

The sixteen chapters of the Palau National Master Development Plan include sectoral chapters (chapters 4 to 15) at the end of which a summary of programs and projects have been presented in the form of a logical framework analysis. The logframe is a tool used by a number of multilateral and bilateral donor agencies to help strengthen project design, implementation and evaluation. In this report the logframe has been used as a method of summarizing the way in which the program outputs of each sectoral chapter are linked to the strategies leading to the vision for Palau (refer chapter 3).

In each logframe, indicators have been identified which show that an output has been achieved, and where possible the means by which these indicators can be verified.

Another important element of the logical framework is the column in which assumptions are listed that relate to the outputs. These assumptions are essential to the success of the program outputs. Where possible, an indication of the program's duration and the costs of implementation are provided, and possible sources of funds are identified.

The detailed implementation of any one of these programs will require further analysis of each of the program outputs, to identify the activities which will need to be undertaken to achieve those outputs along with their related indicators and assumptions.

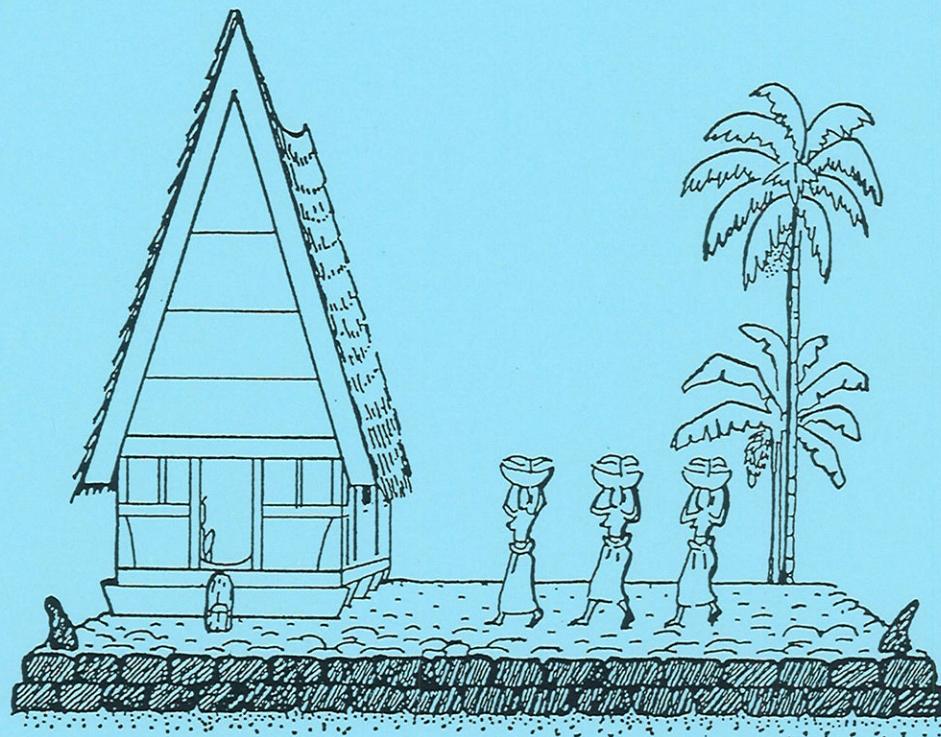
These sectoral logframes were presented at a series of workshops conducted in June 1995 attended by staff invited from all Ministries. Feedback was received on a number of the outputs and assumptions and incorporated into the final report. They have also been used to summarize the Master Plan in the Executive Summary which has been presented as a separate document, designed to assist decision-makers in gaining an understanding of the scope of the Master Plan.

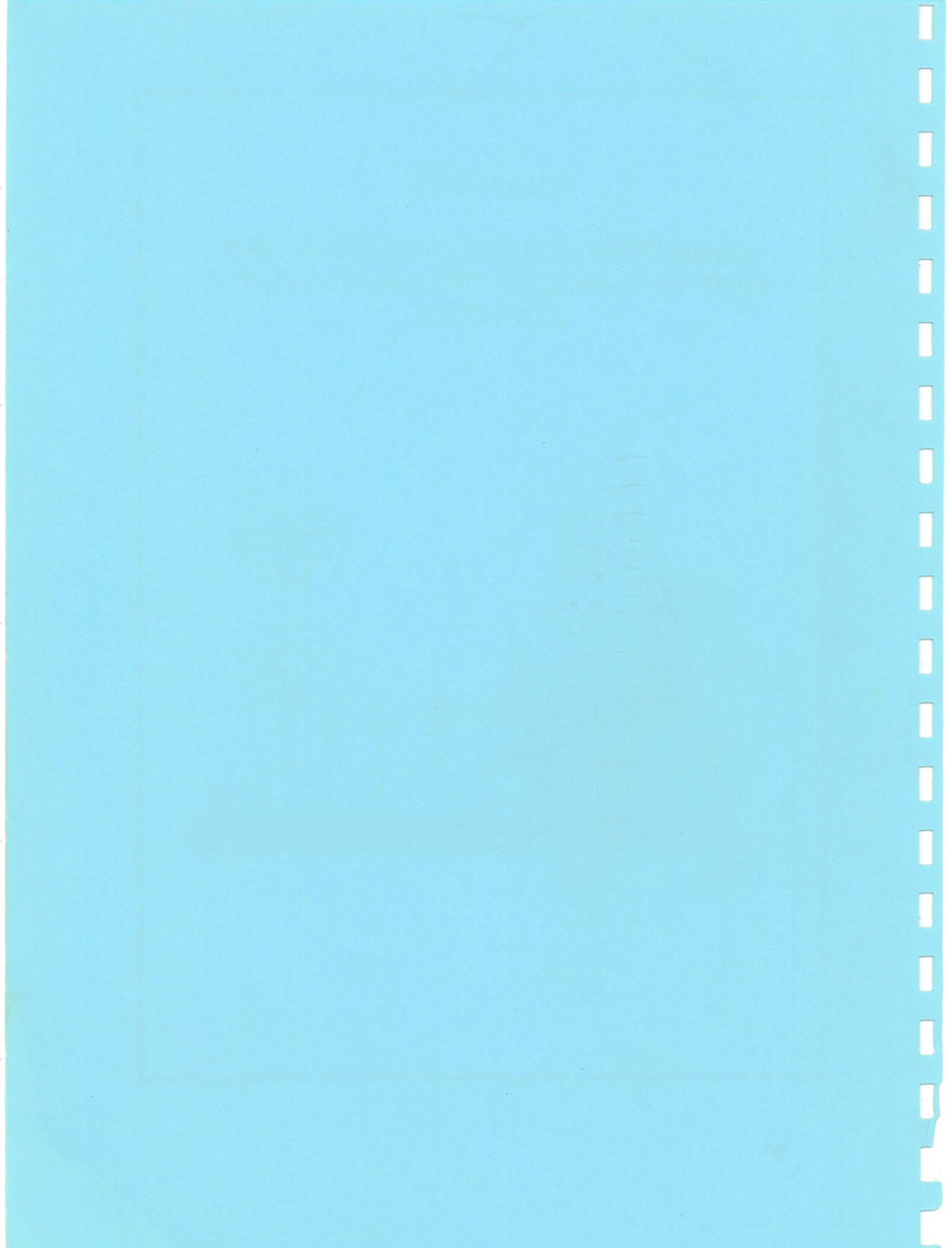
1.6 SECTORAL REPORTS

The reports prepared by each sectoral specialist were published with the first draft of the Master Plan as volumes 2 and 3. At the request of the Government of Palau, this final report includes more detail from these sectoral specialist reports in each of the chapters, as it was decided that more effective use could be made of the Master Plan if it was contained in one volume. Nevertheless, the sectoral reports contain a great deal more detail than was possible to include in this one volume, and should be consulted by anyone wishing to obtain more background or data on a particular sector.

CHAPTER 2

ASSESSMENT OF THE SITUATION AND PERFORMANCE OF THE PALAU SOCIO - ECONOMY





CHAPTER 2

ASSESSMENT OF SITUATION AND PERFORMANCE OF THE PALAU SOCIO-ECONOMY

This Chapter provides a situation assessment of Palau, emphasizing the main factors relating to the performance of social and economic conditions.

2.1 THE SETTING

Palau is small, beautiful, fragile and complicated.

The Republic of Palau is the most western group of the Caroline Islands in Micronesia, about 500 miles equidistant from the Philippines to the west and from Papua New Guinea to the south. There are 340 islands in Palau, but a total land area of only 188 square miles, of which Babeldaob, the largest island, comprises 129 square miles. To the north of Babeldaob lie the atolls of Ngaruangel and Kayangel. To its immediate south lies the island complex of Koror, Meyuns and Malakal which are connected by causeways. The modern capital of the Republic, also called Koror, is located on these islands. Babeldaob is of volcanic origin, as is Meyuns, Malakal and part of Koror island.

The capital is the gateway to 300-odd limestone islands to its south, collectively known as the Rock Islands, the beauty and uniqueness of which are world renowned. Further south again lie the islands of Peleliu and Angaur. These are essentially low coralline platforms, with some high limestone ridges. Some 200-300 miles further south of the main archipelago lie the six Southwest Islands of Sonsorol, Hatohobei (Tobi), Pula Anna, Merir, and Helen, a combination of low platform islands and atolls.

A barrier reef some 70 miles long and up to 20 miles wide surrounds much of the main archipelago forming an extensive lagoon. A small number of natural passes through the barrier reef and one man-made channel (German Channel) permit access to the lagoon. The lagoon is approximately 560 square miles in area.

The Exclusive Economic Zone (EEZ) extends over about 237,850 square miles and has substantial marine resources, particularly tuna stocks.

The climate is described as 'maritime tropical rainy'. The mean daily temperature throughout the year is 81 degrees fahrenheit with an average relative humidity of 82 per cent. Rainfall averages 150 inches annually with a July maximum. There is no dry season as such, but extensive periods of drought are by no means unknown, during which surface water on Babeldaob Island can become quite scarce. Palau is off the route of regular typhoons, but nevertheless suffers from periodic occurrences which can cause considerable damage to infrastructure and vegetation.

Palau was the last UN Trust Territory to seek its independence. It is a republic affiliated with the United States of America under a Compact of Free Association. As part of the Compact, the US provides substantial financial and technical assistance to Palau.

Governance is patterned on the American model with the National Government comprising three branches: judiciary, legislative and executive. The head of government is the President. There are 16 States which form a second tier of government. These States evolved from the municipalities formed under the American administration and reflect existing traditional power groupings. In addition, a representative body of paramount traditional chiefs is drawn from the States to form a Council of Chiefs.

There are 13,000 Palauans and 4,000 foreigners resident; another 7,000 Palauans, generally the more highly skilled, live in Saipan, Guam, Hawaii and the United States of America (US). A map of population distribution by State for 1990 appears in an annex at the end of this report (Map 1). Almost 70 per cent of the resident population lives in Koror State. Around thirty percent of the population is under 15 years of age. The real population growth rate is low, primarily due to declining birth rates and continued emigration of Palauans seeking employment and education.

There were around 50,000 people in Palau in 1800, organized in a hierarchical society of titles, privileges, rights and obligations, with harmony and stability as the social imperatives. By 1900, there were 5,000 people. After the Pacific War, there were 5,000. Many Palauans see the coming independence as an opportunity to restore certain aspects of a damaged, interrupted culture.

Palauans, like most other Pacific island populations, are in the center of a turbulent cultural struggle between individualism, propagated by Western cultural influences over the past 50 years, and the waning communalism which is an essential part of the Palauan self-image, way of thinking and social-economic milieu. Palau struggled for 15 years to solve its political status, and disengage from the US (UN Trust). This was achieved on October 1, 1994.

In terms of historical developments, the recently published Economic Development Plan 1995-99 has a detailed account which, to avoid repetition, will not be repeated in the Master Plan.

2.2 ISSUES IN A REGIONAL CONTEXT

While each Pacific island economy has its own unique culture and historical circumstance, there is much in common with respect to the structures, constraints and economic development paths of the island countries. In this regard there is much to be learned from the experiences of island economies. Pacific island economies, in general, are constrained by a number of common factors. These include:

- a small domestic market which is exacerbated by the geographical dispersion of islands within countries;
- high unit costs for infrastructure and industry services;
- narrow resource bases;
- heavy dependence on external trade and foreign assistance;
- adverse terms of trade (that is, the price of exports relative to the price of imports); and
- vulnerability to external shocks and natural disasters.

These constraints clearly exist in the Palauan economy.

Despite these constraints, Pacific island countries have achieved a relatively high standard of living. This has been, in most part, due to generous foreign aid, large worker remittances and favorable natural resources for subsistence living. Social indicators compare favorably with developing countries at the same level of income. Palau's GDP per capita was over US\$5,000 in 1992 which places it in the top bracket of per capita income earning countries in the Pacific islands.

The role of the private sector in Palau and in Pacific island countries generally has been a limited one. Development has been led by public sector activity financed by donor assistance in all Pacific island countries. Large concessional aid flows have permitted Pacific island countries to run large fiscal and current account deficits, maintain large public sector bureaucracies and undertake large public sector investment programs. While this strategy has achieved some notable gains with respect to welfare indicators, economic growth has been disappointing. In most Pacific island countries, real per capita growth in national income has stagnated over the 1980s and early 1990s. Palau is no exception, in that substantial US grant funds and high public sector investment levels have not produced the expected rate of economic growth.

There is general agreement that the cause of this poor growth performance of Pacific island economies can be attributed not only to exogenous factors listed above, but to discretionary factors such as inward-oriented development strategies, limited success in encouraging productive private investment, political instability, politicization of economic policy making and implementation, and low returns on public investment (World Bank, 1993).

In Palau over time and after adjustment for expected inflation, the substantial Compact grants in conjunction with declining grants from other US sources will amount to less than the previous level of US funding. Recurrent funding will cease altogether after 2009. This will result in a severe and widening budgetary contraction commencing around FY 2000. If those investments resulting from Compact funds do not perform and if the private sector cannot expand sufficiently to provide adequate growth in Government revenue, there could easily be a financial crisis, necessitating a drastic reduction in national income. This is the situation now confronting the Federated States of Micronesia. If economic performance is not lifted substantially, then these Compact funds will be wasted and Palauans will have to accept a lower quality of life and lower income levels. There will be significant costs for Palau in meeting its objectives of preserving its culture and natural environment. If these costs are to be met, while, at the same time, incomes are to be raised, the economy must perform extremely well - or put another way, the economy cannot afford to be inefficient.

To date, the performance of the public sector and, in particular, public authorities has been far less than optimal, as has been the case in most other Pacific island economies. The response from policy makers to this problem around the world has been to shift the allocation of resources to the private sector. Most Pacific island economies have this shift built into their policy goals but few have been able to realize such a shift in practice and, as such, have continued to stagnate - both culturally and economically. It is essential that this shift be the focus of Government policy in Palau. This is the goal of the Master Plan in its attempt to achieve the vision of rising incomes accompanied by enhancement of culture and protection of the natural environment.

The fundamental requirement for strategies to meet the goal of shifting resources to the private sector lies in stimulating productive investment which takes account of social, cultural and environmental objectives. Policies must be aimed at reducing the risk premium for investment and providing an internationally competitive environment that is favorable to business. This will be a difficult process for Government because it invariably means a reduction in its authority and status now, so that future Governments will benefit from such current actions. This will require a major shift in attitude and a commitment to the Vision for Palau.

In pursuing economic growth, Palau, in common with all Pacific island countries, has little option but to follow the strategy of seeking an expansion of the private traded-goods and services sector (exports and import replacement). Its domestic market is simply too small to even consider an inward-looking strategy. However, as the goods and services offered by Palau can be readily obtained elsewhere, economic policies must be guided by the principle of enhancing international competitiveness. This will require a stable political and economic environment, smaller government, supportive economic infrastructure, productive workforce and a business environment conducive to trade and investment, including foreign investment.

The strategy of reliance on smaller, but more efficient government, coupled with an expansion of the private sector is best achieved by the focus in the Master Plan on the development of strategic economic policies, rather than sectoral targets and plans which are unfunded and have failed elsewhere in the world. The Master Plan, therefore, is a strategic policy document.

In summary, the Palauan Government will face a critical challenge over the medium term. It will need to reallocate resources and implement strategies to enhance the development of the private sector. This will be necessary in order to maintain the growth in national income and employment in the face of the Government's inevitable medium term budget constraint which will reduce its ability to employ, remunerate and provide essential services to Palau's growing population. If this reallocation of resources is not achieved, then the unemployment rate of Palauans will increase and their standard of living and quality of life will decline, particularly amongst those who are unskilled and have difficulty emigrating. Reliance on foreign workers will increase given the structure of the labor market and productivity of the Palauan workforce, and social conflict will be exacerbated.

2.3 MACROECONOMIC PERFORMANCE

2.3.1 ECONOMIC ACTIVITY

Palau does not regularly compile national accounts data and collects practically no regular statistical data. What data series are available tend to be inconsistent. This has meant that policies recommended in this plan have, in part, been based on experience elsewhere, adjusted for local circumstances, rather than empirical testing of Palauan data. Collection and compilation of standard statistical data is essential for planning and evaluation of economic performance and should be given high priority. Nevertheless, the available data do show some discernible trends that provide a basis for economic policy analysis. Also, to compensate for the weakness in data, there has been a reliance on:

- wide and impartial consultation with Palauans, resident foreigners and concerned visitors;
- clarity and strength of argument drawn from principles of development economics; and
- comparisons drawn from appropriate situations in other countries.

Table 2.1 shows comparative data on a number of Pacific island countries, together with the Maldives, Philippines and Taiwan. In particular, the data on Palau shows:

- GDP per capita 3 to 6 times higher than other Pacific island countries;
- imports per capita 3 to 8 times higher (with the exception of Fiji and Cook Islands, whose tourists greatly lift national imports);
- high hourly wages but with a low tax regime for persons and business;
- high Government spending per person;
- very high foreign assistance per person (currently \$2,000 per capita per annum);
- highly urbanized population with above average access to basic services and employment; and
- very small share of economic wealth coming from agriculture and inshore fishing.

TABLE 2.1:
COMPARATIVE ESTIMATES FROM RELEVANT ISLAND COUNTRIES

Country	Pop'n x 1990 growth rate %	Pop'n 1992	Crude birth rate %	Urban pop'n density sq.mile	EAP female employment % (a)	Jobs in formal public sector % (b)	GDP/ person US\$	GDP/ 1990's 1991	GDP/ 1980's	GDP forecast 1990's	Agric share GDP	Taxes/ GDP	Govt/ expend/ person	Local revenue/ person	Imports / GDP 1990	Imports / person 1990	Debt / person 1990	O.D.A / person 1990	Base wage/ hour 1992	Annual inflation 1990's %
Papua New Guinea	15.3	2.3	22	160	70	35	13	2.5	2.5	2.5	6.5	2.58	101.3	161.3	2.66	50	1.9	1.2	7	
Cook Islands	18.4	0.8	24	76	25	40	43	1200	5	18	31	31	21	165	666	2778	5.4			
Fiji	75.1	2	26	40	40	23	14	37	1700	17	5	21	26	21	478	543	369	987	51	0.6
Kiribati	76	2.1	29	101	36	14	35	500	1	2	29	62	329	395	276	53	355	60	0.1	
Madagascar	23.3	3.3	41	115	26	20	17	430	9	24	24	25	25	24	335	553	1.1			
Marshall Is.	50	3.8	49	255	65	30	14	34	1600	3.2	90	19	400	1720	46	880	49	0.1	0.6	
SM	10.6	4.6	38	21	26	18	26	25	1500	3.1	2.4	1.10	3.77	1.79	50	350	324	322	9	
P.N. Guinea	3700	2	36	8	17	6	37	860	2.8	7	20	18	189	245	112	698	324	99	5	
Solomon Is.	340	3.5	44	11	11	14	8	33	430	3.6	4	45	20	221	294	132	356	221	270	0.5
Tonga	80	0.5	30	130	21	18	25	25	600	2.5	3	10	100	19	315	674	287	683	90	
Tuvalu	9	1.7	700	17	65	17	65	7	2.4	2.4	60	111	667	56	50			10		
Vanuatu	155	2.4	38	12	18	45	52	820	2	20	35	22	35	322	258	593	60	0.6		
W. Samoa	165	0.6	33	58	23	18					14	25	303	303	290	558	79	454	11	
Philippines	63460	2.4	29	302	44	48	48	700	3.5	4	23	8	14	20	377	203	0.6	0.4		
Taiwan	57800	2.5	17	562	49	40		8000	8	7	4	16	15	0.6	321	945				

NOTES:

- (a) EAP: Participation rate of the economically active
 (b) ODA: overseas development assistance

Sources:
 East West Center, Pacific Islands Development Program (R.L. Lucas) 1991: Performance and Growth Prospects: Republic of Marshall Islands, Federated States of Micronesia and Republic of Palau
 Government of FSM, 1992: Second National Development Plan 1992-1996
 Australian International Development Assistance Bureau (AIDAB), 1992: The Kiribati Economy, Development Options and Prospects for Growth

AIDAB, 1991: The Western Samoan Economy, Prospects for Recovery and Long-term Growth
 AIDAB, 1991: The Solomon Islands Economy of Fiji, Performance, Management and Prospects

AIDAB, 1992: The Economy of Fiji, Performance, Management and Prospects
 AIDAB, 1992: The Papua New Guinea Economy, Prospects for Sectorial Development and Broad Based Growth
 AIDAB, 1993: The Tongan Economy, Setting the Stage for Accelerated Growth
 Asian Development Bank, 1993: Key Indicators of Developing Asia Pacific Countries

The general picture is of a high consumption economy heavily dependent on foreign assistance and foreign labor, offshore fishing by foreigners and tourism.

In particular, growth in real income per capita in Palau has not been significant over the past two decades. It has been estimated that such growth was close to zero between 1975-80, just under two per cent between 1983-90 and around one per cent in 1991-92 (Palau National Accounts and NMDP estimates). The performance of the economy is better than that of most other Pacific island economies (see table 2.2). However, it is poor compared with the Caribbean and Indian Ocean island countries that have achieved average annual per capita GDP growth rates of 2.4 per cent and 3.6 per cent, respectively, over the past decade (World Bank, 1993). It is also less than the average real per capita GDP growth rate in Guam of 2.3 per cent in the 1980s. These figures take account of subsistence production but do not take account of shadow and unrecorded market activities which may be significant in Palau.

Table 2.2: Average Growth Performance 1980-90 (% p.a.)

	Palau	Pacific Is	Caribbean	Africa & Ind
Population	2.2	2.1	1.2	2.1
Real GDP	4.1	2.1	3.6	5.8
Per Cap Real GDP	1.9	0.1	2.4	3.7

Source: World Bank 1993, Palau National Accounts and NMDP Estimates

The relatively low real per capita GDP growth rates cannot be attributable to strong population growth. External migration, coupled with a low natural birth rate, resulted in little growth in population between 1973-80. Population growth increased to 2.2 per cent per annum between 1980-90, but this has been predominantly due to the inflow of foreign workers (EDP, 1994). The population of Palauans actually declined over this period (UCLA, 1992). However, the low wages and higher productivity of foreign workers may have resulted in higher relative GDP per capita for Palauans. Foreign workers have increased from around 500 in 1984 to an estimated 4,300 in 1992, just below the number of Palauan workers (4,400). An analysis of population trends, projections and the labor force is shown in Chapter 14.

The recorded GDP growth rates may be an underestimation. General business indicators such as telephone calls, vehicle registrations, international business visitors, building approvals, merchandise imports, and electricity consumed show high real growth rates of 8 per cent or more. These partial indicators suggest higher levels of economic activity than that recorded. This discrepancy could result from a number of sources, including shadow market and black market transactions, compliance and collection difficulties in the payment of taxes and fees, and deficiencies in statistical measurement of the relevant indices.

As a measure of living standards, GDP may also not be particularly appropriate for Palau, given the relatively high income and transfer payments received and repatriated from/to other countries. GDP is a measure of domestic production. As such, GDP excludes income earned from overseas property or productive activity (less income paid to overseas residents). That is, remittances and the value of output from foreign fishing fleets (not based in Palau) are excluded from GDP. However, the 1992 accounts have included foreign fishing fleet output which will tend to over estimate GDP. Gross National Product (GNP) may be a more appropriate measure. It equates to GDP plus net income received from overseas. This is expected to be considerably higher than GDP (if a downward adjustment is made to GDP for foreign fishing boat output). That is, the income of Palauans is likely to be higher than that indicated by

the value of domestic final production. However, there is no data available on personal income payments and no data is collected from the domestic banking system or elsewhere that could provide a solid estimate of these flows.

External income inflows involves inward remittances from Palauans working abroad and investment income derived from various offshore deposits and trust accounts associated with pension funds. From census data and numbers registered to vote in the Compact plebiscite, it has been estimated that around 4,000 Palauan workers reside offshore and, therefore, remittances to Palau are probably significant. External income outflows result from repatriation of foreign workers' income (which is likely to be significant and may not all pass through the banking system) and foreign company operating surpluses (which could be higher than expected due to transfer pricing arrangements). Foreign workers' income has been estimated at \$9 million in 1992 (Wages Advisory Group Report, 1993), of which it is estimated that around 75 per cent is repatriated. Repatriations of income by foreign businesses is also likely to be substantial and increasing. An indication of these income movements can be gained from the consolidated balance sheet of the domestic banking system. Modest growth over recent years in the money supply (defined currency circulation plus bank deposits) could indicate that the overall net flows may not be significant and, therefore, the deviation of national income data from GDP data may not be substantial. However, account would need to be taken of other balance of payments transactions, including capital account transactions such as net equity and debt flows. For instance, large capital inflows associated with the Aimeliik power plant (\$32 million) would have expanded liquidity in the domestic banking sector, although much of this would have been drawn down via expenditure on imports.

2.3.2 PRODUCTION

Despite the relatively low per capita GDP growth rates, significant growth in the private sector has occurred, which has been fueled by moderate growth in the tourism sector and tuna exports. The strength of private sector development is reflected in (volatile) growth in direct foreign investment (particularly in tourism, tuna and garments factories), robust levels of construction (mainly apartments and hotels) and a strong increase in the number of foreign workers.

The growth in fisheries has depended on exporting fresh fish (tuna) to Japan and Guam and supplying an expanding local market due to tourism growth. Total fisheries' exports recorded by PITI and PMIC were \$27.6 million in 1992 (Division of Marine Resources, Annual Report, 1992). However, the flow-on effects of tuna transshipment to Palau are considerably less than indicated by these amounts.

The high levels of US grant funds, channeled through wages of the relatively large public sector, have increased incomes generally. With little domestic production and with relatively low import duties and taxes, the increase in incomes has stimulated imports and fueled growth in the wholesale and retail sectors, and the transport sector. The number of retail/wholesale establishments has grown significantly over the past decade.

In contrast, the agricultural sector has declined substantially in relative terms (as a proportion of GDP) with food imports replacing domestic agricultural production, although estimates of subsistence production remain uncertain. Manufacturing has shown modest growth, both in nominal terms and as a proportion of GDP (estimated at around one per cent in 1992). Growth has centered on building construction materials and, in recent times, garment manufactures aimed at accessing the US market

under the favorable trade arrangements. The establishment of an additional large clothing factory in 1994 is likely to increase further the contribution to GDP of manufacturing output.

Other sectors which have experienced solid growth and increased their contribution to GDP growth include the finance and insurance, and the business services' sectors. Table 2.3 shows GDP by economic activity as a share of total GDP:

Table 2.3 Gross Domestic Product (% shares)

Economic Sector	1983	1990	1991	1992
Agriculture	9.9	3.0	3.0	2.9
Fishery	7.2	23.0	25.2	25.9
Manufacturing	0.4	0.7	0.8	0.9
Constr Residential	0.9	0.9	1.3	0.8
Commercial	1.9	2.0	1.8	2.6
Government	10.1	8.2	5.3	4.0
Gov. Utilities	1.9	3.7	4.4	5.0
Whole/Retail Trade	16.9	15.6	16.5	15.7
Hotel & Restaur	1.7	8.1	8.1	9.7
Transport & Com	2.4	4.4	4.1	4.6
Finance & Insur	1.8	4.0	3.8	3.6
Real Est & Bus	0.8	4.3	4.5	4.1
Government Ser	37.6	18.5	17.9	16.0
Other Services	6.5	3.6	3.6	4.1
GDP	100	100	100	100

Source: Government of Palau: Economic Development Plan, 1994

In summary, from the production accounts, it is clear that:

- the agricultural sector has experienced a substantial decline as a proportion of GDP (although has increased modestly in nominal terms) with the contraction of subsistence farming, while fisheries has increased sharply to account now for around 26 per cent of GDP;
- manufacturing has remained small, although increasing modestly with the establishment of a number of garment factories exporting to the US under the preferential trade access policy;
- construction has eased in relative importance, although residential and commercial construction have maintained steady growth, while the relative importance of government construction has declined;
- retail and wholesale trade remain an important sector at around 16 per cent of GDP;
- increases in tourism expenditures have fueled strong growth in hotel and restaurant services; and
- government services, including utility services, have continued to increase, although as a proportion of GDP have declined significantly from around 40 per cent of GDP in 1983 to 21 per cent of GDP in 1992. Within government services, utility output has expanded at a rate in excess of GDP growth rates. This is predominantly due to the 12 per cent increase per year in electricity usage over the period shown.

2.3.3 EXPENDITURE

On an expenditure basis, GDP estimates are outlined in table 2.4. Unfortunately, no consistent earlier data is available.

Table 2.4 Gross Domestic Product (\$ 000 current prices)

	1990	% GDP	1991	% GDP	1992	% GDP
Private Cons	34,015	44.2	36,543	43.6	39,886	44.4
Govt. Cons	25,492	33.2	26,629	31.8	27,679	30.8
Gross Fixed Cap	29,457	38.3	28,335	33.8	28,905	32.2
Construction	21,306	27.7	17,537	20.9	16,722	18.6
Dur Equip	5,012	6.5	7,183	8.6	8,500	9.5
Increases in Stock	3,139		3,614		3,683	
Exports Gds&Ser	27,533	35.8	37,681	44.9	42,395	47.2
Imports Gds&Ser	-36,490	-47.5	-42,999	-51.3	-45,000	-50.1
Stat Discrep	-3,118		-2,333		-4,126	
Gross Dom Prod	76,888	100	83,855	100	89,739	100

Source: Republic of Palau, National Accounts, 1990-92 Economic and Social Commission for Asia and the Pacific.

While the unavailability of time series data limits analysis of trends, the expenditure shares provide information on the structure of expenditure. Expenditure on private consumption is around 44 per cent of GDP. Earlier fragmented evidence (Economic Development Plan, 1994) suggested that the share of private consumption was around 138 per cent in the mid 1980s. This would indicate that the economy was dependent on aid and offshore income inflows with little domestic production.

High consumption ratios are typical of earlier Pacific island economic structures. The reduction in the ratio of private consumption to GDP, however has been quite significant which indicates substantial growth in exports and investment levels. In this respect, Palau has performed much better than other Pacific island economies which generally have private consumption to GDP ratios around 70 per cent (AIDAB, International Development Issues reports, 1992). Palau compares favorably with South East Asian economies which have similar relative private consumption spending ratios.

However, government consumption to GDP ratios in Palau in the early 1990s (31 per cent) are higher than the average of Pacific island countries (20 per cent) and substantially higher than South East Asian economies (under 10 per cent) (Asian Development Bank, Key Economic Indicators, 1993). Government spending per person is around \$2300, equivalent to about half GDP per person. Foreign support, mainly from US grants, has contributed consistently about two-thirds of total public spending. In the last three years, government has improved its revenue collection with a view to a gradual transition to fiscal self-reliance, at least for recurrent purposes. However, in the FY 1995 Budget, recurrent spending increased substantially. Compliance, collection and accountability difficulties associated with tax and fee payment remains one of the major constraints to government effectiveness. In addition, the inefficiency of the existing taxation system also creates a major distortion which will increasingly impede economic development as the Government seeks to expand its revenue efforts in coming years.

There were 2,697 public employees who contributed to social security in 1993. The figure includes some casual employees, part-time employees and those who may have left and come back into public employment. The regular, full-time public sector employment is around 1800, suggesting a ratio of three Government employees for each four Palauan households. Such a high dependency on Government employment almost certainly constrains public policy choices, particularly in matters of wages, taxation conditions, restructuring, staffing and productivity changes.

Investment levels have been high in Palau (over 30 per cent of GDP in the early 1990s) as have such levels in most Pacific island countries and South East Asian countries. However, the difference between Pacific island countries and South East Asian countries is the much higher share of public sector investment in the former countries. In this respect, Palau is very much in the same category as other Pacific island countries.

Public investment in Palau has focused on infrastructure, with major capital expenditures in recent years being on a large hospital in Koror, rural water supplies and five local fishing bases. Foreign government funds have been the predominant source of public investment, estimated at around \$10 million per year. With a backlog of investments in airport, waste water, water supply, energy and roads, it is likely that government investment will continue to be predominant over the next decade.

The performance of public infrastructure appears to have been far less than optimal with low technical efficiencies, little demand management, low rates of return on investment, service delivery that could be improved, and a declining financial reputation due to loan servicing difficulties.

Private investment has focused on the purchase of fishing boats and equipment, the construction of residential houses, apartments, tourist accommodation and facilities (especially for diving) and, in recent times, the construction of garment factories. The value of approved investment in residential and commercial buildings in Koror State, from foreign and domestic sources (excluding the hospital), has been about \$5 million per year. Data on commercial returns of private businesses does not exist. This is exacerbated by the absence of taxation data based on income statements.

A significant amount of investment may be entering the economy as private loans to Palauan business partners. Such loans tend to support commercial and residential building in Koror and working capital for restaurants, trade and services, and business equipment. The absence of data on private sector debt sourced offshore prevents any conclusions on the level of debt servicing and the effect this will have on liquidity of the domestic banking industry. Estimates based on trends in imports, building approvals, wages and bank deposits indicate that such investments could total around \$1-2 million per year. It may also be possible that such loans are supporting some portion of the unrecorded economy which may explain the discrepancy between the official record in production and taxes, and the apparently high consumption trends.

According to anecdotal evidence, a significant proportion of private domestic investment funds are invested in the needs of relatives and friends (mainly new houses and extensions). The Household Income and Expenditure Survey (ROP, 1991) estimated that 20 per cent of household expenditure is for gifts and contributions. Customary obligations also attract remittances from some of the 4,000 Palauans employed offshore. From data on comparative per capita remittances in South Pacific countries, it is estimated that around \$2 million per year could be remitted to Palau.

2.3.4 FOREIGN TRADE

Where Palau has clearly outperformed other Pacific island economies is in the area of foreign trade. It was reported in the First Development Plan 1987-91 that in 1984 the value of imports was \$23 million and exports \$0.5 million, resulting in a merchandise trade deficit of \$22.5 million. By 1992 exports of goods and services had increased to \$42 million and imports to \$45 million (ROP, National Accounts, 1992). There has also been an improvement in the current account deficit which is attributable to significant increases in merchandise exports (mainly fresh fish to Japan and Guam) and tourism services receipts, as well as a substantial decline in the imports/GDP ratio (import penetration) from around 74 per cent in 1983 to around 50 per cent in 1992. The contribution of exports is likely to be overstated due to inappropriate inclusion of the output of foreign fishing fleets in the 1992 National Accounts.

Recent data on fish exports relies almost totally on the declared value of shipments by the tuna agencies, and these show substantial increases in 1990-93. However, shipments declined substantially in 1994-95 due to lower catch levels and the temporary closure of the large fishing company - PITI (refer Chapter 11). There is evidence from local sources that a significant volume of fish exports is being unrecorded because of:

- the direct transfer to offshore markets without landing in Palau;
- catch by boats based at Guam; and
- personal consignments of inshore products.

The increase in fish exports in the early 1990's was predominantly due to increased production from foreign fishing vessels. The tuna industry is, in many respects, an enclave economy with ill-defined contributions to the Palauan economy. Thorough evaluation and recording of exports would assist in a proper evaluation of the flow-on effects of tuna transshipment and the resulting contribution to ROP capacity to pay for imports. A large proportion of the earnings is repatriated offshore and in the balance of payments framework is up as a large offshore income payment. Therefore, apart from the income of the Palauan fishing agents, these exports will not inject substantial liquidity into the domestic banking system which would provide scope for the country's import and capital demands. Therefore, the multiplier effects of tuna exports would be expected to be low.

Imports per capita are relatively high, reflecting a dependency on oil products (about \$1200 f.o.b. per person per annum); food and drink (about \$600 per person per annum); and the manufactured products necessary for an urban lifestyle. Table 2.5 shows the value of imports (f.o.b.) in 1994 for various categories. In 1993-94, judging from public sector capital spending (CIP), building activity, business diversification and the investment in three hotels (Airai View, Sunrise Villa, Palau Pacific Resort), current imports include a greater share of building materials, capital equipment, furnishings and office equipment. Since import regulations do not levy tax on personally procured items, there may be significant non-recorded imports by people who buy direct from Guam, Hawaii and the West Coast of the US.

Table 2.5 Imports (fob) 1994

CATEGORY	\$'000	\$'000
Food and Live Animals		6,647
Of which		
Meat & Canned Meat	1,687	
Dairy Products & Eggs	581	
Rice	701	
Vegetables & Flour	699	
Canned Fish	141	
Beverages and Tobacco		3,816
Of which		
Beer	1,631	
Soft Drinks	1,152	
Liquor	440	
Tobacco	592	
Mineral Fuels		19,882
Chemicals and Related Products		1,147
Manufactured Goods		3,546
Of which		
Wood Products	1,074	
Paper	331	
Textiles	455	
Iron & Steel	669	
Machinery and Transport Equipment		5,936
Of which		
Industrial Machinery	3,047	
Road Vehicles	1,274	
Boat Engines	686	
Other		7,608
TOTAL:		48,582

Source: Ministry of Commerce and Trade

With increased public and private sector activity expected in the immediate future, it is imperative for Palau to strengthen its data collections and monitoring of trade flows. Similarly, with increasingly diverse business services, tourism and international transactions, it is necessary to monitor the flows of invisibles, such as for travel and freight, financial services, insurance, communications, commissions, etc. Only with such information can Government and business accurately form their economic responses and strategies.

2.3.5 PRICES

There are no indicators of prices and the cost of living in Palau. In recent years, US-sourced goods and services have risen by around 5 per cent. However, the depreciation of the US dollar in recent years has resulted in much higher prices for non-US sourced goods. With consumer prices in Guam increasing by 10 per cent per annum in recent years and CNMI by 8 per cent, it is likely that Palau's cost of living has been rising at similar rates. Also, the shift towards Western tastes is likely to have had compositional effects resulting in increases at the margin in higher valued imports which are likely to have lifted the cost of living further.

2.4 POPULATION, EMPLOYMENT AND WAGES

The population of Palau is estimated to be around 17,400 in 1995 (13,384 Palauan, 4,024 foreign). After remaining stagnant in the 1970's, the population grew by an average annual rate of 2.3 per cent in the 1980's and an estimated average annual rate of 2.9 per cent over the first half of the 1990's. Population data is collected every 5 years as part of the census conducted by the US Bureau of Census. The last census undertaken was in 1990. Partial data for the first half of the 1990's indicates that the growth in population in these years was predominantly due to the growth in foreign labor - three quarters of which came from the Philippines. The very low Palauan population growth rate reflects low birth rates and out-migration of Palauans, predominantly to US territories.

There are a number of difficulties with the collection of labor market data which argues for caution in interpretation of trends. Nevertheless, some discernible trends are apparent. The participation rate in the formal economy has grown significantly in recent decades. In 1980, 39 per cent of the potential Palauan work force were in the labor force, with 61 per cent in subsistence activities. By 1990 participation in the formal economy had increased to 53 per cent. Over the same period the unemployment rate for Palauans has increased from 4.9 per cent to 10.8 per cent. There are marked sectoral differences in the distribution of foreign and Palauan workers. Palauan workers dominate the public sector, whereas foreign workers increasingly dominate the private sector. In 1990 non-resident foreign workers in the private sector numbered 2,242 compared to 964 Palauan born workers.

Labor costs in Palau are low relative to neighboring Guam and Saipan, but are high relative to other Pacific islands and Asia. In 1990 average hourly wage rates paid to public sector employees (\$4.62) were around twice that of private sector employees (\$2.59), and well in excess of that paid to Philippine workers (\$1.56). Access to the US labor market has placed an effective wage floor in Palau, at least for mobile skilled workers. There are no minimum wage laws in Palau.

Population and labor market trends and projections are shown in more detail in Chapter 14. The labor market is also discussed in a macro economic framework in Chapter 4.

2.5 HUMAN RESOURCE DEVELOPMENT

2.5.1 EDUCATION

The education system in Palau in terms of goals, curricula, technology and governance is distinctly Western/American. The Government provides free compulsory education to all Palauan children aged 6 - 14 years through an 8 year elementary program. There are 18 government-run elementary schools and 2 private elementary schools. Secondary education is not compulsory and is free of charge. Attendance ratios are high by regional standards. The Government runs one centrally located public high school which has around two thirds of total enrollments. There are 5 private high schools which account for the remaining one third of enrollments. Palauans have had access to post-secondary education in US colleges and universities, and have been supported by a Government scholarship scheme. A large proportion of graduates have not returned to Palau. Within Palau, post-secondary education and training is predominantly the responsibility of the Palau Community College.

Literacy rates are high compared with Pacific island standards, although independent testing has revealed much lower competency levels. Unit costs of education in Palau are very high, in part due to the very low student/teacher ratios of around 8 - 10 in elementary and secondary levels, and very low graduation rates at the College. In terms of fiscal resources, the Ministry of Education expenditure has amounted to around 12 per cent (\$4.3 million in FY 1994) of the total Government budget in recent years. The Ministry also receives around \$5 million per year in grants from the US.

An analysis of education and training policies, and a number of recommended program outputs are shown in Chapter 14.

2.5.2 HEALTH

In general, over the past three decades, Palauans have experienced continued improvements in health conditions. This reflects improvements in literacy, living conditions, income, and health care services - both preventive and curative. Indicators of health, such as infant mortality and death rates, compare very favorably within the region, although not as favorably as developed market economies. Despite these improvements, prevalent rates of diseases of developing nations are still high, and there is an increasing incidence and prevalence of chronic illness (cardiovascular disease, cancer and diabetes). The growth in non-communicable diseases is imposing a major burden on health care resources because they usually require expensive hospital-based curative treatment. Concerns over behavioral health illness and health problems exacerbated by drugs and alcohol have increased.

Expenditure on health is relatively high in Palau, accounting for around 13 per cent of total Government expenditure in the 1990s (\$5 million local contribution, and \$1.5 million in foreign grants). A large proportion of foreign grants are from the US and are focused on preventive and primary health care. A new 80 bed hospital was opened in Koror in late 1992 funded by US grants which allows relatively high quality secondary and tertiary care. Health services are heavily subsidized by the Government.

2.5.3 LAW AND ORDER

Communal property rights and communal sharing of material have probably obviated the recording of crimes related to property. Increasing disparity in incomes and expressions of individual accumulation can create an environment which leads to increased rates of crime. The cost (both financial and social) of security to business and households has become a major expense in some Pacific island economies. For instance, in Papua New Guinea, the cost of security is now estimated to be equivalent to the cost of capital expenditure. Good Government policies across a broad range of issues can minimize the allocation of Palau's resources to public safety by reducing the disparity in incomes and wealth accumulation.

Foreign investors are sensitive to issues of crime and property rights and will be expected to consider the costs of expenditure on security measures in financial analysis of any proposed investments. Government economic policies which foster a strong middle class and minimize polarization of incomes will assist in minimizing the cost to the community of crime and law enforcement.

2.6 CONCLUSIONS ON PERFORMANCE

Over the past decade, Palau's economy has advanced unevenly due to factors such as the downturn in fish exports in 1982 and their recovery in 1990-93, the recent stimulus from tourism, the emigration of a large number of Palauans and their replacement by a much greater number of foreigners, the shift away from subsistence and the greater rate of participation in the market/wage economy. The more constant forces affecting the economy appear to have been Government employment and services supported by US assistance. High levels of consumption persist while local private investment has stalled at low levels.

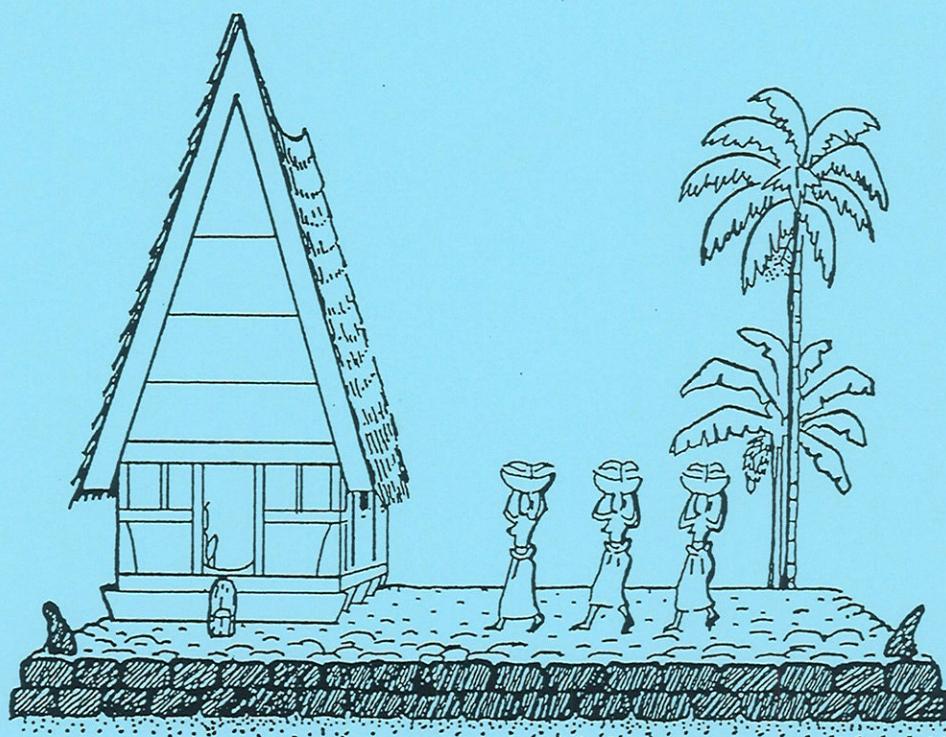
Although the performance of the Palau economy is better than that of other Pacific Island economies, it has not performed as well as it might have when compared with island economies in the Caribbean and Indian oceans. This is so despite the fact that:

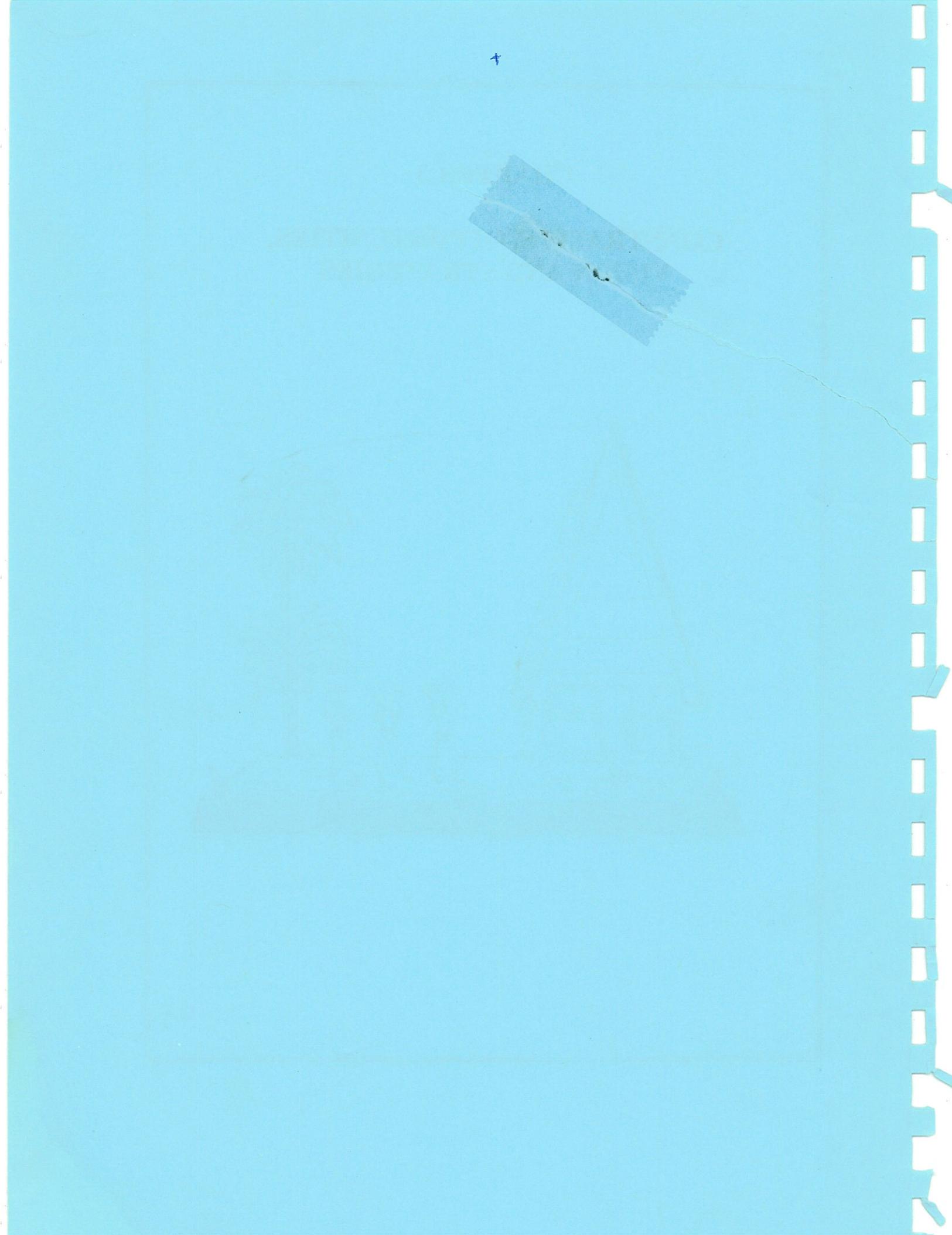
- Palau has not had tight capital or human resource development constraints, given the substantial US grant aid for projects and programs relating to infrastructure, education, health and technical skills training. As a consequence, Palau has had strong public investment rates;
- Without a natural resources constraint, Palau has substantial land available per capita, little pollution, abundant supply of fresh water, a large exclusive economic zone relatively rich in marine resources and some of the most attractive natural island/reef formations in the world;
- unlike many other Pacific island economies, Palau is not distant from major markets, being adjacent to the most rapidly growing and highly populated region in the world; and
- Palauans have unrestricted access to the United States, including access to preferential trade arrangements without extending reciprocal rights, and access to the US and regional labor markets.

In summary, few countries have such advantages and opportunities. Yet the economy has achieved little real economic growth per capita; considerable conflict and instability remains over cultural and political issues; concern is mounting over environmental degradation; and Palau has been unable to prevent large numbers of its citizens from emigrating.

CHAPTER 3

CONSTRAINTS, OPPORTUNITIES, VISION AND STRATEGIES





CHAPTER 3

CONSTRAINTS, OPPORTUNITIES, VISION AND STRATEGIES

This chapter examines the constraints on development in Palau and the opportunities for advancement and, from this analysis, develops a national vision and goals statement, and strategies that will guide the strategic approach of the Master Plan.

3.1 CONSTRAINTS ON DEVELOPMENT

3.1.1 HISTORICAL AND CULTURAL FORCES

(a) Decision-Making Processes

Reaching and maintaining agreement in Palauan society is very difficult and time consuming. The practice of long lasting policy consensus and firm long-term business agreements is not rooted in Palauan ways. Before western contact, inter village rivalries and a continual competition for power and prestige involved considerable diplomacy, patience, negotiation, intrigue and the frequent re-establishment of alliances. Agreement to act came through the Chiefs' instruction after a period of upward percolation of consent. These ways are still evident today. Despite the numerous changes in this century in Palau, most people still regard the need to co-exist peacefully as more important than settling matters in the western capitalist mode with its perceived win/lose outcomes of definitive transactions. These attitudes have strong similarities with those of many small, isolated communities worldwide where the costs of confrontation can be substantial.

In public affairs, decision by majority, as westerners know it, was not exercised. Withholding consent against the will of a numerical majority was and is a legitimate social practice employed by interested parties. The acceptance of such strategies has tended to preserve peaceful coexistence. Such emphasis on coexistence meant that inter-personal relationships dominate the social system and decision making is often protracted, compromised and cumbersome by western standards.

(b) Redistribution versus Total Welfare Considerations

The dominance of individual and minority interests over institutional practices has enabled personal, clan and State jealousy and rivalry to continue. Moreover, in times of crisis and change, even over apparently small matters, inter-personal, inter-clan and inter-State envy and rivalry appear to have influenced and frustrated decision-making. This type of competition does not translate into a vibrant private sector as has

occurred in larger countries because, in small countries, participants have market power to influence the rules. This has led to an overemphasis on distributional issues rather than on issues that may result in some inequities but which will increase the overall level of national welfare.

This is clearly seen by the almost total preoccupation of the debate between States and interest groups over the allocation of Compact funds, particularly the distribution of the \$52 million infrastructure fund. All the other very important issues, such as building the necessary institutions and policies for independent nationhood, appear to be of much less concern. Another example is the recent restrictions placed on foreign participation in tourism services to favor narrow, sectional interests, at the cost of growth in the tourism industry and consequent national benefits. It also manifests itself in a lack of concern for compliance with national policies such as taxation, debt repayment and user charges.

In this respect, it is important that political and business leaders focus the debate on longer term development issues, as opposed to shorter term opportunism or redistribution issues. If this shift is not achieved by Palauan leadership, the economy will continue to be dominated by non-productive, 'rent-seeking' behavior which will reduce the performance of the economy and, particularly, reduce the effectiveness of Compact-funded spending.

(c) *Incentives*

The focus on redistribution distorts incentive structures and, equally important, disincentive structures that are essential for economic and social enrichment. Currently there are few sanctions for low productivity. In the public sector, high relative wage levels, flat wage structures, lack of performance measurement and tenure arrangements mean that there is little incentive for performance and few sanctions for poor performance. The very high relative income and social support in the village system means that there is little incentive to perform in the private sector and few sanctions resulting from unemployment. Political support is based on regional patronage and, if distributions to the respective State can be obtained by politicians, there is little sanction for poor performance with respect to national policies.

Without a doubt, policies will fail if appropriate incentive and disincentive structures are not established. Policies, therefore, need to take account of the effects on incentives of traditional cultural forces, as well as those effects introduced by generous levels of US assistance and the importation of large numbers of low-paid foreign workers.

(d) *Institutional Development and Accountability*

This focus on regional redistribution also permeates the political process and prevents the evolution of strong political parties and the consequent discipline associated with a party platform and coherent set of policies. It also reduces the demands for accountability based on national welfare and performance criteria. The lack of concern for total welfare of Palau has led to hesitancy in implementation of public policy and projects, and non-compliance and non-enforcement of rules and expectations established in formal organizations. In response, public administration has been increasingly devolved to boards and authorities which decentralizes decision making for social stability reasons, at the cost of allowing private interests to distort public decisions away from national welfare considerations. There are also costs in terms of excessive administration.

Western consumption patterns generally are attractive to Palauans. The granting of substantial US assistance over time has supported these consumption patterns. However, work practices and productivity levels have not developed to support these levels of consumption on a sustainable basis. The distribution of US assistance, generally without performance requirements, has also meant that institutional structures have not been developed to the extent necessary for accountability. Nor has the anonymity of institutions, the objectivity of law and precedent, the primacy of private property and the permanence of contracts - all of which are essential to the encroaching international system - been embraced by the highly personalized and pragmatic practices of an essentially oral Palauan society.

In general, institutional development and governance issues will have a decisive effect on the performance of economic and social policies. The development of solid institutional structures and integrity in governance are prerequisites for sustained economic and social development. The development of appropriate incentive structures is a prerequisite to rising productivity growth. These basic structures are necessary to underpin the development of well-functioning markets with minimal distortions. Evidence from around the world has clearly shown that the development of well-functioning markets is the path to sustainable economic and social growth.

However, recognition of market failures (of which there are many in developing countries) should not be sufficient to immediately justify government intervention. There must be an assessment that government intervention and regulation will be more effective and less costly than the effects of the continuing existence of the market failure. Furthermore, a major cost of government regulation, particularly in developing countries, is that for every regulation that distorts the market, an incentive is created which provides scope for avoidance.

In many developing nations it is often the case that official corruption can be very financially rewarding to a few powerful individuals, and the costs are not readily appreciated by citizens, particularly if there are substantial, concurrent inflows of foreign government assistance with little requirements for accountability. The lack of action against corruption in these countries is often muted by traditional authority structures and the preoccupation of traditional societies with unproductive compensation and distribution issues, distinct from concerns about the national welfare or ethics. Palau is not immune from such forces, and the institutional building effort should follow a course which minimizes their expansion.

(e) *Property Rights*

One important way to ameliorate tendencies of individuals to seek private gain through public office or leadership status is to actively encourage the establishment of formalized private property rights. Individual ownership and security over title, particularly over land, limits the influence of the powerful few to enter into private commercial arrangements for land.

Individual ownership is a powerful force that has underpinned economic development in all the successful market economies. Cultures that have had the flexibility and pragmatism to facilitate such a change have developed at a much faster and sustainable pace than those that have resisted such forces. In Palau, the difficulties in acquiring clear title over land is a major constraint on investment and, therefore, economic development. The constraint is manifested in an increased risk premium on investment and difficulties in obtaining credit and capital without recognized security. This is an important issue in Palau, particularly with respect to the investment in large fixed capital assets such as tourism hotels and telecommunications networks.

(f) *Fragmentation of Authority and Leadership*

The Republic ties together 16 hereditary social organizations which the Constitution identifies as States. The concept of national welfare, and the force of national institutions, are still relatively weak. Authority in the States is now blended, to varying degrees, with a mixture of hereditary titles, elected offices and influence through business and employment. Control over resources is fragmented and inter-clan and inter-personal rivalry ensures that conflicts and disputes will retard at least some economic activities. The critical processes of decision making and commitment to implementation by government are being seriously impaired by the fragmentation of authority. This fragmentation is facilitated by the conduct of public policy through boards comprised of sectional interests.

The success of many developed countries has been due to the replacement of fragmented traditional authority structures with strong public sector institutions with clear objectives aligned to the general national interest. When traditional authority structures are not replaced by institutions with integrity and public interest goals, then sectional interests and opportunism lead to conditions which tend to retard private sector investment and economic growth.

(g) *Conclusion*

In general, the potential for economic growth is maximized in economies with the least distorted markets, the least government intervention, the least corruption, and in those economies that have instituted a strong, formal system of property rights for their citizens. However, in very small countries with strong traditional elements and conflicts, market failures are so great and the incentive structures so distorted that the government must take a leading role. But, in such situations, the government must appreciate the pitfalls in formulating and implementing policies in such an environment.

In terms of planning economic development, traditional aspects tend to restrict the development of social and economic strategic planning processes. These processes, if to be successful, need to be based on access to information, objectivity, integrity in institutions, the appeal of a national agenda, trust in the power of the executive government, the legitimacy of individual concerns and enterprise, the primacy of private ownership, the sanctity of agreements, the anonymity of authority, and cooperation amongst people who recognize their common needs.

In Palau, the lack and inconsistency of these processes coupled with the distortion of incentive structures from generous levels of US assistance, have resulted in:

- inappropriate discretionary policies such as inward-looking strategies (for instance, restrictive foreign investment criteria);
- lack of concern over the effectiveness of and compliance with national policies;
- political instability and politicization of economic policy making and implementation;
- low returns on public investment because of inefficient pricing structures, lack of concern for the opportunity cost of capital, poor incentives and lack of performance measurement;
- low levels of private sector investment, in part, because of land title restrictions.

Overall, achievement of the proposed economic growth path will necessitate a number of changes to cultural norms, particularly in allowing the development of a market in land, increased focus on national leadership and national objectives which will mean a diminution of village/clan leadership, and increased tourist development in the states which will change village lifestyles, particularly after the Compact road

is constructed. With the necessity for productivity increases, Palauans will be required to work much harder and for longer hours, placing strains on customary obligations which are very time consuming.

If Palau wants to hold onto its cultural heritage in the face of expected rapid change, it will need to take a more flexible approach to cultural aspects. Traditional leaders will need to involve themselves in the formal decision-making process. That is, they need to be participants and not just reactionary.

3.1.2 MARKET SIZE

With a resident population of around 17,000, the domestic market in Palau is very small. If this is coupled with the dispersed nature of the islands, the domestic market is likely to be high cost because of an inability to be able to reap technically efficient scale economies. In the provision of basic infrastructure, this will mean high unit costs and pressure for substantial subsidies to meet the basic needs of all citizens.

To overcome the disadvantages of a small market size, there is little option other than to seek an expansion of the private traded-goods sector and, particularly, exports where scale economies can be obtained. However, because the goods and services offered by Palau in this sector can be readily obtained elsewhere, production and prices must be internationally competitive. If additional costs are to be imposed on both private and public enterprises to safeguard the environment and cultural aspects, then the importance of being competitive is even more critical. Therefore, the over-riding strategy that must guide the economic planning process must be one that aims to significantly enhance international competitiveness. This will be the case whether policies are dealing with tourism exports, tuna exports or manufactures.

The necessary specialization in a narrow range of exports, however, has risks, particularly related to the potential for sharp shifts in Palau's terms of trade and vulnerability to external shocks. This underscores the necessity for appropriate fiscal measures focused on stabilizing sharp movements in the level of economic activity. It also provides a significant rationale for greater diversification.

3.1.3 POPULATION, LABOR MARKET AND MIGRATION

Currently, there is a high material standard of living in Palau and expectations are that it will continue to increase. However, the level of productivity needed to support these expectations on a sustained basis is not adequate, hence the recourse by an increasing number of businesses to more cost-effective foreign labor. The discipline and effort required of Palauans to lift productivity rates is generally constrained by:

- the relative affluence of a communal, subsistence life, even in the urbanized context, due to cultural redistribution particularly from public sector employees, foreign grants, plentiful natural endowments, and casual income from traditional activities - all of which have lifted the wage required to enter formal sector employment (reservation wage);
- relatively high wage rates in the public sector which have influenced wage benchmarks in the private sector;
- unrestricted access to higher wage rates in the other previous trust territories and the US which have raised expectations and allowed local employment decisions to be stalled;
- the restraint on private sector wages and conditions due to the ready availability of low-wage foreign labor; and

- the dominance of foreign labor in certain sectors, the development of cultural attitudes against participation in those sectors.

Without a doubt, dependency on foreign labor is increasing. Foreign workers are displacing Palauans in a growing number of occupations and levels, and this trend is expected to continue. Given this trend, the unemployment rate of Palauans is likely to increase significantly over coming years with the decline in Compact assistance and the consequent reduction in public sector employment which is predominantly Palauan. This could exacerbate social conflict. The reduction in use of foreign labor will not be able to be achieved easily given the dramatic decline of Palauans in certain skill categories in areas such as construction, hotel services, manufacturing, etc.

With the implementation of the Compact from October 1994, there are widespread expectations that an increased number of Palauans will take advantage of the provisions that allow unrestricted access to the US labor market. Migration may be beneficial to the development aspirations of a country. Off-island Palauans do send remittances, and many do acquire skills, attitudes, contacts and capital. It may be financially sensible in the short run to encourage Palauans to migrate, remit and develop their capacity, while, at the same time, utilizing foreign workers as a cost-effective substitute for the basic development work.

However, such a labor substitution strategy has a number of important risks which could be both economically and socially costly in the longer term. These risks include:

- loss of skilled resources with depressing effects on economic growth;
- adverse effects on the labor market as the more competitive and marketable Palauans migrate, resulting in an increase in the relative proportion of long-term unemployed with low skill levels (who are reluctant to accept the lower wages and conditions of the foreign workers); and
- an increase in foreign dependency for skilled resources which could become endemic.

It appears that unrestricted access to the US labor market, which distorts relative incentives and provides a safety net in the event of the failure of domestic decisions, may not correspond with the other longer term social, cultural and developmental objectives of Palau. The long-term aim, however, must be to attract and retain qualified Palauans to contribute to their own economy.

3.1.4 ATTITUDES OF DEPENDENCY AND RELATIONS WITH THE REST OF THE WORLD

Restructuring the Palauan socio-economy will be a difficult and long-term task. Failure to achieve the necessary restructuring will leave Palauans dependent on foreign assistance and subject to the interests of a narrow range of powerful domestic entrepreneurs and foreign interests. Nevertheless, it is quite possible that a significant portion of the population will tend towards the comfortable delusion of depending on foreign assistance and foreign labor. Furthermore, a century of foreign hegemony has induced in some Palauans attitudes of passivity and incapability in managing their own affairs. Some believe or expect that there will be other donors or an extension of Compact funding to prolong the assistance arrangements.

Such attitudes present a grave risk to the development path of Palau. They encourage the opportunism which opens the way to easy deals; they erode the determination to pursue difficult commitments and to seek performance; and they subvert the co-operation and cohesion amongst Palauans that is necessary to build an innovative, attractive quality of life.

Also, while Compact implementation will bring a much greater level of independence, the continuation of US monetary ties will reduce the scope for Palau to influence important domestic economic policy variables such as the domestic interest rate structure and the level of competitiveness through exchange rate alterations.

3.1.5 THE COSTS OF NATIONAL SOVEREIGNTY

The Trust relationship has covered the cost of many functions of the National Government, especially capital improvements, recurrent spending, representation and protection of national interests and certain social welfare programs. However, accession to full sovereignty will bring significant costs.

While the Compact includes substantial up-front capital payments, the continuing payments covering operational spending will decline significantly over the period 1995-2009 because of the low inflation adjustment factor, no allowance for population growth, and cessation from 2010. If these up-front monies are not invested or expended to maximize returns, whether on infrastructure or portfolio investments, then the Government will face severe budgetary problems in a matter of only a few years.

The consequence of this for development could mean a sharp reduction in public sector employment, decline in government services and maintenance, and a sharp increase in the taxation burden. From an investment viewpoint, recognition of the possibility of very tight fiscal conditions in the near future will increase the risk premium on investments because of the uncertainty of the Government's response. This will be of particular concern to foreign investors because, in the past, when Governments have faced financial constraints, they have responded by lifting the tax burden on foreign businesses more than on local businesses and persons.

Full sovereignty will mean a reduction in most Federal programs, which is particularly important in the areas of health and education. Independence will also redirect the responsibilities to Palau for marine surveillance, treaty obligations and full protection of citizens and visitors.

These costs will be relatively large for this small country. While there will be some offsetting gains to Palau, in terms of foreign assistance and involvement in international organizations, these gains will require investment in the preparation for and administration of such relationships.

Overall, the substantial costs involved in full sovereignty underscores the extremely important need to manage the Compact funds prudently and efficiently. The lessons of poor management of such funds elsewhere in Micronesia must be heeded.

3.1.6 UNFUNDED LIABILITIES AND EXISTING DEBT

A major constraint on the Government's budget over the near term will be the cost of debt service associated with the IPSECO debt rescheduling and the urgent requirement to substantially increase the Government's contributions to the Civil Service and Social Security pension funds.

The new agreement with the IPSECO creditors calls for repayments of around \$20 million over the next 5 years. The two pension funds would appear to be seriously underfunded. The Government will need to make substantial increases in its contributions to these funds.

3.1.7 SYNTHESIS OF PUBLIC CONSULTATIONS CONCERNING CONSTRAINTS AND UNCERTAINTIES

The following conditions were most commonly reported from consultations with the general public and specialist interest groups. They are presented in no special order:

- fragility of ecosystem;
- fragility of culture;
- small population;
- inadequate compliance and enforcement of laws;
- potential conflicts of public duty and private affairs;
- small number of public leaders and 'doers';
- land tenure disputation;
- persistence of State-National tensions and uncertainties;
- intensity of local rivalry and competition;
- risk to natural assets and advantages from development activities;
- low productivity in an intensely competitive region;
- need for foreign capital and technology;
- non-sustainable dependency on US programs;
- high dependency on imports;
- increasing dependency on foreign labor;
- low contribution of local revenue for government;
- high consumption of fuel and electricity;
- unsustainable preference for consumption and leisure; and
- narrow economic opportunities.

Though the list is long and of some concern, these conditions are not unique to Palau. A retreat to protectionism, out of pessimism or lack of confidence, would almost certainly exacerbate these listed conditions.

3.2 OPPORTUNITIES

3.2.1 COMPACT OF FREE ASSOCIATION

Financial assistance from US over the past decade has amounted to approximately \$30 million per year (in 1994 prices). The Compact will maintain such an average for the next 15 years, although assistance funds will be on a declining real trend over the period and will cease by 2010. Despite the declining trend, the funds are substantial and, if used prudently, could ensure the maintenance of rising living standards. Substantial lump-sum funding has been provided for capital works and a \$66 million trust fund has been established. For a population the size of Palau, the funding is considerable and amounts to around \$2,000 per capita per year over the Compact period.

National security will continue to be provided by the US. Access to the US labor market and preferential trade arrangements will provide substantial opportunities for Palauan-based manufacturers, particularly garment manufacturers, and Palauans seeking offshore employment. The continued utilization of the US dollar, while having possibly adverse effects on domestic monetary control and competitiveness, will underpin a continuation of a low inflationary environment and remove exchange rate risk significantly.

The certainty in funding and its magnitude provides a unique opportunity for Palau to advance its economic development in a way that is not only sustainable but environmentally and culturally sensitive. To a large extent, it will reduce considerably Palau's capital constraint - a crucial constraint on economic advancement in most developing countries. It could allow Palau to enhance its competitiveness through the provision of comprehensive, modern infrastructure services without incurring the debt-service burden that other countries have had to accept. It could also allow Palau to maintain a very low and competitive taxation regime. Such certainty could elevate the confidence of both Palauans and foreigners in making investment commitments.

3.2.2 LOCATION IN ASIA-PACIFIC REGION

Unlike many other Pacific island economies, Palau is not distant from major markets, being adjacent to the most rapidly growing and highly populated region in the world. The structure of the Palau economy, business relationships and tourism industry are moving increasingly towards Asia. This trend is likely to continue. There are a great many opportunities that can be gained by enhancing trade and investment flows with this expanding region. The ready availability of foreign labor from countries like the Philippines and China provide substantial scope for the development of low-wage based industries. As income levels in these expanding countries continue to rise, the market for tourism will grow, although competition from other countries is also likely to increase.

Palauans' fear of being overwhelmed or marginalized by foreign interests will influence public policy. Such fears tend to overlook the constraints on development. Accessing increased foreign investment and attracting large numbers of tourists require considerable effort and resources which should not be underestimated. Nevertheless, the potential in Palau to attract people and resources is significant.

3.2.3 NATURAL RESOURCES

Palau's unique natural environment is world renowned. It is also fragile. Nevertheless, if managed wisely, it could sustain a much greater number of tourists. Palau has a number of tourist attractions, including some of the best diving sites in the Pacific. Diving is among the fastest growing segments of tourist demand in the fastest growing markets (East Asia and South East Asia). Boating and fishing will remain activities that will continue to be in demand by Palauans, foreign residents and tourists. This demand could be satisfied provided the reliability and quality of supporting services and marine areas are maintained.

Increasing domestic and foreign tourism in Japan, China, Taiwan, Korea, Vietnam, Thailand, Malaysia and Indonesia is adversely impacting on their own natural attractions and amenities, resulting in a shift in demand to alternative destinations. Therefore, the value of Palau's attractions is steadily appreciating.

Furthermore, with rising incomes in Asia, there is the potential for the development of holiday and retirement homes or mixed business/retirement arrangements. If Palau can maintain its relative social stability, its image and its environmental qualities and, if it can develop the required quality in infrastructure, and personal and business services, then it has the potential to be able to meet such demands.

Palau has an extensive Exclusive Economic Zone with substantial marine resources, particularly tuna stocks. Difficulties in enforcing surveillance, measuring fish stocks and establishing a rigorous taxation regime for the industry result in some confusion over the value of the resource. Nevertheless, there does appear to be some potential to reap increased revenue and higher levels of activity from this industry.

3.2.4 SERVICES AND SOCIAL CONDITIONS

Palau has a relatively good base of infrastructure and social services, despite a backlog of public works. Pricing structures with respect to infrastructure services are very competitive, although there are large subsidies involved which are likely to be removed over coming years.

Educational achievement and literacy levels are high by Pacific island standards, and there is a large proportion of Palauans who have had international experience in study, training, employment and business. Although the last twenty years have seen much struggle and dissension within Palau, the experience in negotiation, testing of options, organizing and mobilizing constitutional governments, foreign investment deals and Compact arrangements will prove to be valuable experience in managing the rapid internationalization of Palau over the next decade.

Health facilities, particularly on Koror, are of a high standard relative to the region. Law and order problems are minimal - a factor which is increasingly being incorporated into investment and location decisions of investors.

3.3 CONCLUSION: CONSTRAINTS AND OPPORTUNITIES

Palau has much potential and has the opportunity to achieve rising incomes and standard of living, while maintaining the positive aspects of its culture and protecting its natural environment. The allocation of substantial Compact funds, if used prudently and efficiently, should make the achievement of these goals feasible. In some respects, few countries have such advantages and opportunities.

To date, however, these advantages have not been utilized to their full extent, resulting in lower-than-desired growth in incomes and living standards, considerable conflict, deterioration in cultural values, increasing foreign influence, environmental degradation and the emigration of significant numbers of Palauans.

While there is considerable potential to reverse these adverse trends, a number of very important constraints remain and there is little consensus on strategies to overcome them. Some of the constraints are culturally based, such as the dominance of redistributive concerns over national interests; others have resulted from discretionary actions of Government, such as poor foreign investment policies, an inefficient taxation system and poor management structures for infrastructure services; while others are exogenously determined, such as vulnerability to external terms of trade shocks and natural disasters.

The adverse effects on incentives from generous US support over many decades has also affected Palau's performance and caused the postponement of many of the difficult but necessary policies and institutional structures essential for sustained advancement. Dependency, uncertainty and mistrust incline many Palauans towards protectionism and pessimism. A more positive look at the advantages and opportunities reveals some significant potential if Palau chooses to enhance its integrity, consistency, openness and concern for nationhood and the national interest.

3.4 FORMULATING A DEVELOPMENT FRAMEWORK FOR PALAU

Among many Palauans there is strong concern about open involvement in public affairs in Palau because:

- there is intense competition amongst persons, factions, clans, and States and much debate over the distribution of foreign assistance;
- land tenure and lineage customs require the close scrutiny of any opinions involving property and resource use;
- there is general uneasiness about individual expression which may not receive group concurrence and thus may lead to disharmony;
- based upon a long history of previous experience there is a general disbelief in the potency of the individual action in affecting public policy decisions;
- many Palauans feel that their culture and environment are under threat from economic development and international influences;
- short-term arrangements, requiring frequent review, are the preferred social management device, with minimal, strategic planning and long-term commitment; and
- generous foreign assistance and affluent subsistence have, to a large extent, placated the imperative to make decisions and to adapt cultural views to the required circumstances.

Therefore, there is a need for strategic thinking and leadership. Building a consensus for strategic planning requires consultation and dialogue across a wide array of interest groups and leading individuals. The process has to be repeated as new information, challenges and opportunities emerge. The NMDP process has followed a method of progressive consent in formulating a national vision, development goals and the necessary strategies and policies to serve these goals. The sequence of formulation is shown in figure 3.1. The process has involved around 100 meetings, 500 interviews, workshops with particular groups, and a national forum.

Formulation of the development framework has been guided by the thinking expressed and implied in the Statement of Work which forms part of the UNDP's contract with SAGRIC International Pty Ltd, although it is recognized that the planning environment changed in the period leading up to the implementation of the Compact of Free Association with US. In particular, the NMDP formulation must take into account the planning and projects contained in the Economic Development Plan released in June 1994, which provides the basis for some of the US funding decisions under the agreed Compact.

3.4.1 THE NATIONAL VISION AND DEVELOPMENTAL GOALS

Figure 3.1 outlines the process by which the Master Plan creates a framework for Palau's development, in which strategies, policies, actions and projects are guided by the national and sectoral vision, goals and objectives.

**Figure 3.1
THE SEQUENCE IN FORMULATING THE MASTER PLAN**

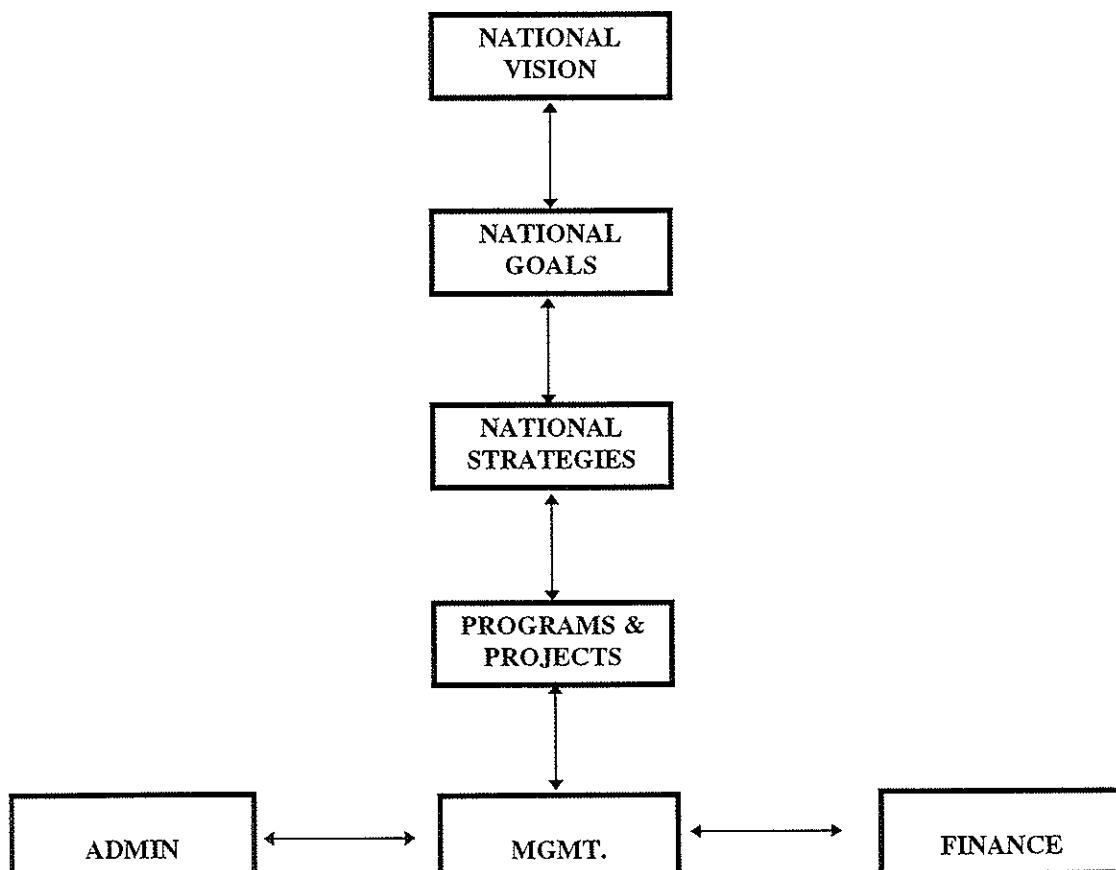


Figure 3.2 shows the consensus vision statement and goals which express the tensions between progress and security, innovation and tradition, and between Palauans and foreigners. These tensions are considered in all aspects of the NMDP, and the prognosis for their resolution is guided by experience from other countries with similarities to Palau.

Figure 3.2

**DEVELOPMENT FRAMEWORK:
VISION AND GOALS**

*To substantially enhance the quality of life of Palauans
and future generations of Palauans*

To achieve this vision, there are a number of development goals, namely to:

- i) increase real economic growth per capita on a sustained basis;
- ii) share the benefits of economic growth on an equitable basis, but in ways that still reward enterprise, risk taking and hard work, and allow foreign workers and investors a genuine stake in development; and
- iii) enrich and enhance confidence in the Palauan culture, raise national consciousness, and protect the natural environment of Palau.

3.4.2 CONVERTING THE VISION AND GOALS TO STRATEGIES AND POLICIES

In the consultation process, possible strategies to achieve the stated goals were identified. While there is considerable resistance in the community to a strong focus on economic growth strategies, this will need to be overcome. It reflects a lack of comprehension of the task required to sustain current lifestyles after US assistance is removed. In this respect, it should be noted that:

- without US funds, Palauans currently would have very low income levels, yet have increasingly high expectations of consumption and leisure; so economic growth is needed to pay for what is currently owned and used by society as well as to meet rising expectations;
- Palauans must be able to protect their sovereignty, assets and physical environment by earning more income from the rest of the world;
- growth is required to provide higher income and employment for Palauans, partly to counter the attraction of overseas work and the consequent loss to Palauan cultural and social practices;
- growth is required to challenge and reward work, enterprise and innovation so as to maintain a fair and progressive society with minimal levels of conflict, including racial conflict; and

- growth is required to translate the unique material inheritance of the Compact into a sustainable society.

Figure 3.3 states the strategies that will guide the evaluation and formulation of the policy and program outputs.

Figure 3.3

DEVELOPMENT STRATEGIES
3.4.2.1 Fiscal Policy
Obtain sufficient resources in an efficient manner to meet the Government's budget and policy requirements, increase the productivity of Government expenditure, and develop fixed policies to smooth the adjustment path of the economy to lower uncertainty and build financial integrity.
3.4.2.2 Macro-economic Environment
Reduce uncertainty and business risk by establishing a stable, but competitive macro economic environment.
3.4.2.3 Labor Market
Reorient labor market incentives and manage the inflow of foreign labor to achieve sufficient growth in employment levels in the private sector in Palau, particularly in more highly remunerated and skilled positions, limit unemployment and the attractiveness of emigration, support a higher quality of life and a more competitive private sector, and reduce social conflict.
3.4.2.4 Foreign Investment
Promote foreign investment that is to the long-term benefit of Palau, accounting for the impact on the natural environment and cultural values, with recognition of the benefits of the introduction of more competition and new technology.
3.4.2.5 Taxation and Charging
Raise the required level of revenue for Government expenditure plans such that the tax and charging system is competitive, has the least adverse impact on production and consumption decisions (efficiency), achieves the necessary equitable outcome desired by Palauans and is conducted in a transparent and professional manner.
3.4.2.6 Financial Sector
Improve the functioning and integrity of the domestic capital market to lower the costs of financial intermediation, enhance savings and support higher levels of public and private investment and consumption.

3.4.2.8 Infrastructure Institutions

Provide on a sustainable basis, the required infrastructure funding and services in an efficient manner and of a high standard throughout Palau to improve equitable access and underpin the expansion of economic activity.

3.4.2.9 Public Sector Investment Program

Improve the performance of the Government's corporatized and service entities by creating a more commercial and competitive environment, formalizing the relationship with Government, clarifying objectives, improving pricing structures and performance measurement and establishing a prices' regulation function.

3.4.2.10 Specific Infrastructure Substrategies for transportation, electric power, water supply, waste water, solid waste, communications and public buildings (see Chapter 6).

Enhance the performance of public sector investment programs and projects by improved evaluation, prioritization, and monitoring techniques incorporated in a comprehensive public sector investment program process.

3.4.2.11 Land Use Planning

Increase land ownership and the availability of suitable land for development through improved processes and institutional building relating to land use management, legislation, national-state responsibilities, environmental controls and baseline knowledge.

3.4.2.12 Tourism

Maximize the contribution of the tourism sector to the Palauan economy by developing a private sector framework conducive to tourism growth, promoting and monitoring tourism developments, and ensuring the necessary controls and charging systems are established to protect the natural environment and cultural interests.

3.4.2.13 Agriculture

Maintain subsistence agricultural production, but diversify and significantly increase the level of agricultural production both for import replacement and export, taking into account conservation practices.

3.4.2.14 Forestry

Continue to emphasize watershed production and rehabilitation of degraded land, with a lesser emphasis on commercial production.

3.4.2.15 Industries and Services

For the development of industries and services, provide an overall economic framework conducive to private sector development through provision of supporting infrastructure, competitive economic and regulatory policies, adequate consumer and worker protection, and facilitation of policies towards promoting development and employment.

3.4.2.16 Marine Resources

Achieve greater returns on a sustainable basis and increased local involvement from Palau's offshore and onshore marine resources, while maintaining adequate extraction levels for subsistence and the protection of the natural marine environment for tourism and cultural purposes.

3.4.2.17 Natural Environment

Improve the protection of the natural environment, or at least measure and make transparent the costs of degradation, through formalizing and streamlining environmental requirements and processes, integrating these into the decision making process, and improving management and education of environmental issues.

3.4.2.18 Public Administration

Lower the relative size of the public sector in Palau over time and increase the efficiency, integrity and effectiveness of Government administration in delivering those essential services, products and policies required by the community that cannot be provided by private individuals or the private sector efficiently, with the over-riding aim being towards the long-term national interest of Palau.

3.4.2.19 Human Resource Development

Collect and analyze comprehensive population information to assist the development of policies and programs, particularly in relation to the labor market, education and health planning, disadvantaged groups, and family programs.

3.4.2.20 Education and Training

In partnership with parents and the community, ensure that Palauan children, youth and citizens are educated and trained in a cost-effective manner to achieve their maximum individual potential and become contributing citizens and productive workers in a changing world, while at the same time protecting Palauan cultural attitudes and ways.

3.4.2.21 Health

Provide improved health services to the whole population to a high standard in an equitable and cost-effective manner, with a greater emphasis on the delivery of preventive and primary care and improved management of secondary and tertiary care.

3.5 GOVERNMENT - PRIVATE PARTNERSHIP

The Government will need to play a leading role in development policies. In this respect, the Government will need to establish a development partnership with the private sector. This is an important feature common to the success of economic development in Asia (World Bank 1991, Fallon 1992). The Government needs to be market friendly and complement the private sector rather than supplant it.

It is not a partnership in the usual sense, for there needs to be strictly different roles and responsibilities, and the Government's clear objective is to improve the quality of life of its citizens. The Government's role in the partnership should be in the establishment of the policy framework which should be conducive to private sector initiative and development, while at the same time ensuring that there is provision for the basic needs of its residents and visitors. In this respect, the Government should minimize its direct involvement in activities that can be carried out by the private sector. If the private sector is under developed, rather than direct involvement, Government should play a facilitative role. Other than user pays criteria, the Government should not discriminate in its policies or actions against particular enterprises or sectors. Such discrimination creates economic inefficiencies and distorts incentives away from performance.

If Government does involve itself in certain enterprises, there should be a full analysis of the opportunity costs and adverse effects on other sectors of the economy, and the implementation of efficient pricing policies, clear exit strategies, sunset clauses, clarity of objectives, strict accountability and transparency. This is very important and is the predominant reason for the poor performance of public enterprise investments throughout the Pacific islands.

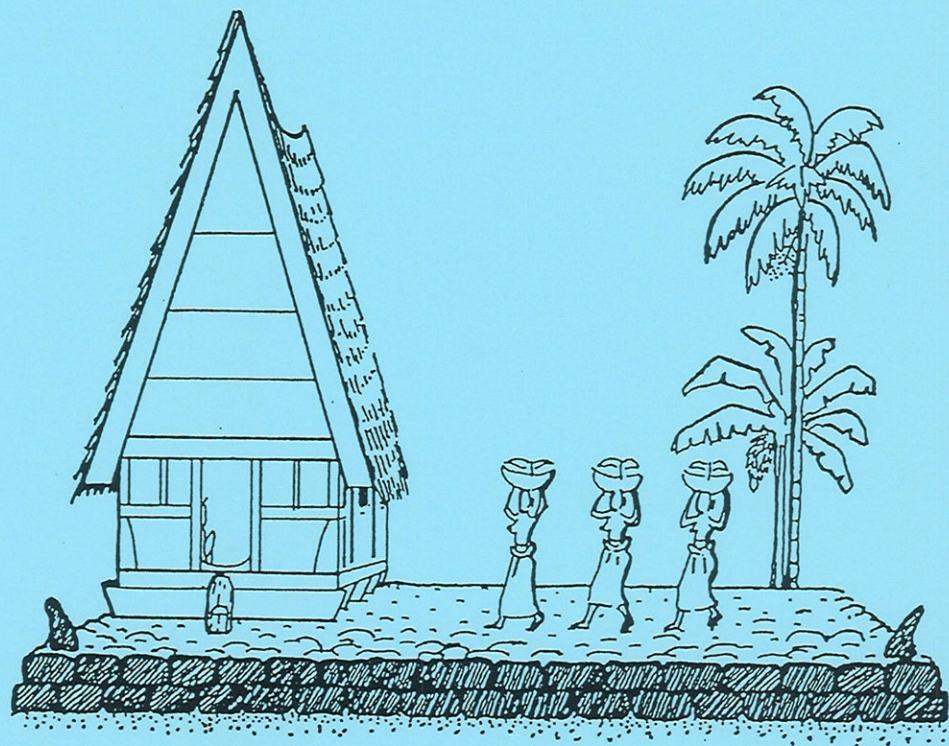
A fundamental requirement for lifting economic growth rates lies in increasing productive investment which takes account of social, cultural and environmental objectives. Policies must be aimed at reducing the risk premium for investment and providing an internationally competitive environment that is favorable to business. The spending of Compact funds entails substantial risks. If such spending results in poor productivity and, therefore, fails to generate sustainable social and financial returns, then the Government will be forced to raise substantial revenues from the domestic private sector which will affect rates of return and risk assessments. This will be a difficult process for Government, because it invariably means a substantial lowering of expenditure now and a reduction in its authority and status such that future Governments will benefit from current actions. This will require a commitment to the goals and strategies which are long term in nature.

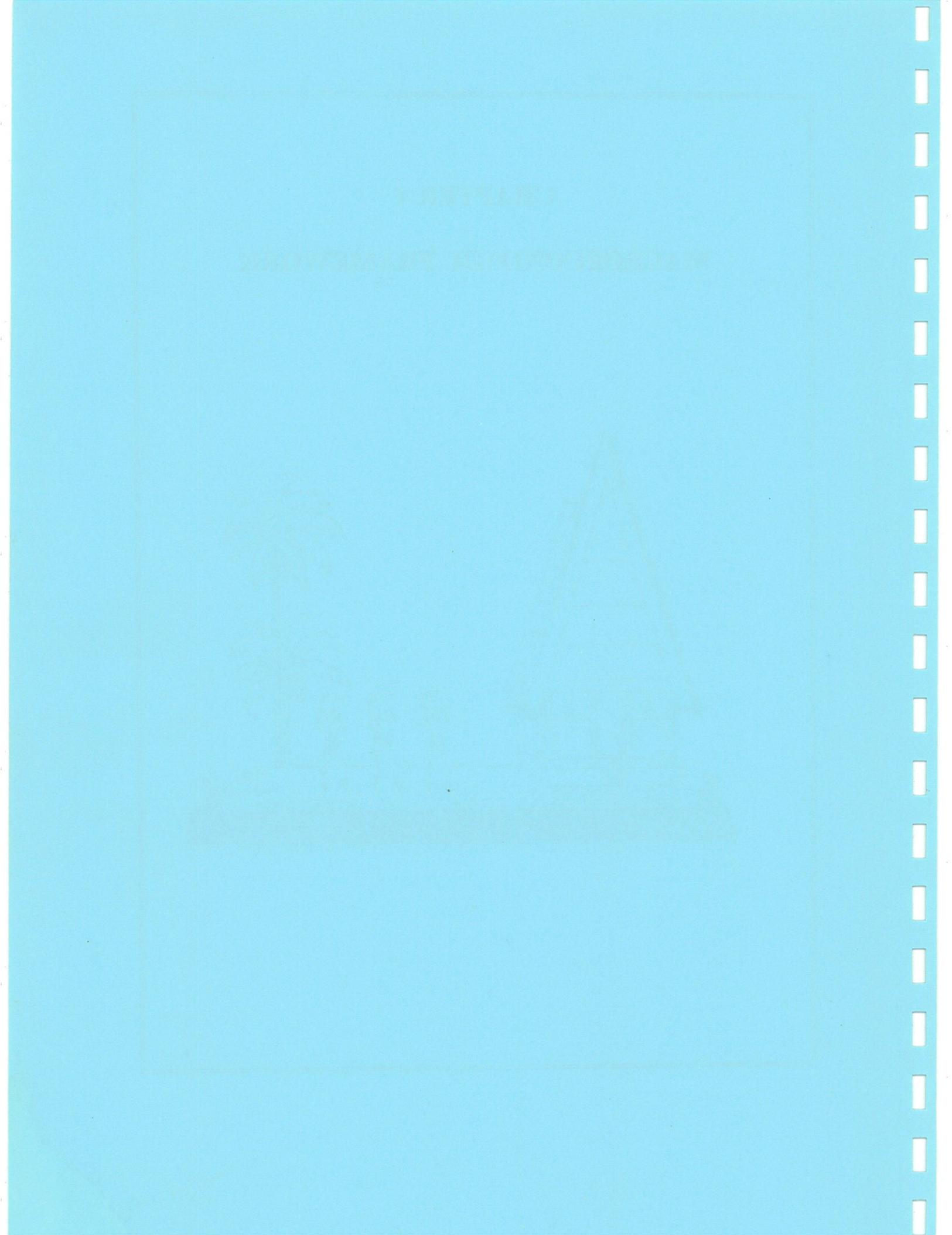
In pursuing economic growth, Palau, in common with all Pacific island countries, has little option but to follow the strategy of seeking an expansion of the private traded-goods sector (exports and import replacement). Its domestic market is simply too small to even consider an inward-looking strategy. However, as the goods and services offered by Palau can be readily obtained elsewhere, economic policies must be guided by the principle of enhancing international competitiveness.

In addition, all policies and regulations should be examined with a view to assessing the costs of compliance and enforceability. If regulations are unable to be enforced or incur substantial compliance costs, the resulting market distortions and inefficiencies will discourage investment and retard economic growth.

CHAPTER 4

MACROECONOMIC FRAMEWORK





CHAPTER 4

MACRO ECONOMIC FRAMEWORK

This chapter examines the basic macro economic framework that will underpin the strategies for economic growth, including fiscal management, particularly related to Compact funds, and policies related to the monetary system, labor market and foreign investment.

4.1 MACRO ECONOMIC POLICY

A stable, predictable and internationally competitive macro economic environment is of fundamental importance to private investment, the financing of Government expenditures, and sustained economic growth. Those countries that have maintained such an environment have had much higher private investment levels and economic growth rates.

In Palau, no framework for macro economic policy analysis or expertise in macro economic policy exists. Moreover, there are no policies or structures that are concerned with economic policy management. This reflects the highly dependent relationship over the post-war period with the US and institutional framework that was geared towards the administration of projects and services, and redistribution of grants.

Financial transfers from the US in the past have resulted in steady budget support which has significantly reduced the need for macro economic management and removed Government financial constraints. However, the agreement on Compact implementation and the subsequent rise, then decline, in US funding support will mean a substantial increase in financial volatility, financial demands on the private sector by Government, and increasing Government budget deficits and consequent level of debt. Managing this volatility and financing this debt will require important macro economic policy initiatives to be undertaken if the private sector and investment rates are not to be adversely affected by large, disruptive Government financing shocks, domestic inflation and credit contractions. To overcome the decline in US funding, the private sector will need to expand and, to achieve this, there will need to be a shift in the focus of Government towards economic policies and away from administration.

With Compact implementation guaranteeing similar levels of grant assistance for operations (although declining in real terms) for 15 years and the payment of substantial capital funds up front, there may appear little imperative to address these issues over the short term. However, institutional building takes years, if not decades, and the costs of inappropriate macro economic policies in the interim can be substantial. It would be unwise and very costly not to act immediately in developing the necessary structures and policy framework to cope with these future problems.

Smoothing the adjustment path for the economy as Compact funding declines will reduce uncertainty and provide confidence in economic management, which will encourage investment, particularly long-term

private investment, by reducing investment risk. Experience in most countries has shown that the advantages of a solid macro economic framework and confidence in macro economic management has outweighed most policies that target investment directly through specific or sectoral subsidies. Such an environment will also provide the greatest scope for meeting the financing needs of Government in the long term.

In addition, the structure of the Palauan economy continues to change with a decline in the commercial importance of the US in contrast to growth in trade and services with Japan. The continued use of the United States Dollar (US\$) will have important implications for the conduct of monetary management, the structure of interest rates and the competitiveness of exports and import replacement goods and services. If a stable and competent macro economic environment can be established, there are still a number of reforms that will be required to ensure adequate investment levels are obtained, and solid employment growth is achieved. The chapter, therefore, also discusses the reform of foreign investment and the labor market.

4.2 FISCAL POLICY, GOVERNMENT FINANCING REQUIREMENTS AND THE COMPACT

4.2.1 FISCAL OUTLOOK

Funds from the US over past decades have financed the majority of recurrent and capital expenditure. In early 1990's US grants and program funds amounted to around two thirds of total Government revenue. Local revenue contributed around one third, of which nearly 80 per cent was collected from four sources (gross revenue tax, employee personal tax, import duties and utility charges). Over the early 1990's, local revenue grew at a faster pace than US assistance, but has slowed significantly in FY1995.

While in the past, the Government's budget was broadly in balance, expenditure over-runs in 1991 and 1992 resulted in the development of budget deficits (based on an accrual accounting system). This has generally been reflected in a decline in government cash balances and the postponement of certain expenditures, particularly maintenance expenditures. There are currently no formal arrangements with the banking system to extend credit to Government. The deficits in 1991 and 1992 averaged around \$4 million (Deloitte Touche, External Audit Report, 1992). Preliminary estimates indicate small budget deficits in FY 1993 and FY 1994. Importantly, from 1995, on a no-policy-change basis, a number of factors will converge that will increase Government expenditure, resulting in more substantial budget deficits. These, however will not be readily transparent because of the methodology used in presentation of the budget. These factors include:

- repayment of the renegotiated IPSECO power plant debt which, in 1994, was renegotiated down from around \$60 million (after repayment difficulties and legal dispute) to \$20 million. Repayments of around \$4 million per annum for 5 years will commence in FY1995 (\$3.3 million was appropriated for this purpose in the FY 1995 budget);
- increased Government contributions to the Civil Service Pension Fund and perhaps to the Social Security Fund which will increasingly be required over coming years because of the serious under funding of both schemes (\$2.2 million was appropriated for this purpose in the FY1995 budget);
- the steady decline in real Compact operational funding and the cessation of that funding from 2010;
- uncertainty over the sustainability and performance of capital spending;

- increasing expenditures related to maintenance of infrastructure which are uncertain, although can be expected to be significantly higher than current allocations;
- increased Government spending resulting from the \$30 bi-weekly increase in salary for all public sector employees following Compact implementation (equivalent to 6 per cent on average and costing \$1.2 million in FY1995);
- ongoing capital works programs which Compact funding will commence but not complete, such as the national capital relocation;
- additional expenditures required following independence for services previously provided by the US (diplomatic, passports, new legislation in a number of areas etc);
- significantly lower stream of Compact recurrent grants if domestic inflation exceeds the inflation factor (two thirds of the US GNP Implicit Price Deflator - see Article 215 of Compact) built into the Compact grant stream. This is highly likely given the composition of Palauan imports and the real exchange rates of the countries where imports are sourced; and
- expectations of relatively low indirect effects on Government revenues of Compact capital spending, given high import leakages, low productivity of public investment to date, and continuing emphasis on redistributive aspects of funding as opposed to efficiency issues.

These factors will add substantially to the Government's financing requirement over the next 5 years. The FY1995 Budget and the subsequent Supplemental Board (enacted July 1995) provide an indication of the increased expenditure that will need to be financed. FY1995 is the first year following Compact implementation. In the Compact, the previous US Department of Interior recurrent grants are replaced by a number of specified grants to be paid annually over the 15 year period, and a number of once-only program grants (refer tables 4.1 and 4.2). In FY1995, these specified recurrent grants amounted to \$23 million, \$3 million lower than in FY1994. Despite the decline in recurrent grants, higher spending levels and lower-than-expected revenue growth, are expected to result in a substantial increase in the recurrent budget deficit in FY1995 to around \$13 million. In particular, this reflects:

- an expected \$1 million decline in local revenues predominantly due to a fall in gross revenue tax receipts from a recent contraction in the offshore fishing and construction industries; and
- an expected 40 per cent increase in recurrent expenditure from the already high level of \$38 million in FY1994 to \$54 million in FY1995 due to increased expenditure allocations to the Executive Branch, utilities subsidies, debt service, and public sector salary increases, and large contributions to the National Development Bank and Pension Plan.

In addition, around \$16 million has been appropriated for capital expenditures in FY1995. Allocations include power plant rehabilitation, national water system improvements, road improvements, and State CIP projects. Many of the projects, however relate to maintenance activities, and as such are not additions to the capital stock. Overall, the total budget expenditure on recurrent and capital items in FY1995 is expected to amount to \$69 million, well above the estimated \$42 million spent in FY1994, and twice the level of FY1990.

The increased expenditure has been funded predominantly from once-only Compact monies, in particular the capital grant inflation adjustment funds (section 215). The categorization of these funds as recurrent revenue in FY1995 would appear inappropriate. They should be classified as financing amounts, not recurrent income (that is, treated as below-the-line funds). This would allow the presentation of a more informative budget deficit statement. In effect, the budget should be presented in a more internationally accepted format, such as that recommended by the International Monetary Fund.

Compact fund balances are likely to decline from around \$191 million to \$137 million over the course of FY1995. The decline is not the result of productive capital expansion (which might be expected to yield ongoing returns), but to rapid growth in recurrent expenditure, the vast majority of which will be very difficult to continue to finance, or to scale back, in subsequent years.

Over the medium term, given the difficulties in servicing the current commercial debt and the high relative GDP levels of Palau, it will be difficult to obtain concessional loans and grants from multilateral donors, or offshore commercial loans to bridge the increasing financial requirement. The uncertainty for investors, therefore, will be that, given the likely rundown in Compact capital funds, the predominant source of financing will be from the private sector in Palau - either through borrowing from the banking system and/or increased taxes and charges.

Excessive borrowing from the banking system will lower reserve levels, which will impact adversely on private sector credit and place upward pressure on lending interest rates. Increases in the current taxation regime and, particularly increased use of selective taxes and charges, will distort production, lower business profitability and increase business and consumer uncertainty. Both these factors will tend to suppress investment levels, private sector output and economic growth, unless:

- the Compact capital spending is highly productive;
- the productivity of the civil service is increased, which will improve the quantity and quality of service;
- the taxation system is reformed to make it more efficient;
- expenditure is constrained significantly;
- public sector wages growth is held in check; and
- the domestic finance sector is reformed and developed.

4.2.2 MANAGEMENT OF COMPACT FUNDS

To manage the Compact Funds, a Board of Trustees has been established and a number of funds managers selected to invest the funds. Two funds have been established - a trust fund for the section 211(f) monies and a non-trust fund for other monies. Merrill Lynch was selected to act as investment consultant. Two custodial banks are being used - First Hawaiian Bank acts as custodian for 60 per cent of the trust fund (s211f) and the Hawaiian Trust Company (subsidiary of the Bank of Hawaii) acts as custodian for 40 per cent of the trust fund and for all non-trust monies. This latter company also acts as investment manager for all the non-trust monies. Trust fund monies will be invested by 5 specialist managers (Scudder; Stevens & Clark; Hawaiian Trust Company; Mississippi Valley Advisors; Provident Investment Council; and Hill Samuel/IAI).

In terms of investment strategies and asset allocation, the funds will be invested in a diversified portfolio. Although the Compact Agreement restricts investment to "bonds, notes and other redeemable instruments of the Government of the US", it is expected that the US will approve a more diversified portfolio. The initial trust fund asset allocation will be 40 per cent fixed interest, 45 per cent equity and 15 per cent international equity. The non-trust funds will be invested initially in short-term interest bearing securities to enable Palau maximum flexibility to determine its future cash needs - something that has not been carried out yet. The investment strategy is to maximize returns within the general asset allocation subject to prudent investment practices and recognition that safety of principal is of paramount importance.

While the advice and approach taken is generally sound, a number of improvements could be implemented including:

- assessment of the Governments' cash flow requirements over the medium term which would facilitate improved investment parameters;
- development of in-house expertise in Government to advise on the appropriateness of the asset allocation, risk parameters and performance benchmarks; and
- improved disclosure of the management and advisory costs, showing benchmark comparisons with general industry fees, and fund performances.

4.2.3 BASE FISCAL PROJECTION

Tables 4.1 and 4.2 show the expected structure of Compact receipts over the FY1995-2010 period. Recurrent grants for section 211(a) and 211(c) will have an inflation adjustment applied calculated at two thirds of the US GNP implicit price deflator. The figures presented assume US inflation of 5 per cent which produces a 3.3 per cent escalation factor for these grants. The Government also received \$66 million under section 211(f) for a trust fund which cannot be drawn until the fifth year. To maintain the sustainability of the trust fund, it is assumed that \$5 million is drawn in FY1999 with subsequent drawings indexed at 5 per cent. If trust fund yields are around 10 per cent per annum, then the fund will be sustained in real terms.

Table 4.3 shows base revenue and expenditure profiles over the Compact period on a current no-policy-change basis. The table is based on data from the externally audited public accounts which were only available up to FY1993. The estimates for FY1994-95 were assembled prior to the release of the FY1994 accounts and the FY1995 Budget and, therefore, differ from more recently released data. The outcomes, however show that the estimates were in fact conservative. The table also shows the resultant budget surplus/deficit and the consequent financing requirement. Based on current EDP proposals and absorptive capacity of the economy, capital spending of Compact capital funds is distributed over a 6 year period. Overall, capital spending is likely to increase from its 1991-94 pre-Compact levels of \$5 to \$8 million per year, to \$15 to \$20 million per year over 1995-2000, depending on the rate of disbursement of funds for the national highway and for energy self-sufficiency. In 1992, the Government spent approximately \$10 million from all sources on capital works. At these rates, by the year 2002 or 2003, capital investment funded from Compact sources is assumed to have ceased. The projections in table 4.3 also show the effects of various inflation escalation factors and capital spending on revenue flows to Government, holding growth in recurrent spending and local revenue at constant rates.

Table 4.1 Compact Funds

Sec. 211(a)	Current Account	<ul style="list-style-type: none"> \$12 m first 4 yrs, declining thereafter to \$7m to FY2004 and \$6m to FY2009; for operations and maintenance uses having to do with the operation of the government and of government-sponsored programs ROP may redesignate funds in the current account as funds in the capital account
Sec.211(b)	Energy Production	<ul style="list-style-type: none"> \$28 m over time, not less than \$500,000 annually, or \$7 million for energy needs of those parts of Palau not served by the central power-generating facility for general energy production purposes funds not dedicated to purposes above may be used to satisfy any obligation or expense incurred with respect to any contract or debt related to any electrical generating plant related facilities, i.e., may be used for IPSECO settlement debt service
Sec.211(c)	Communications	<ul style="list-style-type: none"> \$150,000 annually for current account operations and maintenance of communications systems and \$1.5m one-time for the purpose of acquiring communications hardware or "for such other current or capital account activity as the Government of Palau may select"
Sec.211(d)	Special purposes (1) Maritime Zone (2) Health (3) Scholarship Fund	<ul style="list-style-type: none"> \$631,000 annually total for any/all purposes described below <ul style="list-style-type: none"> - surveillance and enforcement - health & medical programs, incl. medical referrals - to support post-secondary education of Palau citizens
Sec. 211(e)	Maritime Surveillance	<ul style="list-style-type: none"> \$666,800 one-time for surveillance and enforcement of Palau's maritime zone; may be used for capital or current acct purposes
Sec.211(f)	Trust Fund	<ul style="list-style-type: none"> \$66m in 1st yr, plus \$4 m in 3rd yr; first distribution 5th yr
Sec.212(b)	Capital Accounts	<ul style="list-style-type: none"> \$36m for capital purposes including improvements, infrastructure, remodeling projects relating to production, feasibility studies, A&E design, loans, energy or alternative energy developments, human resource development and training, emergency job programs, housing assistance, project administration, costs not to exceed 1.5% of the total capital account, real property acquisition, major repairs of infrastructure; other purposes
Sec.213	Military Options	<ul style="list-style-type: none"> \$5.5m, 2nd yr, one-time; "The Government of Palau, in its(Defense Impact) use of such funds, shall take into account the impact of the activities of the Gov't of the U.S. in Palau"; e.g., defense sites and operating rights
Sec.215	Adjustment Account	<ul style="list-style-type: none"> inflation adjustment applied to Sec.211(a)(b) and (c) and 212(b); may be used for any current and capital account activities
Sec.221(b)(1)	Special Block Grant	<ul style="list-style-type: none"> \$2m p.a; may be used for categories of health care, education, technical assistance, housing and food supplement
Sec.221(b)(2)	Education Special Grant	<ul style="list-style-type: none"> \$4.3m 2nd yr., \$2.9m 3rd yr., \$1.5m 4th yr.; may be used for current account purposes to finance education programs similar to those programs of the U.S. that applied to Palau prior to the Compact and that provided financial assistance for education of Palau or to PCC

TABLE 4.2: COMPACT FUNDING STREAM (\$'m)
Fiscal Year (a)

ITEM	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total Compact	2010	2011	
Operations Grant S.211a	19.0	12.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0	120.0			
Special Program	7.0	2.0	6.3	4.9	3.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	38.3			
Communications S.211c	1.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	4.5			
Maritime/Health/School	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	9.7			
Inflation Adj. S.215,b	6.0	5.9	6.5	7.1	4.6	5.0	5.4	5.8	6.2	6.6	6.1	6.5	6.9	7.4	7.8	93.8				
Trust Funds 211,f, (c)					5.0	5.3	5.5	5.8	6.1	6.4	6.7	7.0	7.4	7.8	8.1	8.5				
<i>Subtotal Operations</i>	26.0	23.0	25.0	24.2	23.4	19.4	20.1	20.7	21.4	22.1	22.8	21.6	22.3	23.1	24.0	24.7	337.8	8.5	8.9	
Energy S.211b	28.0																28.0			
Inflation Adj. S.215	12.2																12.2			
Defense Site Use S.213	5.5																5.5			
Infrastructure S.212b	36.0																36.0			
Inflation Adj. S.215	15.7																15.7			
<i>Subtotal Capital</i>	6.0	91.9	5.5															97.4		
Post/Weather/FAA	1.3	1.5	1.6	1.8	1.9	2.1	2.2	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.4	35.6			
Education Sect. 223	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	25.5			
Road	4.0	8.0	8.0	8.0	8.0	5.0											41.6			
<i>Subtotal Direct</i>	7.0	11.2	11.3	11.5	11.6	8.8	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.1	102.1				
TOTAL COMPACT	32.0	121.0	41.7	35.5	34.9	31.0	28.9	24.6	25.5	26.3	27.2	26.1	27.0	27.9	29.0	29.8	537.3	8.5	8.9	

NOTES: 1994 is funding under pre-Compact arrangements

- (a) data based on FY1995 Budget (shown in table 4.1)
- (b) Grant schemes covered by S211a and S211c have been adjusted for inflation at 3.3 per cent or two thirds of an assumed 5 percent US IPD as agreed in Compact
- (c) Payments from Trust Fund from Year 5. Trust Fund \$66m in FY1995 and additional \$4m in FY1998. Assumes \$5m payment in FY1999 and increased at 5 percent account for inflation. The fund will be sustainable in real terms if average earnings are 10 percent per annum and inflation is 5 percent.
- (d) These payments are made directly for services provided and are not on budget.
- (e) FY1994 ended 30 September 1994, Sub Total Capital for this year is not disaggregated into Compact categories.

The base projection includes:

- data from the External Audit Reports for the years 1990-92;
- the stream of recurrent Compact grants shown in table 4.2 and capital spending distribution shown in table 4.3;
- an assumption that the US GNP Implicit Price Deflator increases on average by 5 per cent over the projection period. This results in a compounding factor of 3.3 per cent (that is, two thirds of the IPD). Other compound factors of 5 and 7 per cent are also shown to indicate the substantial effect of varying inflation rates;
- an assumption that underlying Government revenues and receipts will grow at a nominal 7 per cent per annum (5 per cent inflation and 2 per cent population growth - so assuming no real growth per capita over the period) (This is likely to be a conservative estimate. As noted in section 4.2.1, in FY1995 Government local revenues did not increase at all, while Government expenditure increased by 60 per cent);
- indirect effects on Government revenue from Compact capital spending amounting to 15 per cent of spending, with no permanent effect;
- an assumption that underlying spending (excluding Compact capital funds) increases at 7 per cent per year. Capital spending from Compact funds is expected to decline to zero by 2002, while capital spending funded from other sources is assumed to be just under \$4 million per year;
- an allowance for public debt interest estimated at 10 per cent per annum over the period;
- IPSECO debt repayment of around \$4 million per year for five years commencing in FY1995;
- additional government contribution to the pension funds of \$2 million per year commencing in FY1995, and increasing to \$3 million per year from FY2001 and \$4 million from FY2006; and
- maintenance of the real value of the trust fund such that distributions start at \$5 million in FY1999 and maintain their real value (i.e. indexed at 5 per cent). If trust fund earnings average 10 per cent per year, the nominal value of the fund will grow to around \$190 million by 2010. The trust fund has been excluded from debt levels shown.

The base projection assumes that projects outlined in the prioritized list of the EDP are implemented. It does not include any permanent Government revenue benefits from any private sector activity resulting from the projects or any increased return directly to Government on capital. There are likely to be benefits from both these sources, although these will be reduced due to the fact that a significant amount of spending will be on replacement/upgrading of existing facilities and on relatively non-productive structures.

If the projects achieved a normal economic rate of return, maintenance and replacement costs would be absorbed. The economic rates of return on past public investments in Palau are unclear and no investment appraisals have been carried out in the EDP on the proposed capital projects. It is quite possible that some of these investments will earn negative returns, thereby not earning sufficient financial returns to even cover maintenance and depreciation and, therefore, will require additional budget allocations. Therefore, inclusion of some financial benefits stream into the budget as a result of these investments would seem inappropriate, at this stage, in any base scenario.

TABLE 4.3 FINANCING REQUIREMENTS \$MILLIONS

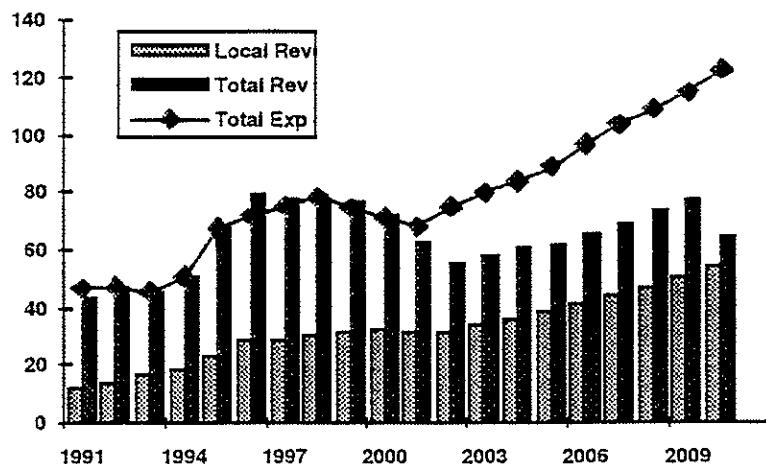
REVENUE	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
US Recurrent (real)	26.0	25.8	28.0	27.0	26.1	22.3	22.6	22.7	23.1	23.4	23.7	22.4	22.7	23.0	23.3	23.6					
US Recurrent 3.3%	21.4	24.2	24.2	25.2	26.1	25.8	28.9	28.8	28.8	25.4	26.6	27.6	29.0	30.3	31.7	31.0	32.4	34.0	35.5	37.2	
Recurrent (5%)	21.4	24.2	24.2	25.2	26.1	25.8	29.4	29.8	30.2	27.1	28.8	30.4	32.5	34.6	36.8	36.5	38.8	41.3	43.9	46.7	
Recurrent (7%)	21.4	24.2	24.2	25.2	26.1	25.8	30.0	30.9	32.0	29.2	31.7	34.1	37.1	40.2	43.6	44.1	47.8	51.8	56.1	60.9	
US Capital	4.6	6.1	7.4	3.2	4.0	20.3	23.8	22.2	22.3	23.8	17.5	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Japan	1.4	0.9	1.7	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
<i>Subtotal (3.3%)</i>	<i>27.4</i>	<i>31.2</i>	<i>33.3</i>	<i>28.4</i>	<i>32.1</i>	<i>48.1</i>	<i>54.7</i>	<i>53.0</i>	<i>53.1</i>	<i>51.2</i>	<i>46.1</i>	<i>38.4</i>	<i>31.0</i>	<i>32.3</i>	<i>33.7</i>	<i>33.0</i>	<i>34.4</i>	<i>36.0</i>	<i>37.5</i>	<i>39.2</i>	
Local Rev (7%gin)	10.1	12.1	14.1	17.0	18.4	19.7	21.1	22.5	24.1	25.8	27.6	29.5	31.6	33.8	36.2	38.7	41.4	44.3	47.4	50.8	
Rev fr cap Spd 15%						3.0	3.6	3.3	3.3	3.6	2.6	1.3									
Total Local Rev	12.1	14.1	17.0	18.4	22.7	24.7	25.8	27.4	29.4	30.2	30.8	31.6	33.8	36.2	38.7	41.4	44.3	47.4	50.8		
<i>Total Revenue</i>	<i>6.0</i>	<i>24.2</i>	<i>28.2</i>	<i>45.4</i>	<i>50.5</i>	<i>70.8</i>	<i>79.4</i>	<i>78.8</i>	<i>80.5</i>	<i>80.6</i>	<i>76.3</i>	<i>69.2</i>	<i>62.6</i>	<i>66.1</i>	<i>69.9</i>	<i>71.7</i>	<i>75.8</i>	<i>80.3</i>	<i>84.9</i>	<i>90.0</i>	
EXPENDITURE																					
Recurrent (7% gin)	29.6	36.8	36.8	37.9	39.4	42.2	45.1	48.3	51.6	56.3	59.1	63.3	67.7	72.4	77.5	82.9	88.7	94.9	101.6	108.7	
Capital	12.0	11.1	10.6	7.8	11.6	22.3	25.8	24.2	24.3	25.8	19.5	10.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
Maintenance of Cap Stock																					
IPSECO																					
Pension Funds																					
Interest Debt (10% p.a.)																					
<i>Total Expenditure</i>	<i>41.6</i>	<i>46.9</i>	<i>47.4</i>	<i>45.7</i>	<i>51.0</i>	<i>68.5</i>	<i>74.7</i>	<i>77.8</i>	<i>81.1</i>	<i>86.3</i>	<i>80.5</i>	<i>77.6</i>	<i>75.9</i>	<i>82.0</i>	<i>88.6</i>	<i>95.9</i>	<i>105.1</i>	<i>114.3</i>	<i>124.3</i>	<i>135.4</i>	
Other	-2.6	-1.2	-3.1																		
Budget Deficit (-)	-6.7	-4.8	-3.1	-0.3	-0.5	2.3	4.7	1.0	-0.6	-5.7	-4.2	-8.4	-13.3	-15.9	-18.7	-24.2	-29.3	-34.0	-39.4	-45.4	
Debt Level (-)	0.0	2.3	7.0	8.0	7.4	1.7	-2.5	10.9	-24.2	-40.1	-58.8	-83.0	-	-	-	-	-	-	-	-	

†

Source: External Audit Reports, NDMP Estimates, Compact Agreement

Table 4.3 shows the widening budget deficit from 2001 and, as such, the extent of the required financing just to maintain the existing capital stock, together with the capital improvements program funded by Compact monies outlined in the EDP, and existing Government services. The financing requirement is substantial and is shown more clearly in figure 4.1.

Figure 4.1: Projected Budget Deficit (\$'millions)



The figure shows that the budget deficit (the differential between total expenditure and total revenue) starts to widen significantly from around 2001. The budget deficit will add to the stock of debt each year from FY2001 (table 4.3). The figure also shows the level of local revenue. By 2010, based on the above assumptions, the debt to GDP ratio will reach just under 100 per cent and the debt service (interest/government revenue) ratio will reach nearly 40 per cent. The growth in debt clearly will not be sustainable, particularly given that funding will cease in 2010, making the situation much more serious.

The main cause of the deterioration in the budget is the relative decline in the recurrent grants from the US due to the use of a compounding factor which is only two thirds of the US GNP Implicit Price Deflator (IPD). This results in a substantial decline in US grants compared with previous recurrent grants. For example, if the inflation rate in Palau is the same as the US (that is 5 per cent in this example), the projected population growth is two per cent per annum, and the real per capita recurrent grant is maintained, an additional \$55 million would be required over the 15 year period. That is, the Government will have to raise an additional \$55 million to replace the loss of US grants just to maintain real per capita expenditure at FY1994 levels. The deterioration in the base scenario deficit is also due to the IPSECO repayments, additional pension fund contributions, public sector salary increase, increases in maintenance and services, and debt service on the increasing fiscal deficit.

It may be argued that the base scenario is overly pessimistic in that Government will respond by lowering expenditure. However, the extent of expenditure reduction is substantial. The task is made very difficult by the fact that a large proportion of Government expenditure is recurrent in nature and, of this, a large proportion is in the form of wages and salaries of civil servants. These expenditures will be very difficult to reduce. In such circumstances Governments will tend to reduce expenditures on items such as maintenance, pension contributions and capital equipment, rather than wages and salaries. This response adversely affects the future productivity of public investment and increases future liabilities. It is not a sustainable solution.

Because of the unsustainability of rising budget deficits (even if the deficits were able to be financed), mounting debt levels and likely financial crisis after 2010, there will be little choice but to make major policy adjustments without delay. Already the increase in recurrent spending in the FY1995 Budget will mean the significant erosion of Compact capital funds. From table 4.3, it can be seen that the budget deficit does not widen significantly until 2002. [It is likely to widen much earlier if any of the restrictive base scenario assumptions are relaxed such as moderate recurrent expenditure growth, or no additional capital spending other than Compact capital spending - both of which were exceeded substantially in FY1995. However, because the deficit will deteriorate rapidly after 2002, not to make steady adjustments now will be extremely costly if more substantial and sudden (crisis) adjustments have to be made later. If expectations of impending financial crisis develop, the required risk premium on potential private sector investments will increase sharply which will add momentum to the likely contraction. The example of FSM's experience with Compact funding should be noted. In a recent report by the Asian Development Bank on the FSM, the Bank states that:

"When those funds (Compact) decline or end in a decade, FSM will face unmanageable structural adjustment problems as real monetary income per capita could decline from \$1,050 in 1990 to \$350 in 2002, even on rather optimistic assumptions. Such a disaster can be avoided only by developing the FSM's economic potential in the meantime." (ADB, FSM, 1993).

Early adjustment will mean lowering the current optimistic expectations about the extent of Compact grants, managing Compact financed capital spending prudently, accepting very tight public expenditure controls and perhaps even real reductions in living standards now, and raising substantially more local revenue, but in a way which does not impede private development. This will allow greater domestic savings which can be redirected towards developing a productive base on which the economy can expand sufficiently to enable it to reach a sustainable economic growth path.

It is essential that project evaluation and design be undertaken rigorously, even if this means that projects will be delayed. These Compact funds are mostly once-only funds and are less than what was received in the past, and they will cease after 2009. They should not be wasted. While investment with funds' managers may be an appropriate short-term response, evaluation of the Master Plan recommendation for the establishment of a Palau Investment Corporation (refer to Chapter 6) should be considered. Any delays in the implementation of necessary policy reforms will exacerbate the likelihood of economic crisis in the future.

4.2.4 GDP PROJECTIONS

The base projection (shown in section 4.2.3) assumes that real per capita Government spending is maintained and the issue then is one of additional financing requirements (that is, additional to the Compact funding). If additional financing is not available, the variability in Government revenues and, consequently, Government expenditure will result in volatility in GDP growth rates. The effect on GDP of Compact funded capital spending, however is difficult to determine because of the limited national accounts framework in Palau, which prevents conclusions about past economic relationships, and the uncertainty of both project selection, performance and timing. Spending on large capital projects over a short period of time has, in the past, tended to involve substantial imports of equipment, labor and services. If this factor is coupled with relatively poor performance of the projects, then it is apparent why the effect on GDP growth has been low - that is, neither the initial spending nor its productivity have translated into much real, sustained growth in economic activity.

TABLE 4.4 GDP BASE PROJECTIONS (\$ MILLIONS, CURRENT PRICES)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Priv Con	39.9	42.7	45.7	48.9	52.3	56.0	59.9	64.4	68.6	73.4	78.5	84.0	89.9	96.2	102.9	110.1	117.8	126.0	134.9
Priv Con*	39.9	44.4	46.7	57.0	53.6	53.8	58.5	62.1	64.4	67.4	72.0	83.5	89.3	94.1	102.3	109.5	117.0	125.4	111.0
Gov Con	27.7	31.8	35.4	49.6	55.6	55.2	56.4	56.4	53.4	48.4	43.8	46.3	48.9	50.2	53.1	56.2	59.4	63.0	45.1
Priv Cap	18.3	19.6	21.0	22.4	24.0	25.7	27.5	29.2	31.4	33.6	36.0	38.5	41.2	44.1	47.2	50.5	54.0	57.8	61.9
Priv Cap*	18.3	18.8	21.5	29.7	24.7	24.5	26.8	28.6	28.5	29.3	30.7	38.2	40.8	43.1	46.8	50.1	53.6	57.4	51.3
Gov Cap	10.6	6.2	7.0	23.3	26.8	25.2	25.3	26.8	20.5	11.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Final Dem	96.5	101.2	110.6	159.6	160.8	158.7	166.9	174.0	166.8	156.9	149.6	170.9	182.0	190.4	205.2	218.8	233.0	248.9	210.5
Exports	42.4	45.4	48.5	51.9	55.6	59.6	63.6	68.1	72.9	78.0	83.4	89.2	95.5	102.2	109.3	117.0	125.2	133.9	143.3
Imports	45.0	47.6	52.0	75.0	75.6	74.6	78.4	81.8	78.4	73.3	70.3	80.3	85.6	89.5	96.4	102.8	109.5	117.0	98.9
GDP	93.9	99.0	107.1	136.5	140.8	143.6	152.1	160.3	161.3	161.2	162.7	179.8	192.0	203.1	218.1	233.0	248.7	265.8	254.8
GDP Gr-%	5.5	8.1	27.4	3.2	2.0	5.9	5.4	0.6	-0.1	0.9	10.5	6.8	5.8	7.4	6.8	6.8	6.9	-4.1	
Real GDP	10.4	3.0	21.4	-1.7	-2.9	0.8	0.4	-4.2	-4.9	-3.9	5.3	1.7	0.8	2.2	1.7	1.7	1.8	-8.7	

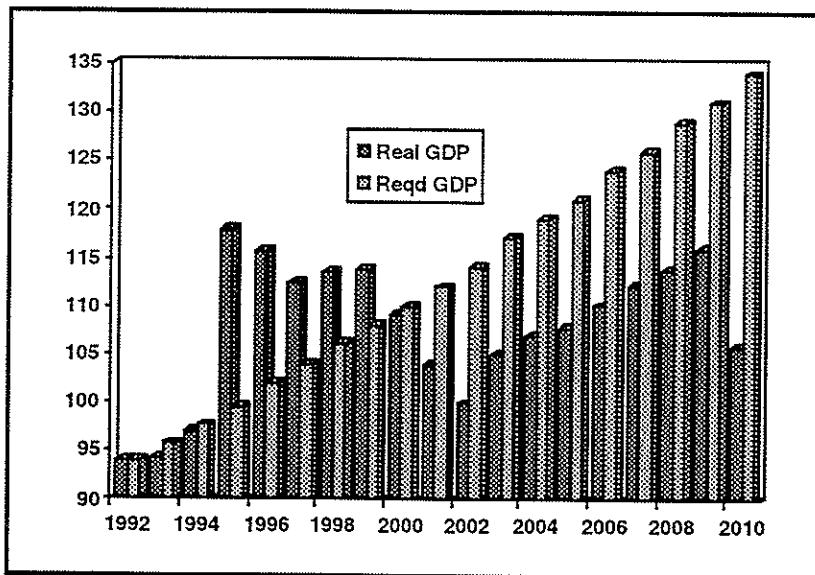
Source: NMDDP Estimates and GoP National Accounts, ESCAP, 1992.

Note: * Denotes adjustment for indirect feed-back effects from Compact spending.

Given past relationships and current policies, Table 4.4 shows an estimation of the effect on GDP growth over the planning horizon under current policies and assuming the Government is unable to obtain substantial deficit financing such that Government spending has to be reduced commensurately. The projections are in nominal terms because of the Compact partial inflation adjustment process. The projections assume the timing of expenditure shown in Table 4.3 and incorporate various economic relationships. In particular, import demand has been adjusted to take account of the past relationship between imports and Government consumption and investment. Similarly, private consumption and investment have been adjusted on the basis of the past indirect effects from Government spending. Underlying private consumption and investment are projected to increase by 7 per cent per annum. Exports of goods and services have been assumed also to increase by 7 per cent per annum.

Figure 4.2 shows the volatility in GDP in real terms over the planning horizon. Real GDP increases sharply in the 1995-99 period due to increased Government spending and the flow-on effects to private consumption and investment. Increasing imports, resulting from additional spending, to some extent, constrain GDP growth. The decline in Compact funded capital spending and the steady decline in recurrent support causes real GDP to decline sharply after 1999. Underlying growth in the economy lifts GDP levels moderately from 1999-2009, before it declines sharply after the cessation of US assistance. The Figure also shows the required real GDP growth rate to maintain current real GDP per capita if a 2 per cent per annum population growth is assumed.

Figure 4.2: Real GDP Base Projection (\$'m)



The population projection is based on the analysis shown in Chapter 14. Differing projections will change the results, although the trends are unlikely to be altered significantly. It has been argued that because most, if not all, of the growth in population in recent years has been due to foreign workers, the distribution of GDP per capita is more important. That is, if foreign worker unit costs can be held in check, continuing output growth should allow higher rates of GDP per Palauan citizen. However, while this is a valid argument, a lack of data prevents analysis of such distributional issues. In any case, it is highly likely that the supply of foreign workers will be positively related to conditions of employment and, as such, increased output could be expected to be associated with rising demands for improved remuneration and conditions of employment by foreign workers. Currently, a large proportion of foreign

workers in Palau are unskilled, however increasingly, new foreign workers are skilled employees, who will require higher returns. Palau will need to compete for skilled workers with those other countries which employ large numbers of these foreign workers. Therefore, comparisons using a 2 percent population growth figure would seem appropriate.

Figure 4.2 shows that real GDP increases above its required rate between 1995-99, but falls well below its required rate between 2000-2010. The difference in the areas above and below the required rate line is an indication of the decline in the real income levels of the population over the period. In 1992, real GDP per capita was around \$5,000. Despite the Compact spending, on the base projection above, real GDP per capita will decline to under \$4,000 by 2010. The decline in income per person is substantial and will occur against a background of rising expectations. The decline in income will also make it very difficult to allocate increased funds towards environmental protection and the enhancement of cultural aspects - objectives that most Palauans believe are essential.

It must be emphasized that, to lift GDP rates by overcoming the funding shortfall through increased domestic revenue efforts from existing taxes and charges, is not likely to be successful. This is because the existing tax structure is discriminatory and inefficient. Significant increases on this structure, given current risk perceptions, will cause private sector activity to contract. Similarly, if there is recourse to domestic financing through the banking system, private sector credit is likely to be constrained. Therefore, the increase in Government activity is likely to be offset by the decline in private sector activity, leaving economic activity overall (GDP) unchanged. If the resultant public spending is less productive than that which it replaced in the private sector, then the result could be a decline in GDP. The solution is to restructure the taxation and charging systems to make them much more efficient, thereby minimizing distortions to private production and consumption, and improve the performance of Government expenditure. These more consistent strategies will tend to lower private sector costs and the risk premium on investments in Palau, allowing the private sector to expand even though the tax and fee burden will have increased.

In a macro economic sense, the aim should be to develop fiscal and financing policies that smooth the adjustment path of the economy. Large disruptions to Government spending and revenue collections create substantial uncertainty and costs. Therefore, the policy response should be the accumulation of budget surpluses over coming years to enable the financing of budget deficits in latter years. This will allow the smoothing of the large peaks and troughs shown in figure 4.2. Micro economic reform strategies should then be utilized to lift the overall growth path of the economy to enable the realization of rising living standards.

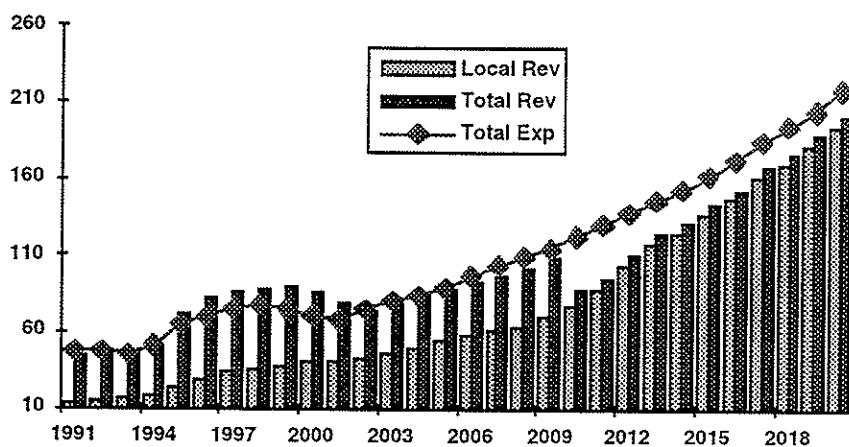
An alternative would be to seek additional foreign assistance and/or commercial offshore funding. While there is some scope for additional Japanese grants and technical assistance from some of the international agencies, this will not be sufficient to cover the shortfall. The GDP per capita levels in Palau are generally too high to access loans with substantial concessionality from institutions such as the World Bank and Asian Development Bank. Offshore borrowing at commercial rates is expensive and servicing requirements can become a significant burden if the subsequent spending does not perform sufficiently to cover these costs. In any case, problems in meeting current debt servicing requirements will make it difficult to obtain such funding in the near term, although some commercial funding is likely to be required in the medium term.

4.2.5 FISCAL POLICY PATH

Because of the sudden halt to US grants in 2009 and the resultant substantial reduction in Government revenue, there will be a need to obtain significant finance after 2009 to smooth the post 2009 adjustment path. To accumulate sufficient reserves in the interim so as to prevent a high level of borrowings from 2010 would not be feasible. This is because the necessary increased Government revenue demands would cause a contraction of private sector activity and lower overall GDP growth rates. To smooth the adjustment path, it will be essential that the Government run budget surpluses over the 1995-2001 period. The resultant accumulation of reserves can then be used to finance the expected budget deficits from 2002 to around 2011. Between 2011 and 2020, the Government will need to borrow substantially offshore - but the rate of new borrowings should be eased back each year over the period such that a sustainable debt to GDP ratio is attained by 2020 (around 25-30 per cent of GDP).

The above adjustment path is shown in figure 4.3 below:

Figure 4.3: Budget Adjustment Path (\$'m)



The adjustment path shown is achieved by:

- growth in Government expenditure of 5 per cent per annum between 1995-2020 or, given assumptions of 5 per cent inflation and 2 per cent population growth on average over the period, a real reduction in underlying per capita Government expenditure (less Compact capital expenditure) of around 2 per cent annum;
- growth in local revenue of 8 per cent per annum (3 per cent real growth) between 1995-2010 and 10 per cent per annum (5 per cent real growth) between 2011-2020;
- no major capital spending program that is additional to Compact capital spending allocations unless it can be obtained by donor grants and a slower distribution of capital spending over the Master Plan time frame (around \$10 million per year between FY1995-2000);
- continuation of a small amount of Japanese aid, and income from the trust fund of \$5 million per year, indexed to 5 per cent to maintain the contribution in real terms; and
- limited further increases in the public sector wage bill over the next 5 years.

It is essential that the Government move to implement increases in revenue, together with public expenditure restraint as soon as possible so as to bring recurrent spending into line with recurrent

revenue. Use of Compact capital funds to finance recurrent spending, as done in the FY1995 budget, will not only erode the capital funding base but will prevent the necessary build up in reserves for the post FY2002 period. It is imperative that these Compact capital funds be invested, either offshore or in Palau, including infrastructure, in such a way that these investments earn solid financial rates of return. This will enable the financing of an on-going capital program. So the first priority must be to close the recurrent spending-revenue gap.

Under the adjustment path, Government debt would rise to \$200 million by 2020, or around 27 per cent of GDP. The required level of budget surpluses and deficits is difficult to specify because it will depend on a myriad of policy adjustments - the timing of which is uncertain. However, the above fiscal path is based on the build up of reserves of around \$80 million by 2001 (trust fund excluded), the run down of those reserves by 2011 and then the accumulation of debt of around \$200 million by 2020. The net debt of the Government will be significantly less as the trust fund should have grown to around \$90 million (given a 10 per cent average return and a \$5 million per year distribution indexed at 5 per cent). The smoothing of the growth path is important as it will facilitate private sector development through the creation of a more stable and certain environment.

4.2.6 FISCAL POLICY AND ECONOMIC ACTIVITY

The expansion of fiscal policy over the 2002-2020 period, financed by domestic reserves and offshore debt, will prevent the economy from being affected substantially by the decline of Compact funding. The ability of the Government to obtain the higher level of revenue, while, at the same time, constraining expenditure, will depend on the implementation of the micro economic reform agenda of the Master Plan. This will include the development of a more efficient system of taxes and charges, an acceleration in private investment, much more efficient use of infrastructure, and higher labor productivity from both the private and public sectors. It is essential that substantial reserves be acquired in the early years of the Plan, otherwise it will be very difficult to obtain the necessary increase in offshore borrowings.

In addition, because of the absence of monetary and wages policies, fiscal policy will need to play a much greater role in the Government's economic policy management in relation to stabilization policy. The trajectories shown in figure 4.3 are trends and there is likely to be a number of exogenous impacts that will cause income fluctuations around these trends. Fiscal policy should be employed to stabilize the level of economic activity. This could be achieved by planning infrastructure spending to be counter cyclical. Alternatively, employment levels and/or the public sector wage bill could be varied to offset business cycle peaks and troughs, although this is a more difficult policy politically.

To facilitate the use of fiscal policy as a stabilization policy instrument, the Government should start to develop domestic financing instruments, such as treasury notes and bonds. These instruments can be used to offset seasonal liquidity variations, particularly important for the banking sector, and finance a portion of the deficit from domestic sources. The reserve levels of the banking system are currently high, so credit to Government could expand without significant adverse effects on the volume of credit to the private sector. However, use of these instruments to finance a large proportion of the budget deficit should be avoided because of the depressing effects on the level of private sector activity through upward pressure on interest rate margins. To issue these instruments successfully, however it is crucial that the Government lifts its financial integrity and its economic management to raise public confidence in the issue of Government securities.

Table 4.5 shows the GDP projections, including components of GDP for the period 1995-2010. The projections include both the recommended fiscal policy changes in the previous section, together with the increase in economic activity due to moderate success in implementing the recommended economic policy reforms of the Master Plan.

TABLE 4.5 GDP PROJECTIONS REFORM SCENARIO (\$'M)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Priv Con	39.9	42.7	45.7	49.4	53.3	57.6	62.2	67.1	72.5	78.3	84.6	91.4	98.7	106.	115.	124.	134.2	145.0	156.
Priv Con*	39.9	41.8	45.0	49.0	52.6	57.0	61.6	66.5	71.8	77.5	83.7	90.5	97.6	105.	114.	122.	132.9	143.5	155.
Gov Con	25.8	26.5	27.6	29.1	30.4	31.9	33.5	35.2	37.0	38.8	40.7	42.8	44.9	47.2	49.6	52.0	54.6	57.3	60.2
Priv Cap	18.3	19.6	21.0	22.4	24.6	27.1	29.8	32.8	36.1	39.7	43.7	48.0	52.8	58.1	63.9	70.3	77.3	85.1	93.6
Priv Cap*	18.3	18.3	21.8	24.3	24.5	26.9	29.4	30.5	34.3	36.2	44.5	47.6	51.7	57.2	63.6	69.5	75.0	82.6	91.8
Gov Cap	10.6	7.8	11.6	19.6	21.3	22.5	23.2	17.7	14.4	7.1	10.3	10.9	10.2	10.0	11.1	11.6	9.6	7.6	6.8
Final Dem	94.6	94.4	106.	122.	128.	138.	147.	150.	157.	159.	179.	191.	204.	219.	238.	256.	272.1	290.9	313.
Exports	42.4	45.4	48.5	51.9	55.6	60.6	66.1	72.0	78.5	85.5	93.2	101.	110.	120.	131.	143.	156.4	170.5	185.
Imports	45.0	44.4	49.8	57.3	60.6	65.0	69.4	70.5	74.0	75.0	84.2	90.2	96.1	103.	112	120	127.9	136.7	147.
GDP	92.0	95.4	104.	116.	123.	133.	144.	151.	162.	170.	188.	203.	219.	237.	257.	279.	300.6	324.7	352.
GDP Gr%	3.7	9.7	11.3	6.3	8.0	7.8	5.0	6.9	5.0	10.7	8.0	7.8	8.3	8.7	8.2	7.7	8.0	8.5	
Real GDP%	-1.2	4.5	6.0	1.2	2.9	2.7	0.0	1.8	0.0	5.4	2.9	2.6	3.2	3.5	3.1	2.5	2.9	3.3	
Defl 5%	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4		
Real GDP	92.0	90.9	95.0	100.	101.	104.	107.	107.	109.	109.	115.	118.	122.	125.	130.	134.	137.7	141.6	146.
Defl 2%	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4
Reqd GDP	92.0	93.8	95.7	97.6	99.6	101.	103.	105.	107.	109.	112.	114.	116.	119.	121.	123.	126.3	128.8	131.
GDP Base	93.9	94.3	97.1	117.	115.	112.	113.	113.	109.	103.	99.9	105.	106.	107.	110.	112.	113.9	116.0	105.
GDP Base %	0.4	3.0	21.4	-1.8	-3.3	1.3	0.4	4.1	-4.9	-3.8	5.2	1.7	0.7	2.2	1.8	1.6	1.8	-8.7	

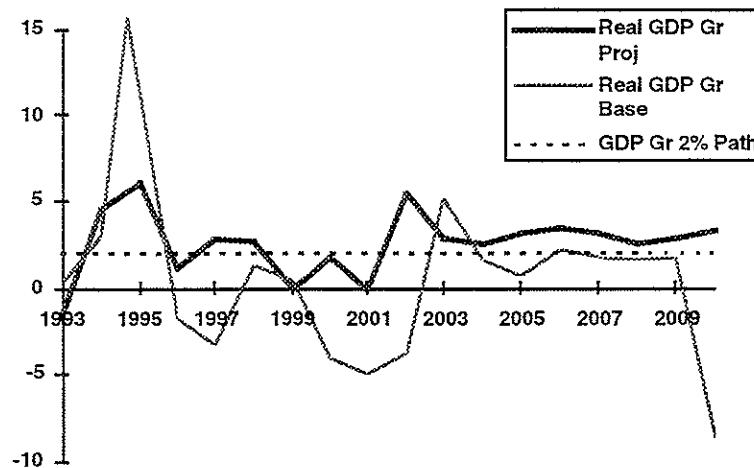
Note: * denotes adjustment for indirect feed-back effects from Compact spending

The projections include the following assumptions:

- an inflation rate of 5 per cent per annum over the projection period;
- the achievement of Government revenue and expenditure targets shown in the previous section;
- indirect feed-back effects from Government expenditure on private consumption, investment and imports based on past relationships;
- access to the necessary offshore finance to cover the budget deficit from 2012;
- average growth in underlying private consumption of 8 per cent per annum, private investment of 10 per cent per annum and exports of 9 per cent per annum over the projection period;
- modest improvement in labor productivity;
- population growth of 2 per cent per annum over the period, which includes the continuation of the inflow of foreign labor, although at a more moderate rate (refer Chapter 14); and
- moderate growth in tourism investment and expenditure, modest growth in marine resources output, continuing relative decline in agriculture, and maintenance of the relative share of GDP for manufacturing.

Figure 4.4 shows the base GDP growth projections against the more stable and higher adjustment path shown in table 4.5 based on the recommendations of the Master Plan.

Figure 4.4: Real GDP Growth (% pa)



Over the 1995-2010 period average GDP growth per year is 2.5 per cent, compared with under 1 per cent on average in the base projection (that is, based on current policies). With a population projection of 2 per cent per annum, real GDP growth per capita will expand at an average growth rate of 0.5 per cent. This compares with the significant decline in per capita GDP growth in the base period. The more stable and higher growth path of the Master Plan will also result in sustainable GDP growth after 2009 when Compact funding ceases, compared to the base projection which shows a sharp decline at the end of this period.

4.3 STRATEGY AND PROGRAM OUTPUTS: FISCAL MANAGEMENT

4.3.1 STRATEGY: FISCAL MANAGEMENT

Obtain sufficient resources in an efficient manner to meet the Government's budget and policy requirements, increase the productivity of Government expenditure, and develop fiscal policies to smooth the adjustment path of the economy to lower uncertainty and build financial integrity (strategy 3.4.2.1).

To achieve this strategy, the Government will need to take a number of critical actions. In general, these include:

- the development of clear functions and expertise in the Ministry of Administration for fiscal and project management, including expenditure control and performance, efficient revenue collection, financing instruments and fiscal stabilization policy;
- lower people's expectations of the role and extent of Government involvement in the economy and the short-term benefits of Compact funds, and encourage the role of the private sector in development; and
- spread out the period of Compact capital spending, evaluate the projects much more thoroughly, increase financial returns to enable a permanent capital fund to be established, and maximize local involvement in capital works programs.

4.3.2 PROGRAM OUTPUTS: FISCAL MANAGEMENT - INSTITUTIONS

4.3.2.1 Economic Policy Consultant Recruited

An Economic Policy Consultant should be recruited to assist the Division of Economic Development with macro economic and micro economic policies. The position should be advertised internationally and funding should be sought from international agencies (for a position description refer to Annex 13.1).

The macro economic policy functions under the Division of Economic Policy should concentrate on policy and projections, including policies related to fiscal, wages, monetary and exchange rate issues. Specific functions would include assisting the budget area with forward estimates and revenue projections, coordinating economic policy for the Government which should be presented in regular (every 1-2 years) Government strategic economic statements, debt management, and development of the financial sector.

Micro economic policy functions should include sectoral policies and program/project coordination and prioritization. While specific policies should be implemented by respective Ministries, policy evaluation and coordination should be the responsibility of this Division. These policies will focus on the leading sectors - tourism and marine resources and, to a lesser extent, agriculture and manufacturing. The Division should be involved in monitoring the performance of PSIP investments and coordinating funding if from donors or multi lateral institutions. The Division should liaise with the Office of Planning and Statistics to develop data gathering guidelines for the lead economic sectors.

The Division should also have responsibility for industry policies such as any incentive schemes or protective policies, and to provide assessments for the Foreign Investment Board. As such, the Division will need to have

strong micro economic and project evaluation skills. Tax policy issues should also be a function of the Division. In this regard, the Division should play a central role in the taxation reforms presented in Chapter 5. (Technical assistance in this regard should be sought from the ADB and UNDP).

4.3.2.2 Office of Planning and Statistics Strengthened

To enhance resources and focus, the Office of Planning and Statistics additional positions with responsibility for the compilation and regular publication of national accounts data will be required. Other data that should be produced as a priority include population and labor market data, consumer prices, balance of payments, monetary survey and Government financial statistics. (Technical assistance could be sought from the Australian Agency for International Development - AusAID) to provide expertise and training for Palauan staff.

4.3.3 PROGRAM OUTPUTS: FISCAL MANAGEMENT - BUDGET POLICY AND MANAGEMENT

4.3.3.1 Fiscal Targets Established

As a priority, the recurrent spending-revenue gap should be removed, with Compact capital funds (including the remaining section 215 inflation adjustment grants) being targeted towards revenue producing capital investments only. Comprehensive fiscal data should be produced within an internationally recognized budget format to assist in fiscal planning and improved accountability. Over the 1995-2002 period, significant budget surpluses should be accumulated through expenditure restraint and increased revenue efforts. The implementation of the capital program should be spread out to ensure a relatively smooth real spending pattern on a sustainable basis. After 2012, this is likely to mean the acquisition of substantial offshore debt to finance the resulting budget deficits once Compact recurrent funding ceases.

Short and longer term budget financing instruments should be developed in consultation with domestic financial institutions. Short term instruments should be targeted towards both debt and liquidity management.

4.3.3.2 Output Budgeting System Implemented by the Bureau of Program Budget and Management

To improve public accountability, budget control and efficiency of public spending, a phased introduction of a system of output budgeting should be implemented by the Bureau of Program Budget and Management. Initially this should include the development of a 3 year rolling forward estimates system showing recurrent and capital components. The forward estimates should be presented with the annual budget. The capital component should be linked to the Public Sector Investment Program. Ministries should gradually be given more autonomy to manage their budgets with expenditure control being exercised through a running-cost control measure which would allow transferability between operational costs. Ministries should also be allowed to carry over unspent budget allocations into the next fiscal year to discourage end-of-year waste. Some user charges could be retained by Ministries, provided cross subsidies were minimized. The payment cycle should be computerized to facilitate more efficient Ministry control over payments and central control over commitments.

Over time, expenditures should be classified in terms of quantifiable outputs, whereby Government would purchase respective outputs from Ministries. These outputs can be bench marked for performance measurement. This would enhance the efficiency of expenditure by increasing competition and allowing public sector managers to manage their resources in a more commercial framework. The Division of Economic Development should be involved in performance measurement and bench marking issues. (The Asian Development Bank and New Zealand and Australian Governments have provided technical assistance to Pacific island countries on these issues in recent years).

4.3.3.3 Strategic Plan for Ministry of Administration Prepared

As a priority, to facilitate the required restructuring and achieve enhanced performance, the Ministry of Administration should develop a strategic plan for the Ministry. The plan should be consistent with the Government's overall strategic goals which should be shown in the regular Strategic Economic Statements. The plan should detail job descriptions and responsibilities for all positions. Position outputs should be measurable to enable the evaluation of performance. The Minister should be held accountable for the outputs of the Ministry which should be clearly defined. (The same process should apply to all other Ministries and is shown in greater detail in Chapter 13).

4.4 MONETARY DEPENDENCE

4.4.1 SITUATION ANALYSIS

Palau does not issue its own currency and uses the United States dollar (US\$). There are no restrictions on the use of the US\$ and no capital controls. A number of benefits derived from use of the US\$. However, the utilization of the currency of another country has important implications for the conduct of Government policy. The independence of Government policy in Palau from US developments is reduced dramatically, and this has and will increasingly have significant adverse effects on the level and structure of economic activity in Palau.

Utilization of the US\$ means that Palau will import the interest rate structure of the US and the Government will not be able to influence domestic interest rates for policy purposes. The economy of Palau is very different to that of the US and will continue to diverge over coming years as US Compact funds decline. The economy is reliant on tourism and marine resources' exports and its markets for these products and services are increasingly being directed towards Japan, Taiwan and the Philippines. For instance, in 1993, Japan accounted for around 46 per cent of all tourist arrivals and 90 per cent of the tuna exports. Tourist arrivals from the US accounted for only 19 per cent. In terms of imports, while the US is still the dominant supplier, Japan has increased its penetration substantially in recent years.

This industry structure will mean that Palau will be increasingly affected by the business cycle of Japan and less by that of the US. It means that following US interest rate cycles is likely to be inappropriate, given that Japan and the US tend to have divergent business and monetary cycles. That is, interest rate changes could be opposite of what might be required for stabilization policy - increasing in Palau at a time of economic contraction or decreasing in times of economic expansion. Following US interest rates could add to the magnitude of booms and slumps in Palau, and add to business uncertainty and the risk premium facing investors.

By not issuing its own currency, the Government foregoes a significant level of revenue. This is estimated to be just under \$1 million per year currently. The experience of the Cook Islands (which is a similar country to Palau in size and industry structure) clearly shows the benefits that can be gained by a small country issuing its own currency (although the pitfalls were shown clearly in the Cook Islands in 1994-95, when the indiscriminate issue of currency led to a currency crisis). There are a number of safeguards that need to be in place, but these are feasible in Palau over the medium term.

The exchange rate is the most important price in an economy. It is a major determinant of the domestic price of traded goods and services, the value of transfers and, consequently, the competitiveness of export and import competing industries, and the magnitude of income flows. As such, use of the US\$ as the

currency of Palau will mean that the Government will not be able to use exchange rate policy as a means of promoting international competitiveness and exports. For an emerging nation, this will have serious consequences on industry structure, the level and type of exports, income distribution and economic growth.

Increasing the competitiveness of the Palauan economy is a major goal of the Master Plan. Given the very small size of the Palauan domestic market, the only feasible way to expand the private sector is to expand exports and import-competing goods and services production. To achieve this, it is essential that producers have internationally competitive cost structures.

While Palau currently does not have a significant balance of trade deficit because of the growth in tuna exports over recent years, it does have a substantial balance of payments deficit if grant funds from the US are excluded. This reflects the fact that a large part of the earnings from tuna exports is repatriated offshore. As Compact funding from the US declines, Palau will develop a significant balance of payments deficit. This will manifest itself in falling reserves in the banking system which will result in a contraction of private sector credit, higher interest rates and lower import demand. These factors will cause a contraction in income levels. Therefore, to avoid an inevitable liquidity squeeze and a contraction in income levels, it is essential that the traded goods sector expands.

However, in a number of areas this will be difficult because use of the US\$ has increased the real exchange rate for certain traded goods, particularly those that are labor intensive (that is, with respect to Palauan labor) such as agricultural exports. Because the Government has been unable to engineer a devaluation, the response from business has been to employ low-wage foreign labor to restore competitiveness. The competitiveness of domestic traded goods could be expected to deteriorate if the domestic inflation rate remains higher than that of the US and/or if the US\$ commences its cyclical upswing (which has some likelihood if long run purchasing power parity theories hold). Consequently, the use of the US\$ is likely to be an important reason why a number of industries have either contracted or not been established.

To offset the loss of discretionary exchange rate policy, it is possible to use a range of measures to replicate the effect of a devaluation on competitiveness, even in the absence of an independent currency. A combination of real wage declines, import taxes and export subsidies can produce the necessary change in relative prices of traded and non-traded goods. In a recent Asian Development Bank report on the FSM (which also utilizes the US\$), it was recommended that a devaluation be simulated by raising tariffs on imported goods and then implementing a system of export subsidies together with a duty drawback scheme (ADB, 1993). However, the difficulties of applying such measures in a consistent and non-distortionary manner should not be under-estimated. Most policy interventions of this sort in the Pacific have produced significant company specific distortions that have ultimately hindered competitiveness.

Overall, in using the US\$ as legal tender, there are a number of costs for Palau, including:

- the loss of control over monetary policy and in particular the determination of domestic interest rates, due to the inability to control the money supply;
- the importation of interest rate trends from the US, which increasingly will be inappropriate in offsetting the Palauan business cycle, particularly if US interest rates increase substantially in the upswing of this current US business cycle;
- the loss of potential seigniorage revenue (revenue earned through the issue of currency as non-interest bearing debt), which may be significant for a small country like Palau; and

- most importantly, the loss of the option of using the exchange rate as a means of promoting international competitiveness and expanding the export and import-competing sector.

However, the necessity of adopting a fixed exchange rate would place limits on the extent of interest rate independence and it may prove difficult to achieve a real devaluation of the exchange rate due to the role of external transfers and the dominance of non-traded goods by the public sector. There are also a number of costs in adopting an independent currency which may be significant:

- the introduction of monetary financing options for the Government may introduce macro economic instability because of likely Government propensities towards increased debt;
- increased investor uncertainty associated with the ability for discretionary exchange rate changes may outweigh any benefits from an independent exchange rate policy;
- Palau is unlikely to have the human resources to adequately staff a central bank or some form of currency monitoring authority; and
- currency risks may increase substantially if a newly introduced currency is poorly managed.

4.5 STRATEGY AND PROGRAM OUTPUTS: MONETARY POLICY

4.5.1 STRATEGY: MONETARY POLICY

Reduce uncertainty and business risk by establishing a stable, but competitive macro economic environment (strategy 3.4.2.2).

4.5.2 PROGRAM OUTPUTS: MONETARY POLICY - EXCHANGE RATE

4.5.2.1 US\$ Utilization Maintained and Monitored

The US\$ should continue to be used in Palau because there is no expertise to evaluate the magnitude of the loss in competitiveness or the effects on interest rates, and no expertise or institution that could administer the arrangements for currency issue and control. In any case, any change in the currency arrangements would require US approval under the Compact Agreement. The risk to investor confidence and financial stability would be too great to contemplate any early move to implement an independent currency.

Over the medium term, the likelihood of substantially higher US interest rates, a possible slowing in tourist numbers, lower tuna prices and volumes, and declining US grant funds could result in a substantial deterioration in the balance of payments. Given the difficulty Palau will have in obtaining offshore concessional or commercial finance, this deterioration can only be avoided by an increase in exports and/or import replacement production. But to achieve this, a competitive exchange rate may need to be adopted.

The Government, therefore, should allocate resources in the Division of Economic Development to develop the necessary statistical base (consumer prices, export prices, exchange rates, interest rates, balance of payments statistics, sectoral outputs etc) to monitor the costs of US\$ use. If the costs are substantial or look like they will become substantial, then Palau should move to establish its own currency. As an intermediate step, Palau could issue its own currency, back it by US\$ reserves (prescribed in legislation) and allow both currencies to trade freely in the Republic at a 1:1 ratio (that is, the early Cook Islands model). A small independent Currency Board could be established to manage the issuance and control of the currency, and ensure the legislative reserve backing remains in place. The Board should be funded out of the seigniorage earnings. Depending on the success of the domestic

currency issue and the integrity of the financial system and Government economic and financial management, over time, Palau could introduce a differing exchange rate pegged to its major trading partners. The setting of the initial rate would allow scope for a major adjustment in relative prices that would reduce non-traded goods and services prices (particularly public sector real wages) and increase returns to the traded goods and services sector.

4.6 LABOR MARKET

4.6.1 ISSUES

An analysis of the labor market structure and trends is shown in Chapter 14.

Notably, there are three major factors that have impacted on the labor market in Palau and will continue to impact on that market. These factors are:

- unrestricted access to regional and, to some extent, US labor markets which have resulted in around 4,000 Palauans working offshore;
- substantial US recurrent funding assistance which has supported relatively high civil service wages and employment levels; and
- generally unrestricted importation of low wage foreign labor, particularly from the Philippines and China, which has suppressed private sector wage levels and lowered the incentive for private Palauan employment.

Following Compact Agreement, citizens of Palau now have unrestricted access to the US labor market. In fact, Palauans have generally had access to the US labor market in the past on an informal basis because of their Trust Territory status. This has affected the Palauan labor market significantly and the resultant industry structure in Palau. It means that there is an effective floor on real wage rates in Palau, particularly for more mobile, skilled workers. While the wages floor would be expected to be lower than in the US because of the costs (personal and financial) associated with emigration, the differential would probably not be substantial.

The existence of such a floor means that any Government policies that tended to reduce skilled wage rates would fail because such workers would simply emigrate. The workers that would be retained under such policies would be of lower skill and/or lower motivation and productivity. These unskilled workers are then forced to compete against low wage foreign labor. Because of the high *reservation income* Palauans not employed in the higher paid public sector have generally not tended to apply for vacancies in the Palauan private sector. Unskilled unemployment is increasing, although there are only anecdotal reports on this trend.

Trends in Palau over past decades have shown that the majority of Palauan tertiary graduates from US institutions have emigrated to the US and not returned to Palau. This may be a manifestation of a common trend towards centers of economic activity that has occurred in most smaller populated regions within most countries (that is the steady drift of population to the cities). More importantly, however it is likely to be the result of the labor market structure in Palau that has altered incentives. Another important factor is also likely to be related to significant customary obligations which have encouraged some adversely affected Palauans to emigrate. While customary obligations are declining as Palau becomes

more Westernized, it is a cause of tension between those feeling constrained and those seeking to protect Palau's cultural heritage.

4.6.2 PUBLIC SECTOR STRUCTURE

In Palau, the large inflow of US grant funds, the lack of associated performance requirements and general cultural attitudes towards redistribution, have resulted in the compression of wage scales in the public sector, and a dichotomy between wage levels and output or productivity levels. Consequently, skilled public sector wage levels are low by US standards, while unskilled wage differentials are much narrower. With little evaluation of output in the public sector, performance of skill levels has not been important and, therefore, there has been no requirement for reward/skill/output linkages. There are also very few sanctions on poor performance, with life time employment arrangements and few dismissals or demotions. Consequently, the level of productivity in the public sector from skilled workers is not high compared with skilled Palauans living offshore.

Unskilled citizens tend to be less mobile. Compact implementation will likely result in higher emigration of skilled Palauans to the US, which could mean low and declining skill levels remaining in Palau - without any corresponding downward adjustment to wages. Therefore, to attract and hold skilled Palauans in the public sector, wage rates for skilled positions need to be lifted substantially, while remuneration for lower skilled positions will need to be reduced, thereby maintaining budget constraints. Importantly, bureau outputs need to be evaluated rigorously such that the payment of higher salaries is related to productivity, and sanctions must be implemented for poor performance. To ensure a continuation of impartial advice in the public interest in a framework that enables sanctions to be imposed, a safeguard or appeal mechanism would need to be developed with more rigor.

There will be little choice in Government policies over the medium term, in this respect, because the Government will not have the funding to be able to maintain the continuing growth in its public sector wages budget. Yet it will be required to lift the performance of this sector in support of private sector growth.

4.6.3 PRIVATE SECTOR WAGES AND EMPLOYMENT

In terms of the private sector, wages are much lower than the public sector. Palauan wages in the private sector averaged \$2.59 hour in 1990 which compares with \$4.62 hour in the public sector, \$1.48 hour in the non-Palauan private sector, and \$7.07 and \$5.56 hour for Palauans employed in Guam and CNMI, respectively (refer table 14.3, Chapter 14). This reflects the flow through of grant funding into public sector wages which has caused a widening in wage differentials. It also reflects the fact that the unrestricted importation of low-wage foreign workers has suppressed unskilled wage levels in the private sector.

The high relative public sector wages in Palau have increased expectations and lowered motivation to work in the Palauan private sector. Life-time employment conditions in the public sector and consequent inability to dismiss poor performers have meant that work standards and productivity are low and, given the very high public sector employment levels (nearly 50 per cent of Palauan employment), this has set a low benchmark for the country's work attitudes. Life-time employment conditions have also meant that there are few opportunities for young Palauans to be employed in the public sector, regardless of their

level of enthusiasm or skills' training. In the private sector, the lack of motivation of employees, high absenteeism and generally low productivity are supported by strong anecdotal evidence from the vast majority of private sector employers.

The easy access to the labor markets of Guam and CNMI and the higher wages have meant that there is a substantial incentive to emigrate to these areas. This certainly has been the case with around 4,000 Palauans now working offshore. Compact implementation will ensure that unrestricted access to the US labor market will continue, and numbers emigrating could accelerate.

The sensitivities for some Palauans related to working with foreigners, has resulted in major sectors of the economy that are now totally dominated by foreign workers (construction, garments, hotel and restaurant workers, domestic workers). All foreign worker positions have to be advertised locally before they are filled. However, low wage rates (compared with the public sector), high *reservation incomes* and cultural issues have generally meant that no Palauan has applied for these positions. As a consequence, there is now considerable under employment of the Palauan population, concentrated in the unskilled.

4.6.4 COMPETITIVENESS

In terms of macro economic policy, the existence of a wages floor means that the reduction of general wage rates cannot be used as a policy instrument to improve competitiveness. It will simply lead to emigration of skilled Palauans. However, the current labor market structure can persist only as long as US grant funds continue to support an expanding public sector and as long as Palauan and foreign businesses are allowed to continue to import low-wage foreign labor with minimal financial penalties. These factors allow the large public sector to continue to gain pay increases and private business to employ increasing numbers of foreign workers to remain competitive.

In fact, given these conditions, coupled with the use of the US\$, there is little choice for businesses but to attempt to lower wage costs and increase productivity to remain competitive. If these factors are included with the taxation regime which favors low-value added industries, there is also little choice in business structures but to seek low wage, minimal capital industries (see Chapter 5), such as garment factories employing cheaper foreign labor. Given these determinants, it is not surprising that private sector development employing Palauans has been minimal, as there is no incentive for employers or employees to do so. The problem is related to US grants, use of the US\$, US labor market access, taxation structures, and use of relatively large numbers of low-wage foreign workers which have altered incentive structures.

The problem now for Palau is that, as Compact funding declines over time, one of these major supports will be removed. On existing policies, with the continued use of the US\$ and unrestricted access to the US labor market, the decline in US funding will exacerbate the current trends towards skilled Palauan emigration and increased use of foreign labor in the private sector. This is because, on current policy settings, as the public sector is squeezed for resources, public sector real wages will decline, fueling emigration and, as the taxation burden on the private sector is increased, additional low-wage foreign workers will be required to maintain wage competitiveness.

Under current policies and, given the projected growth in the economy, particularly in tourism, the demand for foreign workers will continue to accelerate. But this will occur against a background of a

declining Palauan participation rate and higher Palauan unemployment concentrated in the unskilled who will have difficulty emigrating. The increase in social tension will become even more apparent.

The solution is not to impose restrictive policies such as minimum wages, industry protection or bans on certain employment, coercing employers to take on unproductive Palauan labor, or an expansion of the civil service. The solution is to change incentive structures in the areas which affect the labor market. This will require a comprehensive and coordinated approach.

Reforms should focus on four areas:

- the public sector has to be made less attractive for unskilled and semi skilled entrants (that is, those workers who will have difficulty emigrating);
- the private sector has to be made more attractive for unskilled workers without imposing higher costs on employers, and skill levels overall need to be increased enabling higher productivity and higher wages to be paid;
- recruitment of foreign workers will have to be made less attractive but implemented in a way that benefits Palau, not foreign workers; and
- policies that affect industry structures will need to be changed to facilitate industries that contribute higher valued added. In Palau, this is likely to mean higher capital intensity, thereby allowing higher labor productivity, and improved employment opportunities and higher wages for semi skilled workers thus slowing emigration levels of these workers.

Minimum wage laws are not recommended because such increases are not related to productivity, raise business costs and result in a reduction in (Palauan and foreign) employment. In addition, the benefit of the increase in wages will simply be taken by the foreign workers. In the event that minimum wage legislation becomes a reality, and it is felt that foreign workers may repatriate the windfall gains, then foreign workers should be subject to a special wage tax which appropriates part or all of their minimum wage increase to the Government.

4.7 STRATEGY AND PROGRAM OUTPUTS: LABOR MARKET

4.7.1 STRATEGY: LABOR MARKET

Reorient labor market incentives and manage the inflow of foreign labor to achieve sufficient growth in employment levels in the private sector in Palau, particularly in more highly remunerated and skilled positions, to limit unemployment and the attractiveness of emigration, support a higher quality of life and a more competitive private sector, and reduce social conflict.(strategy 3.4.2.3).

4.7.2 PROGRAM OUTPUTS: LABOR MARKET

4.7.2.1 Public Sector Remuneration Restructured

The attractiveness of public sector employment in unskilled or semi-skilled categories needs to be reduced, and performance of the whole public sector needs to be enhanced within the Government's budget constraint. This is achieved by maintaining a ceiling on the Government's real wage bill for five years, but within this ceiling:

- increase the level of real remuneration of senior civil servants and, at the same time, make these positions more accountable for output and performance through a strategic planning process and staff contract system;
- reduce, over time, the level of real remuneration for less skilled civil servants and expand the classification levels to orient employees' demands toward promotion rather than general wage increases;
- contain general pay rises to civil servants in the immediate years following Compact implementation, with any future general pay rises being tied to productivity improvements and not inflation; and
- establish policies to facilitate the reduction in civil servant numbers through improved procedures to dismiss persistent non-performers, introduce appropriate redundancy packages, retraining schemes etc.

4.7.2.2 Quality and level of Private Sector Employment Increased

The attractiveness of private sector employment needs to be enhanced by:

- providing taxation incentives to unskilled private sector employment through an increase in the non-tax threshold (refer Chapter 5);
- improving education and training aimed at industry skill requirements (refer chapter 14);
- use of exchange rate policy (if Palau develops its own currency) which would provide scope for a devaluation. This would reduce, through inflation, real public sector wages relative to private sector wages in export industries such as tourism which can pass on the benefit of devaluation (refer section 4.5).

4.7.2.3 Foreign Worker Fee Introduced

The attractiveness of employing foreign workers needs to be reduced through an annual fee set initially at \$250 - on all foreign workers regardless of employer. Standard working conditions and practices to cover Palauan and foreign workers should be enforced. If the policies proposing full user fees for Government services (shown in Chapter 6) are not implemented, the foreign labor fee should be applied to all accompanying dependents. The fee could be absorbed into the worker permit system.

4.7.2.4 Capital Investment Promoted

Investment, particularly in more capital intensive industry or higher value-added industry, which requires higher skill levels should be promoted. This will tend to create opportunities for higher paid Palauan employment. This

can be achieved by creating a business and economic environment that is stable, with an efficient taxation system, low input costs, availability of land and finance, and reliable and efficient infrastructure services. Any concerns about the pollution effects of capital intensive industries should be overcome by the environmental controls recommended in Chapter 12. The Foreign Investment Board should take the lead role in promoting investment (see 4.9.2.2. (b)), supporting other sectors and Foreign Affairs representatives with key information about processes and post-approval, and targeted information about Palau.

4.8 FOREIGN INVESTMENT

4.8.1 SITUATION ANALYSIS

Because of the difficulty Palau will experience in obtaining foreign assistance and offshore commercial loans and, given that the domestic financial sector is undeveloped, much of the expansion of investment in the private sector will have to come from foreign equity investments. Palau will have to change its current relatively inward-looking and protective strategy towards foreign investment to one that actively encourages such investment. To achieve this strategic change, there will need to be a number of changes to the current policies and institutional arrangements which are not conducive to the attraction of quality foreign investment.

Under the Act, all foreign investors are required to apply to the Foreign Investment Board (FIB) for a Foreign Investment Approval Certificate (FIAC) before directly or indirectly operating a business. The FIB comprises a seven member board appointed by the President. The FIB reviews and evaluates each proposal against the objectives of the Foreign Investment Act. The objectives of the Act focus on economic need, current availability in Palau, impact on existing activities and employment, financial capacity, technical and economic viability, and impact on social and cultural values.

Applications are required (s108-7) to be circulated to other relevant parties (respective State Government, President, Chamber of Commerce, OEK House of Delegates/Senate, other concerned individuals) for comments. The Board determines the terms and conditions for operating under the FIAC, including scope of activity, scope of raw materials and natural resource use, use of local supplies and services, ownership or management participation by locals, training programs for locals and duration of the FIAC. Licenses are normally issued for between 5-25 years, depending predominantly on the scale of the project. The Board is responsible for monitoring and enforcing compliance under these terms and conditions.

Under the Act foreign investment is restricted to a minimum of \$500,000 or 20 per cent Palauan employment. The aim is to protect small Palauan businesses and encourage Palauan employment. Most businesses are issued licenses on the basis of the 20 per cent employment criterion, with most investments being below the \$500,000 minimum requirement. In an attempt to protect businesses that are within the capacity of Palauans, the following businesses (called protected businesses) require at least partial Palauan ownership (s105):

- wholesale or retail trade;
- land and water transportation including tour, fishing and diving guides;
- equipment rental, including equipment for land, water and tourist uses;
- handicraft and gift shops;
- bakeries;

- bar services not located in a restaurant or hotel (defined to be at least 50 rooms);
- travel agencies;
- manufacturing of products now being produced by wholly owned Palauan businesses;
- commercial fishing for other than highly migratory species; and
- any other business as determined by the Board.

From January 1994, the local ownership clauses of the legislation were amended, changing the previous requirement for a Palauan ownership interest to an exclusive reserve for Palauans in the following areas:

- wholesale or retail trade;
- all land transportation including bus services, taxi services and car rentals;
- tour guides, fishing guides, diving guides and any other form of water transportation services;
- travel and tour agencies; and
- commercial fishing for other than highly migratory species.

Existing license holders with foreign interests in these activities will be required to divest their interests when the license expires or is due for renewal. This will adversely affect a number of existing foreign businesses or foreign interests. Further, if the Board is of the view that the capital investment and technical and managerial skills required for the proposal are within the capacity of citizens, it cannot by law grant a FIAC. These recent changes, together with the other constraints to investment stated in this report, have resulted in foreign investment applications declining significantly over recent years.

To promote ownership in non-protected industries, corporations operating under a FIAC must offer shares of stock for purchase by Palauan citizens. Businesses must by law operate only within the scope of business activities as permitted under the FIAC. Amendments can be requested, although the legislation does not permit the Board to allow substantial divergences. Amendments are more likely to be granted for business expansion, although a new license will be required if the business is expanding into new areas. The sale of a business or interest in a business will require FIB approval to transfer the FIAC. This is not automatic and the FIAC is not separable from the business operations defined.

4.8.2 EVALUATION OF CURRENT POLICY

Evaluation of current policy is difficult, although it is clear that there is insufficient monitoring and feedback and that some intentions of the foreign investment policy are not being carried out. The assessment of outcomes based on the stated objectives of the Act is problematical because the objectives shown in the legislation would appear conflicting. The promotion of foreign investment conflicts with:

- the goal of increased protection of investments that are judged to be within the capacity of Palauans;
- the detailed information required; and
- the pervasive controls that are/can be exercised by the FIB.

Any evaluation must also take account of the degree of compliance and the cost of avoidance which, in part, depends on the allocated budget of the FIB. These two measures of performance are inter-related, in that, confusing legislative objectives and inappropriate controls can lift the FIB resource requirements and raise the cost of compliance to business, thereby increasing the incentive to evade the law. Therefore, inappropriate legislation will raise the cost of enforcement.

Many of the problems confronting the FIB result from the legislation it has to administer which is restrictive and confusing, and which allows the Board little discretion with respect to applications or amendments to applications. The Board itself has requested comprehensive amendments to the Act to redress issues of avoidance and lack of compliance.

(a) *Local Ownership and Protected Industries*

The exclusion of foreign interests in major categories of the economy and the 1994 amendments to the legislation to increase protected sectors will not increase Palauan employment over the medium term. While protection of certain industries or sectors for a short time may help establish local businesses during the start-up phase, over the medium term there are strong negative effects on the country's overall welfare. The increased protection distorts the allocation of resources and significantly reduces competition - the major force in the development of most developed market economies (Porter, 1990; Industry Commission Australia, 1990).

For instance, the protection of retail and wholesale outlets from outside investment is likely to cause an increase in retail prices which raises business input costs (especially in tourism) and the cost of living for all citizens. Local and foreign hotel owners will be faced with higher costs, loss of competitiveness and, therefore, loss of business and employment to other tourist destinations. Consumers will spend less on other items which will slow employment elsewhere in Palau.

In a recent study of Pacific island economies, the World Bank (*Pacific Island Economies: Towards Efficient and Sustainable Growth*, 1993) concluded that:

"In most island economies, the main problems relate to inequity in treatment of potential investors. To inject a greater measure of dynamism into the private sector, the policy environment must be transformed to ensure competition, transparency and equality of public treatment."

(b) *Amendments and Retrospectivity*

If the legislation can be amended easily to exclude potential and existing foreign competitors, as has been the case with respect to recent amendments, then this will encourage a climate of *rent-seeking*. That is, business people will spend their time in unproductive attempts at acquiring special privileges rather than concentrating on lifting performance. The resultant climate of political patronage for vested interests will depress productive businesses and lower overall economic development.

It is important that Palau is seen as a stable investment environment. Changing the local ownership requirements and forcing existing businesses to comply at the expiry of their FIAC, or to divest their investment, will add greatly to the assessment of political risk in Palau - the costs of which are likely to be substantial.

(c) *Minimum Investment and Local Labor Shares*

The requirement for a \$500,000 minimum investment or 20 per cent Palauan employment does not appear to have succeeded in either increasing Palauan employment or encouraging large investments. To date few investments have been above \$500,000, perhaps due to the perception of risk. The attraction of large investments is not necessarily of greater benefit than smaller investments which can have higher

multiplier effects on the local economy, be less destructive to the natural environment and create a more competitive economy which is likely to stimulate similar-sized Palauan businesses.

Further, often the smaller foreign businesses develop from resident expatriates who are likely to reinvest financial surpluses in the domestic economy. This group is also more likely to enter into partnership arrangements with local entrepreneurs and be more sensitive to local culture and training needs of young Palauans.

In any case, most applications are below the \$500,000 limit and rely on the 20 per cent employment criterion for approval. However, the Palauan labor restriction often has led to token appointments or avoidance of the restriction once the business is established. Because of a lack of resources and problems with the legislation, enforcement of the employment restrictions is difficult in practice. The lack of Palauans in private sector employment is the result of a number of factors related to distortions in the labor market and is unlikely to change while these distortions remain.

It is difficult to force employers to take on labor that is less productive than alternatives. The solution is to address the problem of the productivity of Palauan labor and the incentive structure in the system directly - not to force unproductive policies onto firms. There are numerous examples elsewhere of the complete failure of such policies. These constraints simply remove management flexibility and increase labor costs, with adverse effects on profitability and private sector development. In this respect, they have the same adverse effects as minimum wage laws.

(d) *Foreign Labor Fee*

To encourage the employment of Palauan labor, a \$500 annual fee is required to be paid to the FIB for each non-citizen employee of firms holding a FIAC. This fee has not been a deterrent to hiring foreign workers and has raised little revenue. The number of foreign workers has increased substantially since the Act was enacted. In the mid 1980's, the number of foreign workers totaled under 1,000. By 1995, it is estimated that the number of foreign workers was around 4,000 - just under the number of Palauan workers. Further, in FY1993, the amount of funds collected from the \$500 fee totaled \$51,000 - equivalent to 102 workers.

This would indicate substantial avoidance either through the use of Palauan front names or through non payment of the fee. According to the Board:

"the real problem is that the fee should be applied to all businesses operating in Palau rather than only those licensed by the Board. The current law simply provides an incentive to set up Palauan 'front' companies to evade payment of the fee."

The lack of resources in the FIB also makes it difficult to enforce compliance. There is no formal requirement to coordinate with the Division of Labor (Ministry of Commerce and Trade) or Division of Immigration (Ministry of Justice) to ensure the FIB fee has been paid before work permits are issued or renewed. In any case, if enforcement was increased, this would most likely lead to increased use of Palauan front companies. Legitimate foreign business interests that pay the fees are at a substantial cost disadvantage to other businesses that avoid the fees using such methods.

The distortion is likely to lead to a reduction in overall economic activity and should be removed, as recommended by the Board, by making the fee payable by all businesses if the fee is considered an

appropriate policy. In this respect, the fee would be collected by the Ministry of Commerce and Trade which issues the work permits. A set proportion of the fee could then be distributed to the FIB to assist in covering operational costs. To eliminate distortions and rent-seeking behavior, there should be no exemptions for industry or occupational groups, although offshore commercial fishing workers could be exempted if remaining generally offshore.

(e) *Minimum Wages*

Businesses operating under a FIAC must pay employees the government minimum wage. At the time the Act was enacted, the Government minimum wage was \$1.25 hour. As at May 1994, the Government minimum wage was \$2.37. However, this higher wage rate does not appear to be enforced either by the FIB or the Division of Labor (Ministry of Commerce and Trade) which has primary responsibility for advertising all vacancies (refer table 14.3, Chapter 14). It also provides a further strong incentive to avoid obtaining a FIAC by using Palauan front companies.

Clearly, the policy of prescribing the minimum wage has failed. It is difficult to assess the objective in the legislation because the legislation has not been enforced. Vacancies are advertised well under the current minimum Government wage. There are more efficient ways of controlling the employment of foreign workers than through using the Government minimum wage rate. Even if the minimum wage is paid by employers, the beneficiaries are the foreign workers. A foreign labor fee would have the same effect but the beneficiary would be the Government. The minimum Government wage requirement for foreign workers employed by holders of a FIAC should be abolished.

(f) *Compliance and Avoidance*

Legislation that restricts profitable economic activity, and is confusing always widens the scope for avoidance, particularly if the resources of the regulator, which are directed to compliance, are minimal. In Palau, the exclusion of foreign investment from so many activities has resulted in much avoidance of the intent of the legislation. The prevalence of the use of Palauan 'front companies' to avoid the restrictions, and the low rate of payment of the \$500 per annum foreign labor fee, are testament to the high level of avoidance.

The FIB has only two permanent staff and, as such, is not adequately resourced to handle difficult evaluation and enforcement cases. To prosecute violations utilizing the 'aiding and abetting' test requires proof that individuals knowingly acted to violate the law. This is a much tougher test and, to date, there have been no successful prosecutions. According to the Board, "the Act is replete with legal loopholes which render prosecutions of the law nearly impossible."

A 100 per cent owned Palauan business has few, if any, restrictions. The use of these 'front companies' has not encouraged more Palauan business activity, but simply provided wealth opportunities for a few powerful people - who are not necessarily the most productive group. Some of these people are not active in these businesses and have few controls over their activities. It has also encouraged a type of foreign business that is prepared to engage in questionable activities.

The rapid increase in the number of foreign workers being paid wages that are well below legal requirements clearly shows the need for legislative reform in this area. But there is no point enacting legislation if it is unenforceable as written. The lack of integrity in the system discourages legitimate foreign businesses and more productive and honest local entrepreneurs.

(g) *Foreign Investment Board Structure*

Board members, who are predominantly from the private sector, receive minimum compensation. The Board has only two permanent staff with expertise predominantly in the legal field. The Board is therefore required to evaluate individual applications without the support of technical staff in other disciplines, such as economics, finance, environment, and engineering. Being a part-time Board, it has little time to consult with other parties such as the Ministries, although the Board often requests written comments from the Ministries. While the Board has some members with significant business skills, there are few skills on the Board that are relevant for evaluating projects on a country-wide, benefit-cost analysis basis - which is the essential tool for evaluating the effects of investments on Palau as a country. Despite the detailed requirements of the Act, rigorous evaluation has not occurred.

In a small country like Palau, there are also likely to be substantial conflicts of interest on the Board, at least in terms of related-party dealings. Further, the wide circulation of applications that is a requirement of the legislation results in a loss of confidentiality which could be advantageous to competitors or potential competitors. Concern about confidentiality is likely to result in a withholding of sensitive but essential information by the applicant. It will also result in time delays as the Board attempts to seek more information.

From the above evaluation it would appear that the Board has not been effective in achieving the objectives of the legislation. Much of the problem is the legislation itself, rather than inactivity of the current Board. However, if the aim of foreign investment review is to increase investment by reputable firms, then the legislation and the Board's legal preoccupation are misplaced. The predominant concern of the legislation and Board should be whether the investment is beneficial to Palau - and this is an area that requires economic expertise. The more specific restrictions there are in the legislation, the less investment will be attracted to Palau and the more requirements there will be for legal expertise. The necessary economic skills to evaluate investment proposals on a socio-economic basis are generally not found in the private (business) sector.

It is also essential for the foreign investment approval process to be able to coordinate information and advice from other Ministries, particularly the Environment and Resources Ministry and the Justice Ministry. All the skills necessary for evaluation of investment proposals should be available in the Ministries. In this respect, the speed with which applications can be processed should be able to be increased if dealt with directly by Ministerial staff. Investors would also be able to consult directly with the technical people who were evaluating the application.

The evaluating agency also needs to provide formal reports and promotional material. To date, annual reports have generally not been prepared, despite a clear legislative requirement. This is not a criticism of the individuals involved but of the requirements of the legislation, the allocated resources to the FIB, the incentive structure and the processes established.

4.8.3 FOREIGN INVESTMENT FRAMEWORK

The experience of other countries has shown that successful foreign investment agencies have a number of factors in common, including:

- active promotion of foreign investment opportunities with a pro-active, business friendly approach that recognizes the benefits of increased competition;
- an administratively simplified approval approach;
- clear environmental and cultural guidelines built into the process and coordinated with the respective agencies;
- a professional and speedy assessment process that takes into account the economy-wide, benefit-cost stream of the foreign investment rather than simply the impact on existing industries or firms; and
- the avoidance of discrimination between industries/sectors and foreign/indigenous legislative and administrative requirements because of the adverse effect on resource allocation, competition and enforcement.

While local participation in a foreign business undertaking should be encouraged, it should not be encouraged by selective, unproductive incentives or restrictions. If there is to be a foreign labor fee, it should be applied to all businesses - domestic and foreign. If there are to be minimum working conditions, they should be applied to all workers. Current discrimination against foreign workers is likely to contravene international conventions as well as distort labor market incentives.

In recent years many developing countries have shifted from restrictive foreign investment policies that were based on skepticism to policies that seek to attract increasingly larger amounts of foreign investment. It has been generally recognized that restrictive policies, processing delays with respect to applications, complexity in approval process, unequal treatment of investors, lack of transparency and political uncertainty had significant effects on the level and quality of foreign investment. Many developing countries moved to some kind of 'one-stop shop', whereby one agency deals with all the requirements of a foreign investor, and changed their policies from being reactive to proactive in their strategy. To speed up the approval process, the Agencies usually consisted of the actual decision makers from the various areas that required Ministerial approvals. In a recent study by the World Bank (Foreign Investment Advisory Service, 1991) the Bank concludes that many countries centralized administration but decision making remained diffused and influenced by vested interests, particularly various subunits of government and the private sector which were threatened by competition. Those that were most successful were those that centralized administration and decision making (Singapore, Mexico and Turkey). These were countries with strong and technically competent central administrations.

It must be emphasized that the greater the degree of economic liberalization that takes place in a country, the less is the country's need to screen incoming investments. Palau has relatively low rates of trade protection and, as such, there is little need to rigorously assess such matters as the financial viability of projects, market projections, technical feasibility, impact on the domestic economy and employment. The FIB, by law, is required to determine whether the project will be profitable and/or lead to threats to existing businesses, rather than what is good for the country.

With a pricing system that reflects opportunity costs, private interests will match economic interests as long as externalities are not overwhelming. Thus projects that are profitable to the investor are likely to be profitable to the economy. Investments still need to meet all government requirements, for instance,

with respect to environmental permits, labor laws, land zoning laws, taxation laws etc. If not profitable, then the consequent business failure provides an important market discipline.

In Palau, with the four substantial disincentives removed (selective foreign labor fee, protected industries, capital and labor restrictions, and lack of confidentiality), foreign businesses would have little difficulty in submitting detailed applications through a screening process based on benefits to Palau and the integrity of the investment and investor.

Under this clearer, more equitable and more economically sound approach, legitimate foreign businesses would be more likely to be attracted. Both the evaluation agency and the foreign businesses would be able to direct their attention to more important policies which are more likely to succeed and bring benefits to Palau such as training programs for locals, encouragement of local suppliers, development of quality standards and marketing skills, international contacts, infrastructure development etc.

4.9 STRATEGY AND PROGRAM OUTPUTS: FOREIGN INVESTMENT

4.9.1 STRATEGY: FOREIGN INVESTMENT

Promote foreign investment that is to the long-term benefit of Palau, accounting for the impact on the natural environment and cultural values, with recognition of the benefits of the introduction of more competition and new technology (strategy 3.4.2.4).

4.9.2 PROGRAM OUTPUTS: FOREIGN INVESTMENT

4.9.2.1 Foreign Investment Board Structure and Operations Strengthened

The Foreign Investment Board should be retained reflecting the necessity for independence. However, its resources and functions need to be enhanced. The Board should appoint an economist skilled in project evaluation. To economize on resource use, it should be the clear responsibility of the Ministries to cooperate with the Board in supplying relevant information and evaluations. Contact officers should be nominated in key ministries to ensure timely and consistent access to information. Board fees should be increased to market rates. Funding for operations of the Board should, in part, come from a set proportion of foreign labor fees and, in part, from application fees. The structure of the latter fees should be related to the size and type of project involved and the costs involved in the approval process.

4.9.2.2 Functions of the Foreign Investment Board Extended

The Board should act as a one-stop shop for foreign investors and develop schemes to encourage local investment without penalizing foreign investors. All foreign investments would need a certificate and applications would be treated as strictly confidential. The Board should be very cost effective as most of the technical work would come from the Ministries.

a) Screening

Simple cost-benefit rules of thumb should be developed in a broad sense and used to assess the net benefits/costs to the economy of proposed investments. International assistance (World Bank) is readily available in terms of training programs, manuals and computer software to help train people in cost-benefit techniques. These skills are also crucial for evaluation of public sector projects. The process should be consistent, timely, transparent and

accord equal treatment across sectors and investors. The whole process must remain, and be seen to remain, strictly confidential. This will ensure that foreign businesses provide the necessary information. The Board would need to check thoroughly on the credentials of the foreign investor and the capital backing of the project and assure itself of the appropriateness of any joint foreign-Palauan ownership arrangements.

b) Promotion

The Board should provide pre and post-approval services to investors. Pre-approval services include providing relevant data about macro economic conditions and the market in Palau - including infrastructure services and costs, environmental requirements, labor controls etc. Post-approval services would include assistance to obtain all necessary permits and approvals to begin operations, and would include import conditions, work permits, environmental permits etc.

c) Monitoring

The Board should work closely with other areas of government to ensure the appropriate taxation policies are in place and other governmental requirements are adhered too. If breaches have occurred they should be rectified. The Board should have power to withdraw a certificate if the circumstances warrant such action. The Board would also work closely with other government departments and the foreign enterprises to assist in the design of training schemes, development and use of local suppliers and small business generally, infrastructure development schemes, quality control schemes and industry marketing schemes. To assist in monitoring economic activity and designing development schemes, all firms would be required to submit statistical information to the Division of Economic Development. Aggregate data series and analysis on business activity should be published regularly to assist the business sector in planning and to provide information on the performance of economic policies.

4.9.2.3 Legislation Revised and Amended

The Foreign Investment Act should be amended to remove prescriptive ownership shares, employment ratios, and unequal treatment with respect to local investors in matters such as minimum wages and minimum project size. The Act should recognize the importance of encouraging a competitive environment. The Board should be given a clear focus to screen, promote and monitor foreign investment that is to the long-term benefit of Palau. The legislation should have strong sections to reduce conflicts of interest, and breaches of confidentiality should incur penalties. Enforcement powers need to be upgraded. The Board should be required to report regularly on its activities.

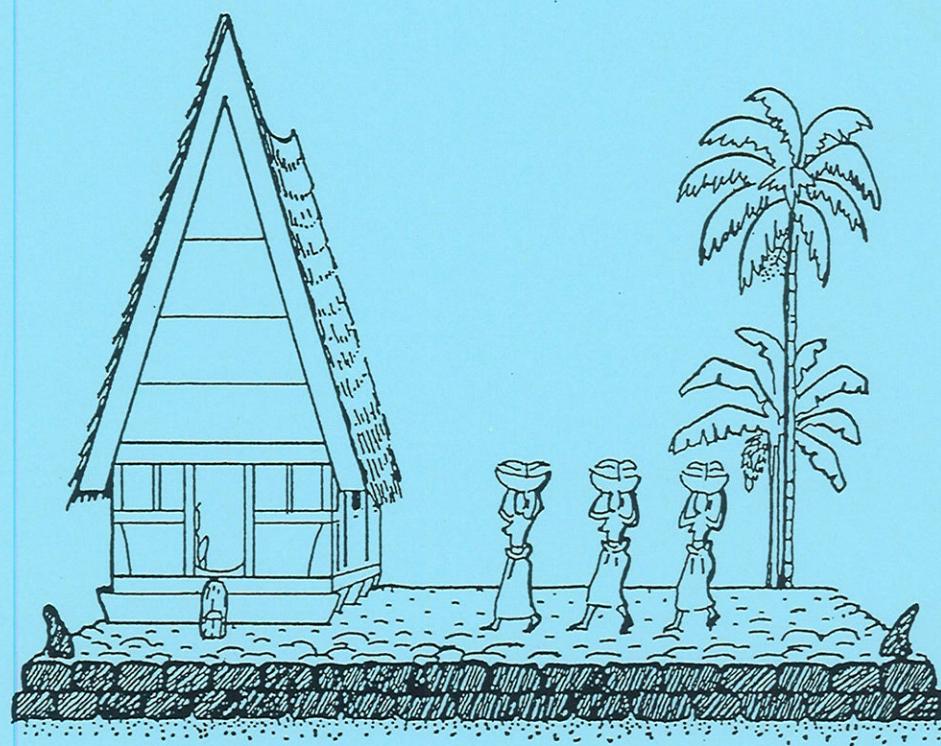
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 4.3 Fiscal Management <i>Obtain sufficient resources in an efficient manner to meet the Government's budget and policy requirements, increase the productivity of Government expenditure, and develop fiscal policies to smooth the adjustment path of the economy to lower uncertainty and build financial integrity</i>						
OUTPUTS 4.3.2.1 Economic Policy consultant recruited	Appropriate staff recruited and meeting targets in strategic plan for fiscal management	Strategic plan. ODA requests to relevant agencies for 2/yr assistance in establishment (\$300,000/yr)	Leadership understands the need for fiscal management. Suitably qualified person can be recruited to Palau through international advertisement.	recurrent cost of new position	100	600
4.3.2.4 Office of Planning & Statistics strengthened	Staff recruited and trained to compile and produce reliable statistics required for effective management of the economy	National Accounts. CPI, Balance of Payments etc Staff training records (ODA for training in-country)	Government and private sector understand the need for providing statistical data and are required to provide it to the Statistics Office	recurrent cost of new positions	60	150
4.3.3.1 Fiscal targets established	Compact capital funds expended with priority given to revenue generating projects . Budget surpluses accumulated 1995-2002.	Government CIP records, budget data	Leadership understands the need for removal of the expenditure-revenue gap and can convince constituents of the benefits of spending restraint	recurrent		
4.3.3.2 Output budgeting system implemented	Output budgeting system phased into Palau by Bureau of Program Budget & Management	PSIP, Budget papers, Procedural documentation, forward estimates process, performance indicators (ODA for benchmarking)		recurrent		250
4.3.3.3 Strategic plan for Ministry of Administration prepared	Strategic plan consistent with national goals and strategies operations and meeting targets	Strategic plan, Strategic Economic Statements	Ministry and leadership accept need for strategic plan	recurrent		
STRATEGY 4.5 Monetary Policy <i>Reduce the uncertainty and business risk by establishing a stable but competitive macro economic environment</i>						
OUTPUT 4.4.2.1 US\$ utilization maintained and monitored	Statistical data collected to monitor medium-term effects and costs of use of US\$	Division reports		recurrent		

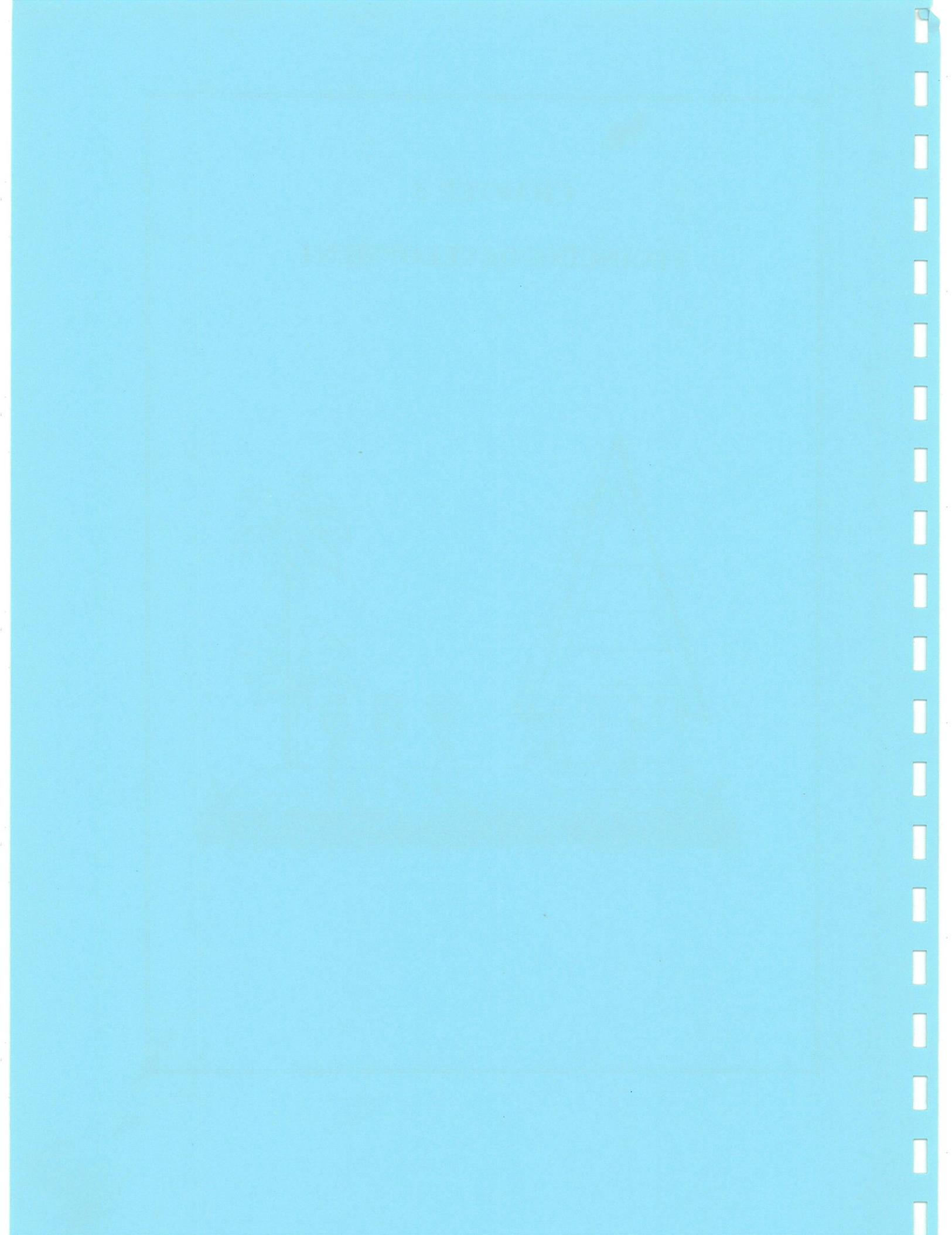
CHAPTER 4: MACROECONOMIC FRAMEWORK LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 4.7 Labor Market <i>Reorient labor market incentives and manage inflow of foreign labor to achieve sufficient growth in employment levels in the private sector in Palau, particularly in more highly remunerated and skilled positions, to limit unemployment and the attractiveness of emigration, support a higher quality of life and a more competitive private sector, and reduce social conflict.</i>						
OUTPUTS 4.7.2.1 Public sector remuneration restructured	Senior civil servants remunerated at higher levels with performance indicators in place to measure outputs. Classification within civil service structure expanded to facilitate promotion as way of rewarding performance. Appropriate systems in place to retrain or retrench civil servants whose current roles are redundant or who are not performing	Classification system. Salary scales. Personnel contracts/performance agreements.	Leadership and community understands the need to increase the performance of public sector and maintain the wage bill within budget	recurrent		
4.7.2.2 Quality and level of private sector employment increased	Taxation incentives to unskilled private sector (refer Ch. 5). Skill levels increased to meet changing industry requirements through improved education & training (refer Ch 14)	Taxation legislation. PCC curricula and short course programs	Incentives will be understood and taken up by private sector			
4.7.2.3 Foreign worker fee introduced	Number of foreign workers in some categories reduced. Standard working conditions & practices for all workers in place and enforced	Foreign worker fees legislation. Revenue records.		recurrent		
4.7.2.4 Capital investment promoted	Number of skilled Palauans working in private sector in capital intensive or high value industry increased	Labor market statistics. FIB promotional materials	Skilled Palauans can be attracted into industries. Appropriate environmental controls are in place.	recurrent		
STRATEGY 4.9.1 Foreign Investment <i>Promote foreign investment that is to the long term benefit of Palau, accounting for the impact on the natural environment and cultural values, with recognition of the benefits of the introduction of more competition and new technology.</i>						
OUTPUTS 4.9.2.1 Foreign Investment Board structure, and operations strengthened	FIB promoting and evaluating projects which fulfill agreed criteria in a timely manner, with full participation of Board members, staff and nominated Ministry contacts	FIB approval statistics. FIB remuneration records. Staffing records (1 x Economist), Quarterly & annual reports	Leadership understands the need for the Board to fulfill its obligations in a timely manner to meet the needs of foreign investors and Palauans, and that some skilled resources are required to support the Board. Legislation revised to reflect resources required for FIB to take a more proactive approach	recurrent cost of new position	user fees	
4.9.2.2 Functions of the Foreign Investment Board extended	FIB utilizing cost-benefit analysis techniques to screen projects, providing pre and post-approval services to investors, and monitoring implementation of FIB-approved projects. Data necessary to support key functions of screening, promotion & monitoring collected and utilized	Project approval documentation Cost-benefit analysis system/procedures (ODA). Promotional material. Data collection & analysis system	Strong inter-agency cooperation exists in data collection, publication, compilation of promotional material. Legislation revised to reflect new functions	3	user fees	50

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
4.9.2.3 Legislation revised and amended	Foreign Investment Act prescribing revised functions of the FIB, addressing conflict of interest, confidentiality and detailing enforcement powers	Revised Foreign Investment Act	Leadership understands the need for extending the functions and resources of the FIB to provide a service to potential investors in Palau	recurrent	user fees	

CHAPTER 5

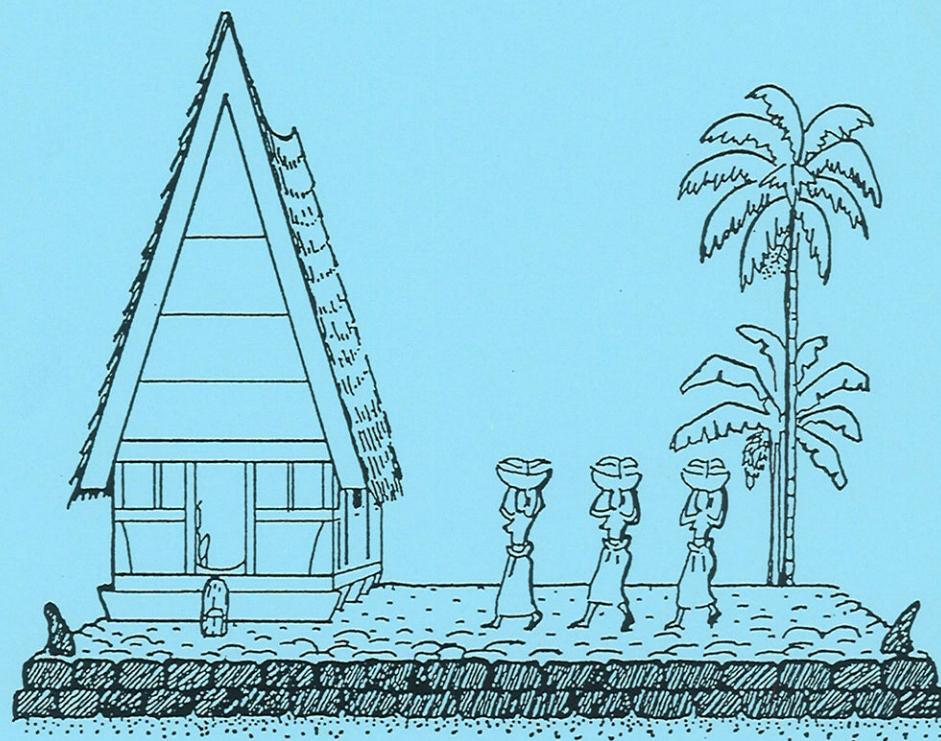
FINANCING DEVELOPMENT

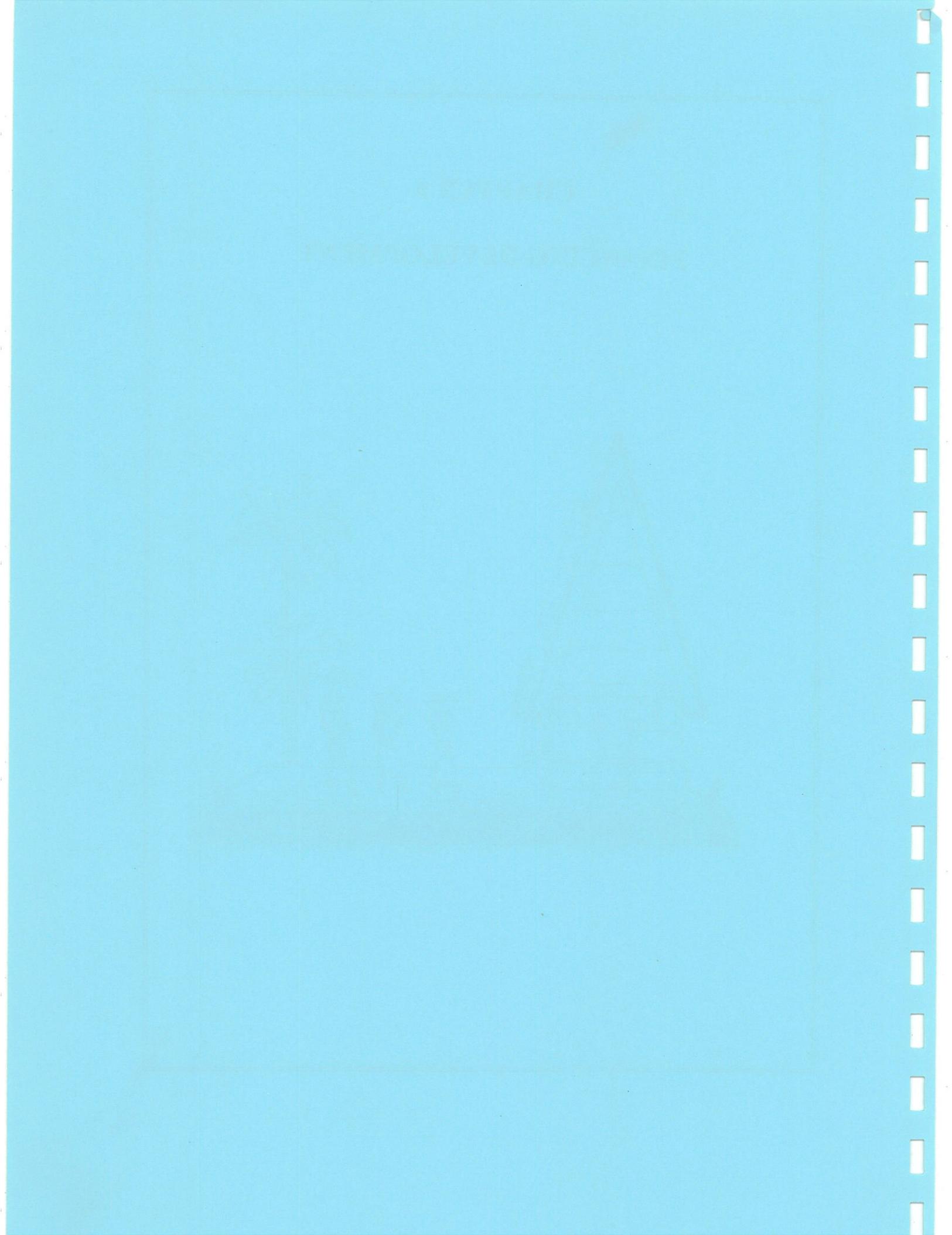




CHAPTER 5

FINANCING DEVELOPMENT





CHAPTER 5

FINANCING DEVELOPMENT

This chapter examines the two major areas that will be of crucial importance to the Government and private sector in financing investment and development - the taxation and charging system, and the domestic financial sector - and provides detailed recommendations for a reform agenda.

5.1 INTRODUCTION

The financing of much of the public capital and operational spending program over the next 15 years will come from Compact funds. The allocation and management of these funds were discussed in Chapter 4. Any additional capital projects outside the \$52 million infrastructure fund or equivalent expenditures will have to be financed elsewhere. The steady decline in real Compact operational funding and the cessation of that funding after 2009 will mean that substantial additional funding will need to be obtained if government services and real GDP levels are to be maintained or improved.

There is likely to be some additional foreign assistance available, particularly from Japan, although the extent of such assistance is not likely to bridge the Government's expected financing gap. Assistance from international institutions is not likely to be significant because of Palau's relatively high GDP levels and probably be mostly in the form of technical support.

Because of the need to expand the private sector to lift real GDP growth rates such that the living standards of Palauans can continue to rise, private investment rates need to increase relatively strongly and against the background of declining relative Government expenditure levels. These private investment demands will also require financing. Therefore, the Government's financing options through the domestic financial sector will tend to be constrained by the over-riding needs of the private sector. The Government financing requirements should not be allowed to 'crowd out' private sector requirements.

There are four likely sources of finance and funding that will form the basis of public and private sector funding requirements over the next two decades:

- government revenue from a more efficient system of taxes and charges that, at the same time, has minimal adverse effects on private sector development;
- the domestic financial sector through the reform of the financial system and institutions, and the introduction of a market in government securities;
- foreign investment financed from offshore sources; and
- offshore commercial borrowings, particularly in the latter half of the planning horizon.

The projected level of foreign investment depends on a myriad of endogenous and exogenous factors. The conditions under which such investment can be maximized, while at the same time, protecting the environment and cultural values were discussed in Chapter 4. Offshore commercial borrowings to finance Government expenditure should be discouraged in the early years of the Plan because of the cost and difficulties in servicing such debt in formative years. In any case, the problems with respect to servicing the current level of commercial debt may make it difficult to obtain significant funds from this source. However, offshore commercial finance for continuing capital spending will be required to smooth the adjustment path from around 2012 when reserve levels will have been depleted and Compact funding has ceased. Borrowings from multi lateral institutions, such as the Asian Development Bank, provide a possible source of funding, although Palau would need to take up membership.

The predominant source of finance for government budget requirements will have to come from domestic taxation and charges. But this will have to be managed carefully to avoid significant adverse effects on private sector growth. An increasing source of domestic private investment will come from the local financial sector. As the potential for Government financing instruments develops, the local financial sector will be able to fund an increasing proportion of the Government's fiscal deficit, although the adverse effect on private lending will always be a constraint. The following sections examine these two important areas and provide a number of recommendations.

TAXATION AND GOVERNMENT CHARGES

5.2 CURRENT TAX STRUCTURE

Palau has one of the lowest taxed business environments in the Asia-Pacific region. The government sector in Palau dominates economic activity, yet the tax ratio is low by international standards. In 1993, Government expenditure and taxes (including utility charges) accounted for 50 per cent and 15 per cent of GDP, respectively. This compares with tax/GDP ratios of 24 per cent in Fiji, 21 per cent in the Marshall Islands, 26 per cent in the Solomon Islands, 19 per cent in Papua New Guinea, Tonga and Vanuatu and over 30 per cent in developed countries. The generally low rates and limited coverage of current taxes and charges mean that there are substantial possibilities for increasing revenue without causing the tax system to retard development. In fact, an improved system that is sustainable and competitive could enhance development by lowering investor uncertainty and risk premiums.

The overwhelming number of taxes and charges are levied by the National Government with State Governments only accounting for a small amount of receipts, mainly through business and fishing licenses. Aside from the need to raise additional revenue, the current tax system has a number of problems relating to inappropriate design, limited coverage, lack of harmonization, inequities and lack of administrative resources. These problems will increasingly diminish the ability of the current system to deliver higher revenues on a sustainable basis as the economy expands. In fact, in FY 1995 tax receipts are likely to be both below budget and FY 1994 receipts, despite continuing expansion of the economy (Tax and Revenue Review Committee Report, ROP, 1995). This has been the experience of many developing countries. In a recent World Bank publication on "Lessons of Tax Reforms" (1991), the Bank notes that:

"Often when revenue pressure persists, ad hoc measures accumulate to result in a highly complex and internally inconsistent tax structure that is difficult to administer and costly in terms of efficiency, growth and equity."

The tax system in Palau is similar to that in other previous US trust territories, such as the FSM. Like these countries, Palau's tax system is a collection of revenue measures assembled on a piecemeal basis to cover the shortfall in Government revenue after US grant funds were allocated. In common with these countries, resources assigned to tax policy and collection have been minimal resulting in poor enforcement and substantial avoidance and evasion. These countries are now in the process of undergoing dramatic tax reform in response to mounting fiscal debt and lack of earlier action which would have allowed a more gradual pace of reform.

In particular, taxation of wages and salaries in Palau is low by international standards and the base narrow, which reflects the lack of explicit taxation of profits, interest income, dividends, self-employment income, capital gains or any other form of capital income. Indirect taxes have been poorly designed and tend to be selective. The 4 per cent gross revenue tax (GRT) is a tax on sales, does not serve effectively as a tax on profits and is inequitable. It is also inefficient in that it does not prevent the multiple taxation of the same product as it goes through different stages of production, and does not exempt exports. While import duties are low by international standards, the coverage is limited and complicated by use of free-on-board (f.o.b) values rather than costs including insurance and freight (c.i.f) and application to only goods for resale.

As yet, there is no taxation policy arm or high level taxation expertise in the Ministry of Administration to assist in its new role as a sovereign country. The Bureau of Revenue, Customs and Taxation's role is limited to collection of the various taxes and fees. Trader compliance is poor, with many traders filing returns late or not at all. The number of audits undertaken is low. Skill levels are low and there are no resources targeted towards overall policy evaluation and reform. There are no formal training programs for employees. Taxation proposals are not coordinated and generally appear before the OEK without any supporting submission or evaluation. There is no real assessment process established in both the Legislature and Executive branches of Government. According to the World Bank (1991), if taxation reform is to be successful, then it is essential to implement accompanying tax administration reform. This has been the recommendation in nearly all recent structural adjustment loans and numerous reports.

Given the projections shown in Chapter 4, real revenue growth will have to rise by an annual average of 3 per cent between 1995-2010 and by 5 per cent between 2010-2020. This increased revenue effort has to be achieved against a background of reductions in real per capita public expenditure of 2 per cent per year which will tend to suppress GDP growth rates and, therefore, resultant tax revenues.

Because taxation policy affects incentives and resource allocations, it impacts on most markets. Similarly, most market structures affect tax receipts. As such, there needs to be an integrated approach to taxation reform which includes the reform of the labor market, financial sector and government spending programs. Within this approach, a number of specific reforms could be implemented that would improve revenue flows, increase efficiencies and result in a more sustained and equitable distribution.

Although the overall taxation burden on the private sector will almost certainly have to increase as Compact funding diminishes, this additional burden does not necessarily need to have an adverse effect on the private sector overall. Empirical evidence shows that increased revenue can be obtained and adverse effects avoided if:

- the tax system remains internationally competitive and exhibits stability or, at least, predictability over time;
- tax design limits the degree to which the tax system distorts the way resources are used by imposing high rates on some activities while leaving others lightly taxed or not taxed at all (efficiency of the tax system);
- tax receipts increase automatically in line with growth in the economy (fiscal stabilization);
- taxes are fair in the sense that taxpayers with equal taxable capacity should be treated equally, and the burden of taxation at least does not decline as an individual's capacity to pay taxes increases (equity of the tax system); and
- the tax system is easy to administer and transparent enough that taxpayer understanding and compliance can be achieved without undue difficulty and cost.

These criteria can be best achieved by reliance on taxes that are broad based with limited exemptions and rate differentiation. In this context, most recent reforms in both developing and developed countries have placed emphasis on utilization of a broad-based, value-added tax, supplemented by excise duties as the major instruments for revenue raising. Reforms along these lines have been an unmitigated success in other countries (see World Bank, 1991) and have generally achieved the expected revenue and efficiency gains promised. Recent reforms recommended by the International Monetary Fund for FSM are along these lines (IMF, 1994).

Selective taxation policies that react to vested interest demands often have considerable political appeal but are generally very detrimental to the revenue base and efficient resource allocation, incentive structures and, therefore, the long-term welfare of Palauans. If these policies are used to raise additional revenue, then the private sector and, in particular, the foreign sector, will increasingly bear the tax burden, resulting in lower rates of return. If, at the same time, the policies create increased uncertainty, then this will add to risk perceptions, thereby increasing the required rate of return from investments in Palau. These two forces will tend to reduce investment and private sector growth.

Further, there is significant evidence to show that selective investment incentives, such as tax holidays, favorable depreciation allowances, low rents etc are of less importance in locational investment decisions and returns compared with the establishment of an overall economic and policy climate conducive to investment (McMaster, 1990).

In Palau, with the expected decline in Compact funding over the medium term, there is considerable uncertainty over Government intentions with respect to taxation policy changes. Current bills before the OEK (Unified Tax Act, Salary and Wages Act, Minimum Wages Act and Banking Commission Act) are restrictive and detrimental to private sector development, particularly foreign investment. Also, there is concern over Government spending plans and the continued provision of efficient infrastructure services over the planning horizon. In this respect, investors are likely to be willing to accept higher taxation levels and user fees provided the country's risk premium can be reduced by more rational and equitable tax policies, more certainty and improved infrastructure services.

5.3 TAXATION CRITERIA AND PRINCIPLES

5.3.1 EFFICIENCY AND EQUITY

There are two principal criteria by which taxes are judged - efficiency and equity. The efficiency criterion might be described as follows: in diverting resources to the public sector, taxes of different sorts impose varying degrees of distortions on the workings of the market economy. That is, different tax rates and policies cause production, consumption, savings and investment decisions to be altered from more productive and optimal paths. These distortions can result in the reduction in real income of society by more than the amount of revenue raised by the tax.

A tax system that changes the decisions of economic agents substantially from efficient paths can be very detrimental to the welfare of its citizens overall. In Palau, the taxation system has created significant distortions. For instance, the non taxation of the income of owners of business or capital compared with employees' income which is taxed significantly is inefficient because it provides incentives towards reclassification of income and alterations to employment decisions. The gross revenue tax is highly inefficient, being a tax that distorts the industrial structure by encouraging vertical integration and discouraging exports. Public sector pricing policies are inefficient in that many publicly provided goods have private characteristics and charges do not reflect private benefits. This results in either over or under consumption and distorts resource allocation. Efficient resource allocation generally requires that prices be set equal to marginal cost for those goods and services. In other cases, such as public goods (like defense, police services etc. where there are no clearly separate beneficiaries or property rights), collective goods (like education, pollution etc. where benefits or costs accrue to or are borne by other individuals or by society-called externalities), and where natural monopoly elements exists (like electricity grids where the size of the market is too small to reap appropriate economies of scale), pricing policies will need to deviate from marginal cost criteria to achieve efficient outcomes. There are a number of rules that can be used in these cases, although the costs in making such rules operational, the lack of available information, and equity concerns need to be taken into account.

Equity considerations are concerned with how the burden of output reduction in the private sector is distributed among the various members of society under a range of taxing schemes. This burden will, in general, include the welfare loss imposed by the tax system as well as the value of real resources transferred. Equity considerations involve the problems of horizontal equity (treating taxpayers with the same amount of income equally, irrespective of the source of income) and vertical equity (distributing the tax burden among the non poor in line with their ability to pay). Against these criteria, it is necessary to decide on the economic base for taxation and the progressivity of rates.

Experience elsewhere shows that, despite certain difficulties (treatment of capital gains, inflation, fluctuating incomes, and imputed income), the Haig-Simmons comprehensive income base is considered a good measure on which to base an equitable tax system. This measure usually forms the base of most income tax policies and provides the theoretical rationale for comprehensive income taxation. In Palau, income tax is based on wage and salary earners only. This narrow base has substantial inequities. The gross revenue tax is a narrow sales tax, the incidence of which falls predominantly on consumers and not on the income of owners of business/capital. Deciding the base is only the first problem. Vertical equity requires a value judgment as to how the burden of taxation ought to fall on different people at relatively different positions on the scale of the base. Palauans may be more inclined to progressive tax scales, than perhaps some Western countries.

An alternative base to income for tax that is commonly used is that of consumption expenditure. The main difference between income and consumption from an efficiency point of view is that the former favors current consumption at the expense of future consumption or saving.

In assessing the equity of a tax system there should also be concern about the distribution of the benefits of public expenditures that the taxes finance. In addition, other important properties are administration costs and the ease of implementation and enforcement of various taxes. These factors are important in a small country like Palau. Another important criterion is the flexibility of the tax's revenue with the level of economic activity such that taxation collections decline automatically in economic downturns and increase automatically in growth periods (function as an automatic stabilizer for fiscal policy purposes).

5.3.2 CORPORATE TAXATION AND INTERNATIONAL CAPITAL

While there are major distortions created by the increased burden of taxation being placed on wage and salary earners, as opposed to business income, Palau does not tax the income of capital - which is commonly done in many countries. In these countries, taxes on the income from capital is often taxed twice - once in terms of company profits and a second time when owners receive income or dividends. Taxation on income from capital in any developing country ends up reducing the size of the capital stock which implies a lower level of real wages and salaries and, therefore, workers end up bearing the brunt of the tax. As such, it can be counterproductive. Many countries have offset this distortion by integrating corporate income tax with personal income tax using tax credits, or partially offset it by using dividend imputation.

Further, corporate taxation creates even more distortions if the rate scales are made progressive. The rationale is a perception that corporations with more income are somehow richer than the rest and possess a greater 'ability to pay' in relation to their income. However, this argument is spurious. In many countries, the largest corporations have the most widely distributed share holdings. If the idea of progression has any meaning, it is at the individual, not the corporate level. The result of progressivity at the corporate level is to induce companies to 'fractionate' rather than maintain economically efficient size and structures. Therefore, if there is to be taxation of corporate income, it is much more efficient if the rate is uniform. And to remove the incentive to redirect income between individuals and companies, the corporate rate should be equivalent to the top marginal personal income tax rate.

This point is very relevant with respect to the proposal for the introduction of progressive rates into the gross revenue tax in the 1994 bill to amend the Unified Tax Act. As with progressive corporate tax rates, these rate proposals are highly inefficient and will result in the splitting up of companies.

However, a major advantage of corporate taxation - and it is important in developing countries - is where international companies have established operations and are taxed by their home countries on a corporate rate basis on income earned abroad. If there is no corporate tax in the developing country, then these funds are simply foregone to the home countries' government treasuries. In this case, developing countries have a strong incentive to apply a corporate tax rate and, if broadly in line with the home country rate, will not adversely affect investment levels in the developing country. The effective after-tax rate of return to the company will remain unchanged and, therefore, there will be no impact on investment.

Taxation theory and developments are very complex and this complexity has been increased by the growing internationalization of economic activity. In this respect, foreign capital is expected increasingly to be a large source of private sector investment in Palau and, following Compact implementation, Palauans will have access to the US labor market. Therefore, in this mobile environment, factors, goods and other potential bases for taxation can flee Palau in response to high taxation or other regulatory restrictions, or be attracted to Palau by relatively light taxation or regulation. Palau, therefore, must compete with other countries for revenue (the investor must earn the going after-tax return) and it is difficult to collect revenue from tax bases located outside Palau.

Taxing capital is complicated by the ability of international corporations to transfer prices, management fees and financial transactions. Further, it is the difference in the marginal effective rates of taxation that will determine the allocation of investment. The marginal effective rate on new investment depends not only on the statutory rate but also on such factors as the pattern of depreciation allowed for tax purposes, the extent of investment tax credit, and the rate of inflation.

5.3.3 TAXATION PRINCIPLES

The following principles should guide taxation and charging policies in Palau:

- ✓ • the taxation system should be designed as an integrated system aimed at efficiency and equity goals, as well as revenue objectives;
- ✓ • the efficiency of the taxation system should be improved by broadening the taxation base;
- the introduction of selective and highly distortionary taxes and subsidies (that are not related to the costs of respective public sector goods and services, but are for discriminatory objectives such as protective import duties) should be avoided;
- overall taxation levels should be maintained at internationally competitive levels;
- as far as possible the structure of tax rates should be kept administratively simply, given the level of resources available for evaluation and enforcement;
- equity of the tax system should be improved by making income tax scales more progressive, but generally not through utilization of selective taxes and fees with equity objectives, unless there are clear cases of market failure;
- broad-based taxes with minimal exemptions should be utilized where there are no well-defined user benefits from the resultant public expenditure;
- tax administration, should be improved particularly compliance; and
- where Government services are provided to a separable group, user fees should be charged provided administration costs are low, and the fee structure should be, as far as possible, economically efficient (with income redistribution goals being left to the income tax system not through these fee structures). In this respect, the following rules should apply:

- market prices should be charged for public goods that are also supplied by the private sector (that is, private-type goods) if the market is competitive. If the market is not competitive, pricing benchmarks should be utilized. Prices should equate to marginal cost. Private goods are those where the distinct consumer receives the benefit and no one else. There should be no redistributive elements in these user charges. Revenue collected should be earmarked to cover costs of the goods and services provided and not allocated to general revenue;
- purely public goods should be provided free of charge;
- for goods that are associated with externalities, prices charged can include a subsidy (or tax) from general revenue that will bring together marginal social costs and benefits. These subsidies or taxes need to be evaluated with a certain amount of rigor and made transparent in both the budget process and to the consumer and public generally;
- where natural monopoly elements exists - mainly the utilities in Palau - prices lower than marginal cost may need to be charged. Again the subsidy element needs to be transparent. With large physical capital items in utilities, there is an issue of utilization of short or long-term marginal cost. While the latter is less efficient, it is preferable in that it eliminates large price variations which occur under short-term marginal cost pricing rules. In this respect, the indivisibility of large capital items is facilitated by use of peak and off-peak pricing structures to match demand to available capacity. Redistribution aspects may also justify a departure from this rule, although this needs to be quantified carefully if performance is to be measured; and
- costs of imposing user fees need to be evaluated. In this respect, the widespread development of low-cost metering devices has increased the feasibility of user-pays systems.

5.4 CURRENT SPECIFIC TAXES AND CHARGES: PROBLEMS AND ISSUES

The extent of taxation reform in Palau, in the short run, will be restricted by a lack of resources to implement, evaluate and enforce complex arrangements and policies. While the reforms recommended have taken account of the need for relatively simplified arrangements, increased resources will still be required if the revenue targets are to be met and an efficient and equitable system established. In some reforms, there will be no alternative but to establish arrangements that have some complexity, otherwise avoidance and/or evasion will erode the benefits of the reforms. It is essential to the Master Plan that tax reforms be undertaken early such that fiscal certainty and investor confidence can be established. Experience elsewhere has shown clearly the benefits of integrated and rational tax reform. The experience of the FSM is instructive. FSM failed to implement tax reforms at the start of the Compact and is now confronted with increasing fiscal deficits and the need for dramatic tax changes which could have adverse effects on development and economic and political stability.

5.4.1 INDIRECT TAXES

(a) Gross Revenue Tax (GRT)

Gross revenue tax rates and regulations are specified in PNC Title 40, Chapter 12 and RPPL 1-63, RPPL 4-10,11. A tax rate of four per cent on gross revenues is levied on all businesses operating in Palau. No tax is payable where gross revenue is \$2,000 or less. Gross revenue is defined as:

"all receipts from sources within the Republic whether in the form of cash or property derived from business, from exploitation of capital whether in the form of receipts from the disposition of capital assets, interest, dividends, royalties, rentals, fees or otherwise, however such receipts may be labeled without deduction or offset of any kind or nature. Every taxpayer shall be presumed to be dealing on a cash basis. Gross revenue does not include refunds, rebates and returns; monies held in a fiduciary capacity; gross receipts from the sale of bonds or other evidence of indebtedness of stocks, or from the sale of land; income in the form of wages and salaries." (s1002(o))

In late 1993, to discourage the employment of non-citizens, the Act was amended to reduce the wages deduction for foreign workers to 50 per cent. Estimates are that this will increase collections by only \$250,000 (assuming there is no substitution or income effects).

There is also an existing Bill 4-153 before the OEK to amend the tax scales to 3 per cent of gross revenues up to \$20,000, 4 per cent between \$20,000-100,000 and 6 per cent above \$100,000. Also, it is proposed to increase the no-tax threshold from \$2,000 to \$4,000. The sale of land is also to be removed as a deduction.

Gross revenue tax receipts amounted to around \$5 million in FY 1994 - nearly 40 per cent of total tax revenue. Despite increases in revenue from this tax in recent years, as a tax instrument, it is highly inefficient, inequitable and difficult to achieve compliance.

The rationale for the gross revenue tax is to obtain tax on business income in an administratively simple manner. The tax tends not to be a tax on business but is an expenditure tax and, in particular, a form of turnover tax. Although there are a number of allowable deductions, the tax does not allow a deduction for intermediate goods - the predominant business expense, or interest expense etc. The inefficiency of the tax is clearly seen by the following example of the production of a commodity - canned fish.

Under the gross revenue tax, tax would be paid by the commercial fisherman when the fish is sold to the cannery, by the cannery when the cans are sold to the wholesaler, by the wholesaler when the cans are sold to the retailer, and the retailer when the cans are sold to the consumer. In this chain, the contribution of the fisherman is taxed four times, that of the cannery three times, and that of the wholesaler twice. Only the value added by the retailer (that is, the retail markup) is taxed just once. There can be no economic justification for taxing the fisherman's output more heavily than the cannery, the cannery's more heavily than the wholesaler, the wholesaler's more heavily than the retailer's and so on.

This cascading type of taxation distorts production processes and clearly gives an artificial incentive to vertical integration - that is, for the retailer to harvest, process, wholesale and sell the fish. In contrast, the proposed Bill before the OEK to make the scales progressive will discourage horizontal integration

(fractionate enterprises) in an attempt to reduce gross revenue receipts below the higher \$100,000 threshold.

The tax also taxes domestic primary food production (a sectoral objective of Government) much more than foreign competitors if the chain of production is long. Given that there are no import duties on food, consumers can import manufactured foodstuffs directly without any taxes. Clearly, one reason for the substantial decline in agricultural production relative to other sectors (that is, as a proportion of GDP) and the lack of processing proposals is related to the tax system that penalizes domestic production and sale.

By not allowing expenses to be deducted, there is also a major disincentive for training, and research and development for all businesses. Because GRT is based on turnover and not profits, it is likely to adversely affect new businesses which have low profitability levels in formative years.

The GRT has an adverse effect on exports. Usual international practice is for goods to be subject to indirect taxation only in the country in which they are consumed. Imports should therefore be subject to domestic indirect taxation and exports excluded (destination principle). In Palau, there are no arrangements to ensure that exports are not subject to indirect taxation. While this may not be a concern at present because of the low volume of exports (tuna excluded), as Palau develops its export base (which it must do to ensure balance of payments stability as Compact funds decline), it will become an increasingly important issue.

The reduction in the allowable contribution for foreign labor in the 1993 amendment is a disincentive to employing foreign labor. There are two problems with this amendment:

- the amendments were introduced after a number of businesses were established that were based on the utilization of foreign labor. The changes will adversely affect their profitability (given the higher productivity of foreign labor and therefore the difficulty in substituting Palauan labor). Governments that alter tax rules in a reactionary way after investments have been established cause an increase in the risk premium for the country as a whole - thereby increasing the investment threshold and reducing future investment activity; and
- given the lack of enforcement, the reduced deduction will only encourage non-compliance.

In a current bill before the OEK, there is a proposal to increase the tax to 6 per cent from 4 per cent of gross revenue, which is a substantial increase in tax. For example, a major hotel with a large capital investment could be expected to have a high ratio of gross revenue (as defined) to total revenue because wage costs as a proportion of revenue would be lower, reflecting the need to recover the return on capital. Therefore, the changes will penalize investments with high capital to labor ratios and favor investments with high labor to capital ratios. Consequently, the tax generally and, particularly the proposed changes, will discourage higher productivity capital intensive industries (such as large hotels, canneries, manufacturing etc) in favor of labor-intensive industries, such as garment factories which employ low-wage foreign workers.

Public sector enterprises are exempt from paying the GRT. While the exemption has minimum net revenue costs, it can lead to a number of problems. It can provide incentives for public enterprises to buy products and resell them to the private sector, thereby undermining the revenue base of the GRT. The exemption can also place the public sector at a competitive advantage which could reduce more

productive private sector activity. To avoid distortions and preserve the revenue base, public sector enterprises should be treated for tax purposes the same as the private sector.

Further, while the GRT is a simple tax (two pages in the code) and few resources are allocated for its collection and enforcement, the simplicity may facilitate non-compliance through under reporting of receipts and non filing. Few checks can be made from suppliers because they also have an incentive to declare lower receipts. Everyone has an incentive to lower declared receipts and increase cash transactions. Import duties amounted to \$2.9 million in FY 1994 - 23 per cent of total tax revenue.

(b) *Trade Taxes*

Every person or business entity importing products for resale into Palau must pay a tax on that product, and the tax rates vary depending on the product. The schedule of rates and associated regulations are outlined in PNC Title 40, Section 1301 and RPPL 3-34.

There is currently a bill (4-153) before the OEK to increase the rates of duty significantly on motor vehicles, boats, boat engines, cigarettes, tobacco, perfumes, soft drinks, beer, liquor and wine.

Import duties in Palau have traditionally been treated solely as a revenue raising item, rather than as a trade policy instrument. In general, unlike most Pacific island countries, the level of import duties has remained low and relatively uniform. Most import items are levied at a 3 per cent ad valorem rate, although beer has a 10 per cent (equivalent) rate, fuel a 4 per cent (equivalent) rate, and medical supplies, foodstuffs and products used for personal use have no duty imposed. In addition, the trade regime in Palau is relatively free of restrictions. There are no particular import or export bans, other than firearms and illegal drugs etc. Apart from an export tax on tuna, there are no other explicit export taxes.

As a revenue raising instrument, however the levying of import duties as well as a domestic sales tax (GRT) is inefficient and a waste of resources. Efficiencies can be achieved by the integration of the two indirect taxes.

In many countries, import duties are also used to protect domestic industry from international competition. In the 1980s and 1990s, most countries realized the high costs of such inward strategies - both in terms of the costs to consumers and the adverse effects on production, productivity and exports.

Further, most import duty systems in Pacific island countries have been affected by the granting of numerous exemptions to various vested interests. Differing tariffs and various exemptions often have led to very high rates of effective protection, that is when inputs enter at lower rates than the corresponding final product, a magnified level of protection is accorded to the use of domestic resources to make the final product. If protective rates are to be utilized, a single uniform rate is preferred to differential rates.

In Palau, the exemption of foodstuffs from import duty, coupled with the cascading gross revenue tax and business license fees, have meant that many businesses import foodstuffs directly rather than through, what should be, lower cost wholesalers and retailers and domestic producers. A further distortion is created by allowing imports for personal use to be duty free. Import duty is only required to be paid if the goods are for resale. Therefore, materials, if imported for construction of a business premise etc are duty free but, if purchased from the domestic retailer, are more expensive because duty is included. The system discourages more efficient purchasing and distribution networks. The 1994 tax amendments propose a change in the use test from duty being required 'if goods are for resale' to 'if goods are to be used for

goods are to be used for commercial purposes'. The effect of this proposed change is not clear because of the vagueness of definitions used. In addition, a number of categories, such as toiletries, have differing tax rates. These items collect very little additional revenue and are probably not worth the administrative expense.

The exemption from import duties if for personal use has a significant adverse effect on the revenue base. The exemption also leads to considerable administrative complications as officials are required to identify the end purpose of imported goods at the point of entry. This can be difficult as there is a strong incentive for importers to misrepresent the end use to avoid duty. The effective resale provision is an inappropriate way of ensuring that intermediate goods are not taxed.

Further, use of an f.o.b, rather than c.i.f base, creates several problems. If transport costs for some goods are a high proportion of final value, these goods have a competitive advantage relative to goods with lower freight costs. Use of f.o.b values erodes the revenue base and the enforcement task is complicated by the incentive to shift values between f.o.b value and freight costs. The normal international practice is to levy duty on a c.i.f basis.

(c) *Hotel Room Tax/Vessel Cabin Tax*

The hotel room tax is an excise tax imposed on guests in hotels, lodging houses or similar facilities. The tax is 10 per cent of the net room rate (excluding charges for food, beverages, gratuities, etc) as defined in section 1401. In FY1994, the tax raised \$0.7 million, 7 per cent of total tax revenue. The vessel cabin tax is a tax levied on paying customers taking overnight cabin accommodation. The tax was introduced in September 1993 and is equal to 10 per cent of the charge for such accommodation or \$10 per day or part thereof whichever is greater.

These are additional taxes on tourism which:

- raise the cost structure of the industry in Palau;
- have no rationale for the imposition other than perceptions that there are surpluses to be taxed in this industry and that the taxes are cost effective to administer because they are collected by the business owners;
- are not user charges for services as there are no direct government services provided;
- are likely to be inefficient and result, at the margin, in lower levels of tourism - which is a policy contradiction for the Government, given that the promotion of tourism is a government priority;
- are selective industry taxes that also raise uncertainty in the industry over future Government tax policy intentions for this sector; and
- are administratively costly to enforce.

The tourism industry must stay cost competitive if it is to compete with other destinations in the Pacific and be a leading sector in Palau.

(d) *Traveler's Head (Departure) Tax*

A traveler's head tax or departure tax is imposed on every person departing Palau, at a rate of \$5 for citizens and \$10 for non citizens (PNC Title 40, Section 1403). Tax collected in FY1994 amounted to \$461,000.

The operation of the Palau Visitors Authority is funded through 70 per cent of departure tax receipts. As such, it is a tax imposed on mainly tourists, some of which is received back via tourism services. The administration costs in collecting the tax are estimated to be around 20-25 per cent. The tax is administratively simple to collect, avoidance is non-existent, the tax does not distort consumption decisions greatly, and is a common tax levied in most countries and therefore has widespread acceptance. In some countries (for example, the Philippines) a higher departure tax is placed on citizens, most of whom are working offshore. This approach seeks to retrieve some of the economic rent from these citizens due to the inability to tax foreign sourced income. The redirection of a part of the tax to fund the PVA seems appropriate. The majority of the tax is paid by tourists and the PVA's function is to promote tourism. It is an efficient tax in that it accords well with the ear marking approach of the user-pays principle. To increase the efficiency of PVA expenditure, however, part of the funding of the PVA should be directly sourced from the industry which benefits directly from PVA activities.

(e) *Other Indirect Taxes*

An **Amusement Device Tax** is payable on all coin activated amusement devices at the rate of \$500 annually for devices that simulate the playing of any card game and \$200 annually for other types, as defined in PNC Title, Section 1402. This tax collected \$572 in FY1991 and zero since FY1992.

A **Foreign Water Vessel Tax** is imposed on water craft owned by non-Palauans (other than common carriers) at a rate of \$50 upon entry and \$250 each year (PNC Title 40, Section 1501). Tax receipts have averaged around \$17,000 per year since FY 1993. Taxes such as these should be levied on visiting vessels by port authorities based on an efficient user-pays pricing structure.

A **Road Use Tax** is imposed on all motor vehicles (PNC Title 40 Section 1404). The tax is an annual charge based on vehicle weight (less than 2,000 pounds \$10; between 2,000-4,000 \$15; above 4,000 \$35). Tax receipts have averaged around \$45,000 per year since FY 1993. Road charges should be related to road costs (economic costs). This will be important following the extension of the road network from Compact funds, whereby the charges will have to cover maintenance and replacement costs of a much larger network. The current charges are low by regional standards, although are average by Pacific island standards.

The bill currently before the OEK (4-153) proposes an increase in charges and a change in the system to fees based on weight (business and commercial vehicles \$0.02 per pound; private use \$0.01 per pound). All revenues collected are to be deposited in a trust for roadworks use. The charging per pound could be administratively complex, although the changes to the use of the funds is sound. There is also a proposal for an additional car rental tax. Again, this is predominantly another selective tax on tourism. The revenue collected is likely to be very small and not worth the administrative expense or the distortion affecting tourism.

Another proposal in the bill seeks to impose a liquid fuel surcharge (\$0.05/gal) on all fuel sold in Palau, with revenue collected going into the road maintenance trust. Fuel taxes are efficient taxes, administratively easy to collect, broad based and environmentally friendly. Because of these attributes, it is not necessary to redirect all revenue from this tax to roadworks, although in the initial stages it makes the tax somewhat more saleable to the public.

5.4.2 INCOME TAXES

The only explicit tax levied on any form of income is the wages and salaries tax (WST). Rates and regulations are stated in PNC Title 40, Chapter 11 and RPPL 1-63. Wages and salaries is defined as compensation received, whether in cash or property and includes commissions, fees, compensation, emoluments, bonuses, etc. The current tax rates are:

- 6 per cent on the first \$8,000
- 12 per cent on amounts over \$8,000

No tax is payable where the annual compensation is \$2,000 or less.

Wages and salary tax amounted to \$3.6 million in FY1994 - nearly 30 per cent of total tax revenue. Of the tax collected, it is estimated that around \$1.6 million was from public sector employees, \$0.6 million from foreign workers and only \$0.6 million from private sector Palauan employees. The low contribution from this latter group reflects low employment levels of Palauans in the private sector relative to the public sector.

There are a number of problems with the current tax on income and substantial scope for increased revenue. At 6 and 12 per cent, the rates are very low by international standards. Rates could be increased without affecting fairness too much in the distribution of the tax burden.

There is no explicit taxation of capital or self employment income, including profits, interest income, dividends or capital gains. Decisions between self employment and working for others are distorted, and avoidance can occur by arranging income as dividends, artificially high interest on loans, capital gains etc. The GRT does not serve effectively as a tax on profits. Firms with identical turnover would generally pay the same amount of GRT even though profit margins may be very different. The GRT particularly hurts new firms commencing operations where profitability initially is likely to be low or non-existent.

Although compensation in the form of property is included in the income base in the regulations, in reality, benefits in-kind are not taxed. Many higher income earners receive benefits in-kind, such as housing, which is generally not taxed. These exemptions are inequitable, encourage avoidance and reduce the revenue base. As tax rates are increased over time, the incentive for higher income earners to reduce tax through receiving payments in-kind will increase.

The exemption from tax for income below \$2,000 creates perverse effects around the margin. It means that a \$1 salary increase above the \$2,000 margin actually reduces a taxpayer's net income by \$120. That is, any taxpayer earning between \$2,001 and \$2,127 can increase their after-tax income by reducing their earnings before tax.

5.4.3 SOCIAL SECURITY TAXES

(a) Social Security Tax

The social security tax is defined in PNC Title 41 Chapters 1-3 and RPPL 3-64. The social security system was established as a separate system after the break up of the Trust Territory social security

system and was put into effect in 1987. The law was amended in 1991 (RPPL 3-64) in an effort to improve the delivery of services and the financial position of the Fund. Tax rates are outlined in table 5.1:

Table 5.1: Social Security Taxation Rates

Category	Tax Rate
Employee contribution	4 per cent up to maximum \$12,000 annual salary
Employer contribution for employee	matching 4 per cent
Owners of business or principal officers of corporations	8 per cent of twice salary of highest paid employee
If owners and employees at same time	8 per cent taxable income
Self employed no employees and over \$10,000 p.a.income	8 per cent taxable income
If self employed and make less than \$10,000 pa optional	\$300/qtr minimum

Source: Republic of Palau, Social Security System, Employer Information, 1993. Note: Taxable income is not defined anywhere.

The structure of the fund includes:

- a mandatory tax on all employees, self employed receiving above \$10,000 gross revenue and owners of businesses:
 - the 4/4 per cent contributions will increase to 5 per cent employee/5 per cent employer on 1 July 1995 and to 6 per cent each on 1 July 2000;
- a maximum tax payable of \$960 pa for all contributors;
- a defined benefit scheme, whereby an annual pension is paid based on the cumulative total of gross wages earned while being a contributor (from 1992, the rates were 0.165 of first \$11,000, 0.027 of next \$33,000 and 0.0135 over \$44,000);
- all members receive the above benefit stream regardless of earlier (much lower) contribution rates;
- all foreign workers are required to pay the tax, including foreign workers for foreign contractors; and
- all funds collected are invested in US securities by law utilizing an offshore trustee and funds manager. As at the end of April 1994, the fund was valued at \$8.6 million.

There are major concerns with the structure of this scheme which will, without much doubt, adversely affect future government expenditures, the consequent flow on into higher private sector taxes, savings decisions and retirement incomes. These concerns include:

- i) The scheme, despite only being established for seven years, appears to be seriously under funded. Draft actuarial estimates show under funding of \$29 million. This results from the fact that the scheme has defined benefits (present and future liabilities) that are not covered by past and expected contributions.
- ii) The scheme has a \$12,000/year income ceiling, but has an indexed benefit stream based on cumulative wages. Inflation, therefore, will erode contribution levels but not disbursements.
- iii) The scheme taxes foreign workers, but these workers have little chance of gaining any disbursements because of generally short contracts and they are highly unlikely to be resident in retirement. Foreign workers and, for that matter, companies' contributions on behalf of foreign workers are foregone totally. In fact, it is the foreign workers' contributions that allow the scheme to meet its current commitments:

- the legality of not refunding foreign workers' contributions has yet to be tested. The Board is reluctant to instigate legal proceedings against the fishing companies to seek payment of the tax by offshore fishing contractors because, if lost, the decision would flow through to foreign workers employed in all industries.
- iv) Returns on US securities in the 1990's have been above long-term trends and, therefore, such returns may not continue over the remainder of the 1990's. The portfolio is not a well diversified portfolio in that it consists of US securities only. While this may not result in overall lower returns, such returns are likely to be more volatile.
- v) Disbursements are based on cumulative wages that are stated by employers in returns. The accuracy of employee statements are likely to be correct because there is little incentive to submit false statements, given that income tax checks could be undertaken. However, employers/self employed have a clear incentive to state higher income levels than actually earned. The owners of business do not pay income tax. No checks are made by Social Security on the accuracy of the statement of wages and income - yet this is crucial to the benefit stream of the contributor.

The contributions are a major business expense that will impact on the cost structure in Palau. In particular, the contributions paid by employers of foreign workers is another indirect and inefficient tax on foreign workers. If the return on funds invested declines and the intake of foreign workers slows or there is a successful legal challenge against social security tax on foreign workers, the Fund may not be able to meet its commitments. If this were to occur, then the Government would either have to increase the tax or change the scheme to lower the defined benefits. Confidence in saving for retirement would be reduced which could have adverse effects on savings generally and the consequent availability of investment finance.

(b) Civil Service Pension Plan

The Pension Plan was established in 1987 (RPPL 2-26) to provide retirement, disability and death benefits for civil servants, as well as spouse and survivor benefits. The scheme is administered by a seven member board. The scheme is mandatory for all government employees, including employees of statutory authorities, state governments, boards and commissions. The scheme does not require contributions from foreign contract workers and provides no benefits to this group. Former employees (who retired prior to 1987) were included in the scheme in 1989 (RPPL 3-21). Plan benefits were increased by 5 per cent from October 1993 (RPPL 4-10).

The structure of the plan includes:

- members contributions which comprise 6 per cent of employee wages and salaries, matched by 6 per cent from the Government;
- the plan is a defined benefit scheme;
- benefits include disability and death benefits and a maximum fixed pension, defined as 60 per cent of average income of three consecutive high years out of the most recent 10 year period, for 30 years service and retirement age of 60 years. For less than 30 years service, two per cent is deducted from average income for each year less than 30 years;
- early retirement can be taken on or after 55 years of age if there has been at least 20 years service. The benefit is reduced by one twelfth for each year below 60 years;

- with respect to investment parameters, the Board has full authority to invest the funds in a broad range of instruments provided they are invested with the highest standard of care to ensure the preservation of the principal of the Fund. Lending to the Government or any government instrumentality of Palau is prohibited; and
- the Board has a fiduciary obligation as trustee to protect and safeguard the Fund for Plan members and to make sure the Fund is actuarially sound.

As at the end of 1993, the market value of the Fund was \$7.1 million. The Fund is actively managed by an offshore funds manager, with advice from Merrill Lynch.

As with the Social Security System, there are major problems with this Fund. If this Fund is to have a role in supporting domestic development and not become a drain on the government budget and, consequently, on the private sector through higher taxes, these problems need to be addressed urgently. Problems include:

- no recent actuarial studies have been undertaken to assess the adequacy of the scheme. Estimates from an earlier 1989-90 actuarial study state that the scheme is only 11 per cent funded (that is, planned assets were only equal to 11 per cent of the plan liabilities). Since then the unfunded portion of the Fund would have increased. It is now estimated that under funding could be over \$30 million;
- the under funding of the scheme results from Government decisions to include civil service employees in the service prior to 1987 in the scheme with full benefits, without the Government contributing the required funds (the Government generally has only paid a small proportion of required funding, although the Government's contribution increased substantially in FY 1995);
- the under funding also is due to the promise prior to the last elections to increase benefit payments by 5 per cent, also without making available the required funding;
- contrary to the Act, the Public Auditor does not issue quarterly reports that are required to be forwarded to the Board and OEK; and
- investments of the Fund have been restricted to US securities, yet the legislation gives broad powers to the Board to invest elsewhere. There is no reason why investments in Palau cannot be undertaken, provided such investments are not loans to Government or related parties to the Board. Of course, any such investments in Palau should be evaluated thoroughly on a yield/risk basis against alternative portfolio investments in the US. This is essential as public investments in Palau in the past have not performed well.

The under funding of both the social security and pension scheme is a problem that should be addressed. The Board of the Government Pension Fund has, on a number of occasions, requested that this matter be addressed by the Government. If the schemes could be placed on a sound footing, the size of the Funds would increase substantially which would add to domestic savings, provide significant potential resources for domestic investment and reduce the uncertainty associated with large and increasing future liabilities.

5.4.4 OTHER FEES AND CHARGES

(a) General Business License Fees

Business license fees are required to be paid by all businesses operating in Palau. As well as paying a fee to the National Government, an identical fee has to be paid to the respective State Government. Two sets

of application forms have to be completed and two processes followed. The annual fee schedules are the same (PNC Title 40, Section 1501) and include:

• wholesaler	\$300
• person engaged in a profession	\$300
• importer	\$200
• other general business	\$50

If the business is a wholesaler, solicitor or peddler, a sale license is also required (PNC Title 11, Chapter 5) at the following annual fees:

• general wholesale license	\$100
• solicitor's license	\$500
• peddler's license	\$20/day

In the proposed bill before the OEK (4-153), license categories have been expanded to 115 with rates varying from \$50 to \$500 per annum. The scale structures appear to be based on perceptions of 'ability to pay'.

Corporations operating in Palau are required to register at the Attorney General's Office and submit detailed information, including articles of incorporation (Title 12 Chapter 1). There is a registration fee of \$250 and a renewal fee of \$50/annum.

The license and registration fees are simply revenue raising taxes. Minimal services are provided and little evaluation is conducted. No aggregate data is compiled, no ongoing regulation of the corporate sector takes place and there is no readily available public access of business registrations. There is no comprehensive legislation by which companies are regulated and supervised.

(b) *Foreign Vessel License Fees*

Foreign vessel license fees are paid to the Palau Maritime Authority (PMA) for operating a certain number of vessels in the Palau EEZ. The license agreements are negotiated annually and there are additional fees if more vessels are required. In 1993, \$650,000 in foreign vessel license fees were collected. Of this, 15 per cent was retained by the National Government and the remaining 85 per cent was distributed to the States under a set formula.

In an effort to achieve additional revenue from the industry, in October 1993, the Government introduced a levy of 12.5 c/kg on tuna exports. It is difficult to evaluate the effects of the license fees and the new tax. The export tax does not appear to be a particularly efficient tax as it is applied on a weight basis regardless of quality or profitability of exports. As such, the tax may reduce the value of reject fish to unsaleable levels. It may also serve as a disincentive to the development of genuine Palauan participation in the industry. The tax was introduced in an attempt to obtain higher returns from the industry. In FY 1995 tuna exports and license fee receipts will decline significantly due to the temporary closure of one of the two large fishing companies (PITI). In a recent report (Tax and Revenue Review Committee, 1995), it is stated that tax receipts from this industry were 68 per cent lower in the first three quarters of FY 1995 compared with the same period a year earlier. It is not clear whether the imposition of the new tax is a contributing factor to the decline in the industry or not.

A new fee structure, based on a revised annual vessel license fee of 4 per cent of the estimated average value of the yearly catch of a vessel of that size and flag on the Japanese market, has been recommended in Chapter 11 of the Master Plan. A trip fee has also been recommended to encourage more efficient vessels and reduce harbor time.

(c) *Utility Tariff Rates*

Utility tariff rates are specified in PNC Title 37, Chapter 3 and are currently as follows:

- | | |
|--------------------|-----------------------------------------------------------------------------------|
| • Electricity | 9 cents/kwh for monthly consumption up to 2,000 kwh; 10 cents/kwh above 2,000 kwh |
| • Water | 85 cents/1,000 gals monthly consumption |
| • Reconnection fee | \$30 |

Utility tariff rates need to be restructured to create an efficient pricing policy. This will be discussed in Chapter 6.

5.4.5 INVESTMENT TAX INCENTIVES

In many countries in the Asia-Pacific area, there are an array of investment incentives offered to attract investment, particularly foreign investment. Palau does not, at this stage, offer any such incentives.

Fiscal incentives that are commonly offered in Pacific island countries include:

- tax holidays on company tax payments, accelerated depreciation, investment allowances and extra deductions for certain types of expenditures;
- tariff protection and quantitative controls on imports designed to assist manufacturing enterprises achieve early profitability and increase their post-tax rate of return; and
- financial incentives including interest rate subsidies and credit guarantee schemes.

There is much evidence to show that these investment incentive policies offered by Pacific island countries have mostly failed to significantly accelerate private sector investment and growth. The low private sector growth rates recorded in Pacific island countries over the past decade clearly demonstrate that offering generous incentive measures does not automatically generate private sector growth and, in fact, can impose significant costs on the community overall. The findings of most overseas studies show that the effectiveness of incentives on attracting foreign investment to specific countries is minor (McMaster, 1990; Rose, 1983; Tasker, 1986; Thomson, 1989; Sturton, 1990; World Bank, 1989 and 1993, Harbeger, 1990). Most studies conclude that investment incentives are much less important than the establishment of an environment that is conducive to private sector development.

5.5 STRATEGY AND PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES

5.5.1 STRATEGY: TAXATION AND GOVERNMENT CHARGES

Raise the required level of revenue necessary for Government expenditure plans such that the tax and charging system is competitive, has the least adverse impact on production and consumption decisions (efficiency), achieves the necessary equitable outcomes desired by Palauans, and is conducted in a transparent and professional manner (strategy 3.4.2.5).

5.5.2 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - INSTITUTIONAL ASPECTS

5.5.2.1 Tax Reform Task Unit Established

To achieve the necessary reforms within an integrated approach, a Tax Reform Task Unit should be established in the Ministry of Administration headed by an internationally recruited consultant. The Unit should draw on existing taxation and other expertise in the Ministry of Administration and other Ministries that will be affected by the tax changes. Establishing the necessary tax administration and tax design are equally important tasks. The present computer system is inadequate and will need to be upgraded. Improved computerization will enable the creation of a master tax file and, together with a tax number system, will greatly enhance cross referencing and compliance. It is crucial that audit procedures be modernized. More tax and collection officers need to be employed, positions need to be upgraded, and salaries increased. Comprehensive policies and procedures manuals need to be drafted to assist in clarifying staff responsibilities and performance measurement.

It must be emphasized that the changes are relatively complex and additional training and international expertise will be required. The taxation rates shown in the following program outputs are indicative only. Lack of taxation and economic data in Palau has inhibited calculation of rate scenarios and likely delinquency rates, revenue streams, and tax burden effects. Such evaluation will be necessary before implementation of any tax reform. The tax reform process can be expected to take two years. The head of taxation is a key post in the Executive Branch and must be filled with a highly professional person who must be remunerated well. In this respect, the position should be advertised internationally. Funding and assistance in filling the position could be gained from bilateral donors or multilateral institutions such as the International Monetary Fund (see Annex Ch.13 for Position Description).

5.5.3 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - INDIRECT TAXES

5.5.3.1 Value Added Tax Designed and Implemented

Tax revenue can be increased substantially and many of the present problems associated with the GRT, import duties and other selective product taxes resolved by absorbing these taxes into a modern sales tax system consisting of a simple value-added tax (VAT) and excises applied to a narrow range of goods. There is much experience now in the developing world to ensure the success of a VAT (see World Bank 1994, Tait 1988 and Gillis, Shoup and Siscat 1990 for details on VAT design and implementation). Successful VATs have been introduced in recent years

introduced in recent years in Western Samoa, Indonesia, Fiji, Brazil, Colombia, Korea, Turkey, Malawi, Bangladesh, Jamaica and Cote d'Ivoire.

The VAT should be levied at a uniform rate on all domestic sales of goods and services, but with registered businesses able to reclaim tax on their inputs. Imports would be taxed on entry, effectively withholding part of the tax due on final sales. Exporters should be allowed to reclaim tax on inputs and not be required to charge tax on offshore sales - that is, exports would be zero rated.

Use of a VAT would overcome a number of problems. The zero rating of exports would ensure exports were not penalized by allowing them to be essentially tax free. Distortionary effects due to cascading are removed by allowing tax credits on inputs. Imports are taxed immediately at the point of entry, with no need to identify end use. A uniform VAT rate should be used to allow ease of collection and compliance.

While the uniform rate selected will depend on the Government's revenue needs, it has been estimated that a rate of 7 per cent would be neutral - that is, would replace revenue foregone from the removal of the GRT and import duties. Because revenue needs will increase over the planning horizon, it is recommended that the initial rate be 10 per cent which would still be low by international standards. Experience elsewhere has shown that the implementation of a VAT has met the revenue forecasts exceedingly well.

To ensure ease and cost of administration, businesses below a threshold turnover (say \$100,000) should not be required to register for the tax. The threshold figure could be determined from a review of the costs of administration vs the revenues collected. But traders below this threshold will still pay VAT on their purchases from registered traders and their direct imports, but will not be required to pay tax on their value added. This will reduce the number of taxpayers substantially and ease administration without sacrificing too much of the revenue base. While any threshold will have the same distortionary effects as the gross revenue tax, these will be minimized by the low base of the threshold and outweighed by the savings in administration costs. An alternative to the threshold approach is to apply a turnover tax to smaller businesses, however once again administration costs should be examined to determine the benefits of implementing two systems.

The coverage of the tax base for the VAT should be as broad as possible. Exemptions erode the tax base and imply higher rates on other items. Food should not be exempted. This should not have a substantial adverse impact on the costs of poorer citizens because traditional food will be generally untaxed due to the threshold turnover exemption. Imported food (including rice) will be subject to the VAT at the point of entry or on sales through retailers above the threshold. The threshold exemption, therefore, will provide some measure of trade protection to small scale domestic agriculture. Items that could be exempted include medical, health, education and financial intermediation services (the latter because of the difficulty of defining the tax base). Corporatized Government entities should not be exempted.

Because there are currently no import duties levied to protect domestic industries and, given that the VAT will encompass imports, there is no need to have a separate import duty regime. Customs, however, should be contracted to collect the VAT on imports (like a withholding tax). Collection of the VAT on imports will be aided considerably by the fact that VAT will be uniformly applied to all imports (with the exception of any exempt categories) without any need for assessment of end use.

An initial task of the Tax Reform Task Unit should be to firm up the rate structure. Rate design is not possible at present because of the inability to obtain confidential tax data that would allow calculation of revenue and differing rate scenarios, and incidence analysis. The decision to implement a VAT is a sensitive issue and based on a sound understanding of the social and political implications of such a tax for Palau. It should be taken in the following stages before any final recommendation is taken to the Executive Branch for drafting of legislation:

1. Collation of confidential tax data.
2. Review of design options.

3. Some rate scenarios modeled, based on one or two preferred design options.
4. Review of lessons learned from countries which have recently implemented a VAT (e.g. Western Samoa and Fiji) through a study tour comprising Government officials and politicians.
5. Modification of design based on findings of study tour and understanding of the specific requirements (social and political) that should apply to Palau.

The utilization of a broad-based VAT and excise duties will eliminate the need for selective taxes such as the hotel room tax, cabin vessel tax and amusement device tax, and proposed taxes such as the car rental tax, which can all be repealed.

5.5.3.2 Excise Duties System Established

To improve the revenue base and enhance equity, a number of excise taxes should be imposed. Excise taxes apply both to imports and domestic production and have the advantage of limiting unintended incentives for import substitution. Although this may not be an issue at present, it could become a problem as the economy develops. Excises should be levied on an ad valorem basis on alcoholic drinks, tobacco products, petroleum, soft drinks, motor vehicles and cosmetics. Demand for these products tends to be inelastic and, therefore, increases in tax rates have only minimal distortionary effects on consumption patterns. Levying of excises can also be justified on the basis of health as in the case of alcohol and tobacco, equity with regard to luxuries such as motor vehicles and cosmetics, and additional roadworks with regards to fuel. A portion of revenue collected can be respectively assigned directly to health or roadworks to make such taxes more politically palatable. Rates have not been specified at this stage and will depend on the implementation of the other tax recommendations and government revenue needs. The rates can be increased substantially and still be well below international rates.

5.5.3.3 Departure Tax Increased

The departure tax should be retained because of its international acceptance and ease of enforcement and collection. The rate should be increased to \$20 for foreigners and \$10 for Palauans. Consideration should be given to a higher rate for Palauans emigrating (that is, the Philippines model). Of the revenue collected, 35 per cent should be allocated to the PVA. Any additional funds required by the PVA should be raised from member levies.

5.5.3.4 Road Use Tax Enacted

While the levying of a fuel excise is an appropriate tax to cover the variable costs of roadworks, a road use tax should be used as a basis for collection of funds to cover fixed road costs. To limit administrative costs, it would be preferable for the road use tax to be based on vehicle type (engine size) and/or use (commercial or private) rather than complex schedules of vehicle weight as proposed in the current bill.

5.5.4 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - INCOME TAXES

5.5.4.1 Wages and Salaries Tax Structure Strengthened

The introduction of a comprehensive system of income taxation is not recommended at this stage of Palau's development because of the likely lack of administrative resources. However, it is recommended that the wages and salaries tax be strengthened and a limited net profits tax be introduced.

The wages and salaries' threshold under which no tax is paid should be lifted to \$4,000 for all employees, including foreign workers (cost to budget estimated to be around \$0.7 million) which will increase private sector

wage rates. As few civil servants are on less than \$4,000 this will not affect civil service take-home remuneration. But it will provide an increase for lower skilled private sector workers.

To remove perverse effects, the exemption should be applied to all taxpayers. That is, the first \$4,000 of income is free of tax for everyone. The increased costs can be offset by increasing marginal rates. Withholding tables will need to be rewritten to account for the change.

To offset the significant gain to foreign workers from the higher threshold and to facilitate labor market reform, work permit fees for foreign workers should be increased from the current \$50 entry and \$75 renewal per year to \$250 per year for all foreign workers (refer Chapter 4). This will result in sufficient revenue to cover the higher private sector no-tax threshold for foreign workers. The \$500 fee levied on foreign workers employed under Foreign Investment Board certificates and the differential (lower) tax deduction for foreign workers should be abolished.

The wages and salaries tax should be applied to all forms of earnings whether in cash or in-kind and including self employment income and income from capital. Progressivity can be enhanced and revenue increased by increasing the marginal tax rates. While the rates selected will depend on the Government's revenue needs over time and a more detailed evaluation, in general, it is recommended that initially the rates be set at zero up to \$4,000, 10 per cent for taxable income between \$4,001 and \$12,000, and 15 per cent for taxable income above \$12,001. The change in rates will offset the cost of the \$4,000 exemption and allow around a 10 per cent increase in wages and salaries' tax revenue.

5.5.4.2 Net Profits Tax Enacted

All firms above a certain size should be liable to a simple net profits tax. To reduce distortions and safeguard revenue, firms below the threshold would be liable to a minimum tax, while firms above the threshold would pay the minimum tax as well but would gain credit under the net profits tax. The threshold used will depend on a more detailed evaluation, but turnover of \$100,000 would capture the main taxpayers and limit administrative costs. The minimum tax could be set at 2 per cent of turnover. Again, this will have the same distortionary effects as the GRT, but these will be minimized by the low base of the threshold and are outweighed by the savings in administration costs.

The principle of a profits tax is to tax an enterprise on the excess of receipts over its cost of doing business. To preserve the base, taxable receipts should be defined broadly and deductible costs narrowly. Rents, interest received and capital gains should be taxable and items of personal consumption should not be deductible.

Reasonable allowance should be given for depreciation of real investments. A pooling system can be used whereby assets are grouped into a few categories such as buildings and plant and equipment. Declining balance depreciation would then be applied to each at rates intended to be faster than real rates of economic depreciation. In this respect, 15 per cent for buildings and 25 per cent for plant and equipment would seem appropriate, providing reasonable incentive for investment as well as compensation for the absence of inflation adjustment.

Losses should be allowed to be carried over with a maximum limit of 5 years. Interest should be deductible and, while there is a strong case for dividends to be deductible, this should be delayed until a comprehensive tax on all forms of income is established.

The rate of tax applied to profits should be the same as the higher rate applied to salaries (that is, 15 per cent). This would still be very low by international standards. Foreign enterprises would be liable to the profits tax and there should be little incentive to evade tax provided the tax rate remains low. However, to establish more certainty and to increase information sharing, negotiations on double tax treaties should commence with a small number of relevant investor countries.

5.5.5 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - SOCIAL SECURITY AND PENSION SCHEMES

5.5.5.1 Social Security and Civil Service Pension Schemes Improved

Actuarial studies of both schemes should be undertaken urgently and a plan developed to ensure the schemes become fully funded, or at least move in that direction over time. This will entail a much greater commitment by the Government to funding the schemes, and/or benefits/coverage will have to be downgraded and/or contributions by existing members increased. This will restore confidence in the system, reduce future liabilities of the Government and increase savings and the possibility of resources for domestic investment. Actuarial studies should be then undertaken on a regular basis to obtain knowledge of expected cash flows, such that appropriate investment horizons and likely liquidity demands can be managed optimally. Both schemes should be audited by an external auditor and, together with the actuarial studies, be presented publicly via the OEK. Over time, if the schemes can be placed on a sound financial footing such that they are both fully funded, then the investment funds could be amalgamated to obtain greater economies and lower fees from investment managers. The situation of foreign workers' contributions in the Social Security Fund must be rectified. The situation is inequitable for foreign workers and employers of foreign workers, and risky for the Fund if a legal challenge is successful. Foreign worker contributions with interest should be returned to the contributors on departure (additional reforms for these schemes are shown in Section 5.7.2).

5.5.6 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - BUSINESS LICENSE FEES

5.5.6.1 Business License System Improved

The business license and corporate registration process should be streamlined to lower costs and improve corporate supervision. The current discriminatory, multi-rate, duplicative business license process should be abolished and replaced with a single administrative entity in which should be the responsibility of the Ministry of Commerce and Trade (Bureau of Economic Development) with the following:

- corporate businesses should require only one license (subject also to FIB approval if a foreign business) although would still need to detail various business areas in annual returns;
- the Bureau should be responsible for all business and corporate registration, regulation and supervision of business and banking affairs;
- staff of the Bureau will need to be highly skilled in corporate regulation. A consultant position to advise the Head of the Bureau should be advertised internationally to bring strong qualifications and experience in commerce, corporate finance, business regulation and banking. Donor assistance is likely to be available to fund this position. The Asian Development Bank has funded similar positions in other Pacific island countries. (See Annex Ch.13 for Position Description)
- the consultant, deputizing for head of the Bureau should also be an ex officio member on the FIB; and
- the Bureau would also conduct prudential supervision of the financial sector and establish entry, management and prudential standards for banks (see Section 5.3).

To maintain consistency and administrative simplicity, the Bureau should collect fees on behalf of the National and State Governments and redistribute a portion of business registration and annual fees to the respective State Governments through annual block grants during the budget cycle. The Bureau should maintain a readily

available register of businesses, showing locations, ownership structures etc. Over the medium term, expertise should be acquired to formulate a suitable companies code.

5.5.6.2 Business License Fee Structure Simplified

The fee structure should be simplified and related to administration and regulatory costs rather than the current vague notion of profitability (the taxing of which is best left to the income tax system). The fee structures should have the following components:

- all businesses (apart from corporations) should be required to gain a license and pay a registration fee (say \$100 for small businesses, \$200 for larger businesses), then an annual fee (say \$75/150). Only minimal information requirements should be sought in yearly returns;
- corporations should be required to pay a higher registration fee (say \$300) together with detailed information. Annual renewal fees should be paid (say \$150) and information on returns should only be sought that is required for monitoring activity and supplying relevant data series;
- if banking or financial institutions' licenses are issued, a much higher fee schedule should be levied (for instance, 30 basis points or 0.003 per cent on respective deposit levels which will raise about \$180,000 in revenue) to cover the higher cost of prudential supervision - an area which will need to be addressed urgently.

5.5.6.3 Fees for Foreign Fishing Boat Licenses Established

A new fee structure for offshore fishing boats should be introduced based on a revised annual vessel license fee of 4 per cent of the estimated average value of the yearly catch of a vessel of that size and flag on the Japanese market. (Refer to Chapter 11 for details)

5.5.7 PROGRAM OUTPUTS: TAXATION AND GOVERNMENT CHARGES - INVESTMENT TAX INCENTIVES

5.5.7.1 Non Discriminatory Investment Environment Maintained

Over the planning horizon, Palau should refrain from introducing selective investment incentives. Rather, the Government should concentrate on developing a market friendly and competitive environment that is non discriminatory and conducive to investment and private sector development.

DOMESTIC FINANCIAL SECTOR

5.6 PROBLEMS AND ISSUES: DOMESTIC FINANCIAL SECTOR

5.6.1 SITUATION ANALYSIS

The development of the domestic financial sector is very important in mobilizing and increasing domestic savings in support of private investment and government spending, lowering the cost of funds for investment, assisting business in developing bankable projects and lowering transactions costs for business through an efficient payments system. A vibrant and innovative financial system is fundamental to sustained economic growth.

While Compact funds will finance the bulk of investment in Palau over coming years, increasingly there will be a need for finance for more private investment and to meet government requirements to sustain real GDP growth.

Palau's financial sector is surprisingly diverse, although it is still very shallow. There are six commercial banks, a government-owned development bank, a state government bank, two government-owned pension funds, a housing authority, a number of insurance agents and a few credit cooperatives. In recent years a number of small banks have commenced operations.

The main source of domestic investment funds for the private sector at present is bank deposits. The Government, to date, has not utilized the domestic financial sector for any of its funding needs and, as such, no debt instruments have been developed either to smooth liquidity volatility in the system or finance budget deficits.

However, contrary to public perceptions, Palau's capital supply has been much less a constraint on development than many other factors. Palau's relatively high income levels, coupled with the development of a number of relatively wealthy entrepreneurs, have resulted in reasonably high savings levels manifested in healthy bank deposits both onshore and offshore, low private sector debt levels and sizable pension fund balances. The difficulties relate to the channeling of such savings into domestic investment and the potential of the sector to expand its activities.

Overall, the domestic capital market is undeveloped and lacks the institutional framework and high level of integrity of the financial sector which are essential to the development of a strong and competitive domestic capital market. In this respect:

- there are no tradable securities, no interbank market and no monetary policy is exercised which would facilitate a more efficient capital market;
- interest rates tend to follow those of the US (due to the use of the US\$), although there are legislated interest rate ceilings imposed which cause the supply of business credit to be constrained at times;
- there are a lack of regulatory and supervisory institutions that would increase public confidence in savings and financial management;
- the business taxation system, coupled with a number of irregular financial dealings, results in the holding of substantial undisclosed funds in offshore accounts;

- the government pension funds play no role in financing domestic investment and are seriously underfunded;
- few resources are allocated to assist prospective entrepreneurs to prepare bankable projects and, as such, project financing is uncommon;
- there is a reluctance throughout the community, including government, to treat the repayment of debt as a priority; and
- legislative restrictions and past practices prevent the availability of public institutional equity and there is no secondary market in the trading of equities.

5.6.2 PENSION FUNDS

There are two pension funds established in Palau - the Government Pension Fund and the Social Security Fund. These funds comprise a large proportion of total savings in Palau and, as such, could be important in mobilizing savings for development. In other developing countries, pension funds have been instrumental in establishing the fledgling equity market, and financing government capital spending and private investment. However, all the funds are currently invested offshore. An important issue, then, is how these funds can best be utilized to increase development in Palau and, at the same time, ensure that the returns to contributors are maximized and remain relatively secure.

There are major problems with both these Funds which were examined in Section 5.4.3. In particular, the Funds are estimated to be under funded by around \$50 million. If these Funds are to have a role in supporting domestic development and not become a drain on the government budget and, consequently, on the private sector through higher taxes, these problems need to be addressed urgently.

As at the end of 1993, the Social Security Fund and Civil Service Pension Fund had market values of around \$8.5 million and \$7 million, respectively. Both funds are managed through an offshore trust company and funds manager. The performance of investments has been solid. In 1993, the returns on funds invested were around 14 per cent and 17 per cent, respectively. Funds were invested in US securities (53 per cent equities, 42 per cent bonds, 5 per cent cash as at end 1993). Given existing legislation, Social Security funds are not available to meet the domestic credit demands of the private sector or government, although funds with the Civil Service scheme are available but the Board has not sought to make such an asset allocation.

In general, pension funds are major investors in their respective economies because they comprise a substantial portion of the country's savings, are able to assemble expertise and provide more relevant assessment of their own markets than they can of other markets. Pension funds, therefore, often tend to be active investors in their local markets and passive investors in offshore markets where they have limited expertise. They are very important local financial intermediaries.

The Pension and Social Security Funds are a large part of the savings base of Palau and would be much more important as a source of capital if the schemes were fully funded. In this respect, they could play an important role in the development of the financial sector in Palau and in mobilizing savings towards domestic investment. It will be difficult for the Government to convince the commercial banks to increase lending in Palau if the total amount of government savings (Pension Fund and part of the Social Security Fund) is invested offshore because of a lack of confidence in its own ability to create a favorable investment climate.

The Pension and Social Security Funds are very small by international standards and there are significant economies of scale in portfolio investments. Substantial cost savings could be achieved by the amalgamation of the funds into one entity. Amalgamation of the schemes would also remove the current inequity, whereby government employees receive two contributions from government towards their retirement income. However, both these moves would require full and accurate actuarial studies with appropriate government injections to ensure that the schemes are fully funded, as well as an enhanced level of accountability to ensure that cross subsidization did not occur. If the recommendations on the establishment of the Palau Investment Corporation are adopted (see chapter 6 of the Master Plan), then these funds could be managed by the Corporation.

The lack of institutional equity often means that a prospective investor has to fund the entire equity requirement of a project from his/her own resources. The shortage of local equity often means that a potential investor does not have access to an exit mechanism at the time he/she wishes to sell the enterprise. Redirecting institutional equity towards local private sector investments on a portfolio basis may alleviate the equity funding problem of an entrepreneur and can serve as the basis for establishing an embryonic over-the-counter market in trading the equity. The development of a secondary market for trading in equities would help deepen the capital market and provide an indirect valuation of a company, which in turn may assist in the divestment of the investment at a future date. In this respect, the pension funds in Palau can play an important role in developing the equity market.

However, the encouragement of pension funds to have an investment exposure in Palau has a number of substantial risks because of lack of development of the capital market, the current lack of accountability for performance, and substantial vested interest pressures. In this regard, pension fund investments in other Pacific island countries have performed very poorly. Therefore, domestic investments should only be made after a thorough evaluation which shows yields and risks comparable with alternative investments in the US. Investments in Palau should not occur until both funds are placed on a sound financial footing and then the exposure to Palau should be limited to around 20 per cent of the portfolio.

5.6.3 BANKING SECTOR

Palau is served by numerous banks despite its very small population. The Bank of Hawaii and Bank of Guam are US licensed banks which have branches in Palau and are, by far, the largest banks in the country. The Bank of Palau is owned by a Palauan family; the Pacific Savings Bank, the Security Bank of Palau and the Bank of Micronesia are predominantly foreign owned and have been established in recent years; and the Palau National Development Bank and the Melekeok Government Bank are government-owned banks.

(a) Legislation and Supervision

The banking system in most developing countries is integral to growth in private sector activity. It acts as a financial intermediary between savers and borrowers and, as such, is a major source of financial capital for business expansion and government financing requirements. In doing so, the banking system diversifies the credit risk of borrowers to safeguard (spread) the risk to depositors and encourages savings. Its predominant expertise is in the assessment of credit risk.

There are solid arguments for bank regulation, even in free market economies. Banks are fundamentally different from other corporations. The difference reflects the fact that they are very highly geared (high

debt to equity ratios) - much more than other corporations; that is, they hold large levels of household liabilities (deposits) relative to much smaller levels of equity. There are strong public interest arguments, necessitating government intervention to ensure that there is integrity in the banking sector and security in the payments system.

There is also considerable moral recourse risk for government. Small depositors often have little choice other than to accumulate savings in the form of bank deposits. Most believe their savings are safe because governments regulate the banks. When banks have failed, the public pressure on governments to replenish depositors funds has been so great that nearly all governments confronted with failures have paid the affected depositors. In most cases, the costs have been substantial and many governments have lost office over the issue. In response, most governments either insure the deposits of the banking system (like the US through the FDIC) or stand behind such deposits in one way or another.

In this respect, bank regulators have the clear objective to protect the payments system and provide protection of depositors' interests, particularly small depositors who are usually unable to assess financial risk. The Government's role is not to protect the interests of the shareholders or owners of the bank. Because of a number of bank failures in the 1980s and the increase in risk that has been associated with international capital and new products, most governments in the world have increased their supervision of banks. To increase flexibility in response to a rapidly changing financial environment, most governments have moved away from direct regulation of banks through prescriptive legislation towards a more flexible, prudential supervisory system based on risk analysis and capital adequacy.

This is, and will become, an increasingly important issue for Palau. In Palau, there is no central bank or banking regulator. There is no Banking Act and there is no prudential supervision of the banking sector. The two major banks are branches of US banks which are supervised by the US Federal Reserve. As such, the risk to depositors funds in these banks is low, although it is not clear whether FIDC insurance applies outside of the US. With respect to the other banks operating in Palau, the risks are very much higher. In general, these banks have:

- low equity bases;
- concentrated ownership;
- no requirement to hold adequate and secure standby credit lines;
- no restraints on related-party transactions or management contracts;
- no large exposure restrictions;
- no accountabilities to depositors such as a requirement to disclose audited statements to depositors;
- inadequate expertise to evaluate market risk or liquidity risk; and
- no requirement to hold a backup system of accounts for security.

At present, most of these small banks accept retail deposits and generally only make small personal loans to workers who have their wages garnisheed. Apart from liquidity risk, there is little credit risk involved in this area of lending. However, as these banks attempt to expand into commercial lending, major risks will develop. Most of the smaller banks have inadequate standby lines of credit and could fail to meet depositor demands quite easily.

Moreover, the differing risk levels between the FIDC insured banks and the small banks in Palau results in little development of the interbank market which, given the difficulties for foreign-owned banks in acquiring security over land, would facilitate deposits in these smaller banks by the larger banks. This would increase lending growth overall.

While there is no banking legislation in Palau, there are some pieces of legislation that impact on the banking system. These include:

- Title 11 (Business and Business Regulation) Chapter 3 Usurious Interest prescribes a number of controls on interest rates. These include a maximum interest rate of 18 per cent for loans under \$15,000, and US prime plus a maximum of 2.25 percentage points for loans greater than \$15,000;
- Title 26 (Financial Institutions) Chapter 5 Commercial Bank Disclosures requires banks to disclose to customers interest rates levied and paid, and the terms and conditions of loans.

While disclosure requirements are very important for bank clients, interest rate controls are totally inefficient. Such controls generally restrict lending and remove flexibility in lending packages. While authority over interest rates remains in most countries' banking legislation, it is generally not exercised any more. Those developing countries that still actively utilize interest rates controls often fail to appreciate the problem - which is usually a contraction in reserves from excessive government spending and/or higher country risk premiums related to economic mismanagement and political instability.

In Palau, banks, like other corporations, require the necessary business licenses and certificates of incorporation. However, there are no specific requirements for banks such as initial capital, limitations on ownership concentration, deposit and lending activities, standby financial arrangements, auditing requirements, risk management systems, etc. Bank licenses, which allow for the acceptance of depositors' funds, appear to be easily obtainable without provision for any safeguards. If foreign interests are involved, Foreign Investment Board approval is required. There is no corporate supervision of banks although, like any other partnership, company or corporation, annual returns have to be submitted. There are no allocated responsibilities at the Attorney General's Office for examining these returns for prudential purposes.

Overall, the licensing of very small banks, which are allowed to accept retail deposits and have no restrictions on lending or any safeguards or prudential controls, is a recipe for financial crisis. The Government will need to address this inadequacy urgently. In recognition of the problem, a bill to establish a Banking Commission is currently being discussed at the OEK. However, there are a number of concerns and problems with the current bill, including excessive administration costs, concerns over confidentiality and independence, and the focus on interest rate control rather than prudential supervision.

Given these concerns and the intent of the Legislature embodied in the recent bill, an official position responsible for the licensing and prudential supervision of the financial sector, particularly the banking sector should be established. However, given the very small size of the industry in Palau, the high costs involved in banking supervision and the need for strict confidentiality, it would be inefficient to establish a separate entity.

Palau will need to enact legislation to regulate and supervise banking activities. The legislation should empower the Ministry of Commerce and Trade with responsibility for business and banking regulation and supervision. The legislation should incorporate a set of risk-based prudential standards for banks, the powers of the regulator to enforce these standards, reporting requirements, dealings in securities, safeguards for depositors and accounting standards.

(b) *Monetary Conditions and Policies*

Aggregate deposit and loan data for the eight banks are shown in table 5.2:

Table 5.2 Banks Palau: Aggregate Deposit and Loan Data (\$'000)

	Deposits				Loans		
	Demand	Savings	Time	Total	Personal	Business	Total
1989	6,700	8,915	18,861	34,476	6,576	8,865	15,441
1990	7,300	12,699	19,493	39,492	7,011	11,334	18,345
1991	8,100	16,332	25,061	49,493	8,830	15,759	24,139
1992	8,304	21,982	19,990	50,276	9,486	16,137	25,623
1993	10,500	24,254	18,165	52,919	12,507	15,127	27,634
1994	10,100	24,989	14,699	49,788	15,329	14,131	29,460

Source: Data supplied by banks. Note: 1994 data as at May 1994; total deposits includes checking deposits.

Between 1989-94, deposits (approximately equivalent to the broad money supply, M3) increased at an average annual rate of around 8 per cent. Around 80 per cent of savings deposits and over 90 per cent of time deposits are held by the Bank of Hawaii and Bank of Guam. Most of the growth in deposits has been due to strong growth in savings accounts reflecting, in part, wage and salary increases in the public sector in 1992. Given nominal GDP growth over the period of around 8 per cent per annum and population growth of 2.5 per cent per annum, there is likely to have been an overall contraction in monetary conditions (assuming moderate growth in currency in circulation and a constant velocity of circulation).

Growth in private sector credit (loans outstanding) has exceeded deposit growth, increasing by an average annual rate of around 14 per cent over the period. Growth in lending reflected solid increases in business lending in the late 1980s and early 1990s, and personal loans in 1992-93. The growth in personal loans, in part, was due to competition from the new banks which focused on this area of lending because of the higher prescribed interest rate ceiling and the ability to garnishee wages.

Given contractionary monetary conditions over this period, the growth in private sector credit was financed by a relative decline in bank reserve levels. The two major banks do not record reserve levels because of consolidation with their head offices. While reserve data is not available, estimates would indicate that the banking system reserve to assets ratio has declined from around 50 per cent in 1989 to around 32 per cent in 1994. However, reserve levels are still very high, indicating that there is not a liquidity constraint operating in Palau. Average reserve to assets ratios in offshore major banks tend to be around 15 per cent.

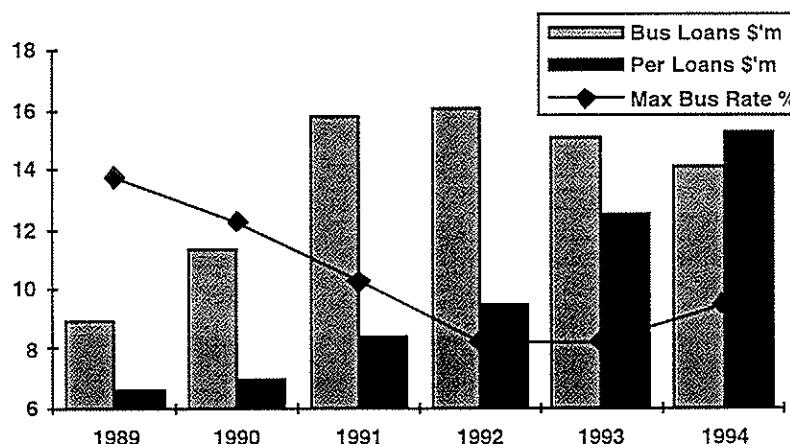
While personal loans have grown strongly over the period, business loans outstanding have declined since 1991, despite maintenance of buoyant reserve levels. The decline in commercial loans has been a causal factor in the relative decline in investment (gross fixed capital formation) over these years as shown in the national accounts. The causes of the decline in commercial lending reflect the existence of interest rate controls and a high country risk premium.

(c) Interest Rate Controls

Legislation in Palau controls maximum interest rates. These include a maximum interest rate of 18 per cent for loans under \$15,000, and US prime plus a maximum of 2.25 percentage points for loans greater than \$15,000. These prescriptive rates have failed to assist the private sector and have distorted the capital market. The result has been a redirection of lending to small personal loans away from business loans. Palau has no capital controls. Consequently, the interest rate ceiling on larger loans (mainly business loans) has caused a decline in business lending because of more attractive interest rates in personal lending in Palau, and increased lending offshore (that is, funds are simply transferred to offshore head offices where the returns are higher).

All the new banks have concentrated on small personal loans because it is not profitable to make commercial loans at the imposed ceiling, given the other constraints on lending (such as difficulties in acquiring land title as security). Also, because the maximum rate is tied to the US prime rate and the margin is set at 2.25 per cent above prime which is too narrow a margin for the risk premium involved in most business lending in Palau, the decline in US rates between 1991-93 did not stimulate lending growth. This is shown in figure 5.1:

Figure 5.1: Interest Rates (% pa)



It was common practice in the 1980s for developing countries to impose interest rate ceilings. Most countries have subsequently lifted such ceilings because of the resulting distortions to the capital market.

(d) Risk Premium

The rationale for interest rate controls rested on a view that interest rate margins were too high and that banks were earning excess profits. There is now widespread recognition that, provided the domestic financial market is competitive, higher relative interest rate margins reflect higher risk premiums. The solution is to address the factors that increase country risk, rather than attempt to place inefficient controls on capital markets.

The current Banking Commission Bill before the OEK appears to be targeted towards interest rate controls which is inappropriate, instead the Government should address the issues that adversely affect financial risk. In Palau, these include:

- perceived instability in the political climate which may arise from frequent policy changes in reaction to interest group pressure that are unfavorable to private sector development, particularly foreign interests;
- lack of security over property title;
- restrictions on interest rates;
- lack of imperative to repay private debt;
- poor country credit history and reputation for financial dealings;
- lack of integrity in the financial system; and
- untested economic management capabilities.

These problems can be remedied, but the development of a solid financial reputation for Palau will take time and considerable resolve by Government. The reforms outlined in relation to banking supervision will assist in enhancing the integrity of the financial system. Similarly, the removal of interest rate controls will help free up commercial lending. The combination of interest rate ceilings and increasing risk of loans prevents banks from offering longer repayment periods. Currently, business loans only extend to around 5 years which is too short for many projects.

The Constitution prevents the collateralization of loans with real property by any financial institution other than those that are wholly owned by citizens of Palau. Consequently, only the Palau National Development Bank, the Melekeok Government Bank and the Bank of Palau can take property mortgages. The inability to take security over real property is a major constraint on the extension of credit. Project finance is difficult to obtain in developing countries.

To overcome the restriction on mortgages, some banks have entered into agreements with the Palau National Development Bank. The agreements entail the evaluation and extension by the foreign bank of a loan to an applicant with clear land title. The PNDB guarantees 90 per cent of the loan and takes the mortgage. If the loan defaults, the PNDB pays the foreign bank and takes possession of the property. A number of loan agreements have been carried out using such agreements in recent years. Similar agreements are being contemplated using the Melekeok Government Bank.

However, the constraints on mortgages have resulted in the perverse situation where the subsidized Palau National Development Bank lends predominantly on a secured basis, whereas the commercial banks are forced to lend on an unsecured basis. This has resulted in the PNDB holding a loan portfolio comprised of secured apartment blocks, instead of loans to young Palauan business enterprises (other than rental accommodation businesses) which is more aligned to their legislative objectives.

Another foreign bank has overcome the problem by establishing a deed of trust which is registered. On default, a trustee, who must be a Palauan citizen, is appointed to take possession and dispose of the property for the bank. This form of mortgage has not been acceptable to the major banks and has, therefore, not been practiced.

There are two additional problems. Firstly, there is much difficulty in the first instance in gaining clear title to property. Only a small percentage of land in Palau has been allocated clear title. Secondly, even if a clear title can be accessed for security, it is still a very difficult task for the Palauan-owned or Government banks to take possession of land because the courts tend to favor landowners.

A number of leases over land have been issued to Palauan and foreign businesses which can be used as collateral. However, these tend to be over large developments which usually have access to offshore finance.

Overall, the issue of the ready availability of clear land title for collateral purposes must be addressed if the domestic capital market is to play an important role in underpinning private economic development. A number of recommendations have been made in Chapter 7 targeted towards the speeding up of priority developmental areas and facilitating greater scope for individuals to own land. These recommendations will assist in making available a number of clear titles.

(e) *Bankable Projects*

As with many Pacific island countries, access to credit tends to be limited by the lack of capacity on the part of some investors (especially small business people) to prepare bankable projects. Most governments in developing countries place a high priority on the development of small business in recognition of the vital role such businesses play in generating productive employment and enlarging opportunities for indigenous groups to become more active participants in the development process.

This is an important issue in Palau for the small entrepreneurs wanting to commence a business operation. In many cases, finance will not be approved simply because the application has not been prepared in a way that divulges sufficient information to allow assessment by the bank. In other cases, loans officers in banks are not equipped to evaluate a project that varies from standard format but which might be still viable. Project preparation and appropriate evaluation are even more critical when there is little security that can be offered, which is generally the case in Palau because of land title and mortgage problems.

There are a number of ways to address this problem. In Palau, at present, there are schemes available to assist in project preparation. For instance, there is a Small Business Center at the Palau Community College which assists in the development of business plans and offers courses on book keeping, financial statements etc. The Center also assists applicants in obtaining loans and guarantees from the US Small Business Administration Scheme. The Palau Community Action Agency conducts small business extension services in the various States. The Palau National Development Bank does not provide any project preparation services.

The financial sector in Palau, however does not seem to be actively involved in any scheme of this nature. It is important to involve the lenders in schemes concerning project preparation. The banks could assist either by providing advisory services for a fee on project preparation directly to clients or by participating with the private sector (for instance, through the Chamber of Commerce and the Palau Business Association), private consulting firms, and the development banks to provide such assistance.

There are a number of foreign assistance schemes available that help small business obtain finance and advice. These schemes include the US Small Business Association Scheme, the IFC South Pacific Project Facility, and the Australian Executive Services Overseas Program (AESOP).

(f) *Palau National Development Bank*

Development banks are important financial institutions in developing countries. Their role is usually to provide project financing where security is often non-existent, venture capital in emerging sectors, support for local entrepreneurs, financial and project management extension services and subsidized

support for local entrepreneurs, financial and project management extension services and subsidized interest rates to priority sectors which are generally not serviced by the foreign commercial banks. Funding for development banks often comes through offshore donor concessional loans and local government equity injections. These institutions can be important in developing the domestic capital market and are often the only institutions to provide equity in projects.

However, despite these attributes, development banks in many developing countries, particularly in the Pacific islands, have generally had a poor record of achievement and performance. Problems have typically included:

- lack of accountability, lack of financial discipline, low productivity and poor performance, despite the benefits of government ownership which has usually meant no taxes and low cost of capital;
- high arrears, a poor record of debt collection and a lack of adequate provisioning policies;
- substantial cross subsidization between sectors and inefficient allocation of funds;
- disastrous record with respect to venture capital investments;
- interest rates which are too low to cover risks;
- inadequate assistance to clients for the development of bankable projects;
- the creation of distortions within the financial sector resulting in disincentives to the development of private sector financial institutions and inefficient allocation of private lending policies; and
- political interference, inappropriate related-party transactions with the board and management.

The Palau National Development Bank was established in 1982 (Title 26 Chapter 1). Its legislative objectives include:

- to be the central financial institution responsible for initiating and promoting economic development in Palau;
- to provide low-cost capital for projects with development potential in the private sector through loans, guarantees to commercial banks and equity subscriptions;
- to give priority to those ventures which involve the development of new enterprises and import substitutes.

The PNDB is prevented from operating as a commercial bank and cannot accept deposits. In providing financial assistance, there is a legislative requirement to first attempt to guarantee such loans or provide assistance through commercial banks. The Bank must charge a minimum fee of at least 1 per cent for guarantees and is prevented from lending or guaranteeing a loan to any one person which exceeds 15 per cent of the Bank's assets. The Bank is free from all national, state and municipal taxes and fees. The maximum loan available from the Bank is \$150,000.

The PNDB received initial capital injections from a Trust Territory allocation and has had no capital injections since 1985, it has not had to pay dividends to the Government and has steadily accumulated retained earnings. The Bank has clearly been restrained in its growth by its inability to acquire capital - both debt and equity. As at the end of September 1993, total equity was \$2.2 million, loans outstanding were \$2.8 million, deposits with commercial banks were \$0.5 million and liabilities were \$0.9 million.

In a move to increase fee income and obtain offshore funding, the Bank, through Ben Corporation of Japan released a series of commemorative coins in 1992. As part of the agreement, the corporation provided the Bank with a low interest loan amounting to \$900,000. It is not clear whether the coin issue has been successful. There was no royalty income in 1992 or 1993, although the low interest loan has to

be included in the calculation. In addition, the Bank attempted to obtain Government approval for a \$3 million bond issue to deal with loan demand. The attempt was unsuccessful, being vetoed by the US Department of Interior.

The performance of the PNDB has not been strong. Return on equity has averaged 5.1 per cent per annum over the past 10 years. The Bank has not focused its lending on the objective of new enterprises and import substitutes. Rather, it has used its privileged position on obtaining mortgages on real property to expand its lending to commercial apartment blocks, real estate and tourism projects - sectors that could be serviced by the commercial banks. Sectors such as small industry, agriculture, forestry and fishing comprise only a relatively small proportion of the Bank's portfolio. Nevertheless, the Bank has structured its lending interest rates to provide an incentive to the priority sectors of agriculture and fishing, where interest rates in 1993 were six and eight per cent respectively, compared with rates of 10 and 12 per cent for tourism, and commercial and industrial loans.

Furthermore, despite the Bank's legislative objective of providing guarantees in the first instance, only 12 per cent of loans outstanding were in the form of guarantees as at the end of September 1993. The level of non-performing loans is quite low, although this may reflect the relatively low-risk nature of the Bank's portfolio composition.

5.6.4 PALAU HOUSING AUTHORITY

The Palau Housing Authority was established in the early 1970s to assist low income residents with low interest loans for house rehabilitation. The Trust Territory Government provided the initial funding (\$280,000). Low income earners qualify under US Federal programs for housing support. In the 1980s a portion of the US Community Development block grant was allocated to subsidized housing through the Housing Authority. The structure of the program includes:

- loans for housing rehabilitation up to \$100,000 (although, if the house cannot be rehabilitated, loans can be made available for the construction of a smaller new house);
- interest rates at 3 per cent per annum; and
- loans targeted at low income applicants which in the US are classified as under \$15,000 per annum (the Authority, however, uses a lower income test to allocate funds).

As at the end of April 1994, the number of loans outstanding were around 210 or just over \$1 million. The Authority had cash reserves of \$338,000. The scheme appears to have been well targeted and demand has been strong. However, there have been no loans for two years because the US Department of Interior has placed a moratorium on new loans pending resolution of the audit findings related to the embezzlement of around \$300,000 from the Authority by a staff member in 1989. Most of the monies have not been recovered. The inability to provide new loans has meant that cash reserves are accumulating due to principal repayments.

In addition, around 30 per cent of the loans are currently in arrears. Collection policies appear to be weak and provisioning policies non-existent. There is a reluctance to take possession of the security because of perceived difficulties in the courts.

The Authority has been prevented from raising domestic funds because of lack of necessary Government guarantees.

The future of the Authority is in considerable doubt. With Compact implementation, it is unlikely that additional funding will be available for this scheme. If this is the case, then the Authority will need to rely on internal funding through the budget. There is likely to be a need in the community for subsidized housing for very low income families and, given that the scheme will need to be continued to collect the ongoing repayments, some form of scheme will need to be maintained. Specialist financial expertise is in short supply in Palau and the ongoing work of the Authority would not appear to warrant the costs of operation. In this respect, improved management and cost savings could be gained by merging a restructured scheme with the Palau National Development Bank. The scheme would need to be targeted much better, utilize interest subsidies that should be transparent and appropriated directly from the budget, have improved reporting for accountability, and upgraded collections policy that would include strong enforcement.

5.7 STRATEGY AND PROGRAM OUTPUTS: DOMESTIC FINANCIAL SECTOR

5.7.1 STRATEGY: DOMESTIC FINANCIAL SECTOR

Improve the functioning and integrity of the domestic capital market to lower the costs of financial intermediation, enhance savings, and support higher levels of public and private investment and consumption (strategy 3.4.2.6).

In achieving this strategy, a number of aims should be pursued, including to:

- increase the level of competition in financial services;
- develop and implement a rigorous system of prudential supervision of financial institutions to ensure depositor funds are protected;
- develop a corporate regulatory entity to ensure a high level of integrity of the participants;
- deregulate prescriptive controls on decisions and policies, and replace them with a risk-based capital adequacy system which is in line with current developments elsewhere;
- enhance the development of the institutional equity market and the level of investment by placing the pension funds on a sound financial footing and redirecting a proportion of the funds back onshore;
- improve the land title situation such that land can be readily used as security against default;
- improve the credit worthiness of Palau by making a concerted effort to meet all official debt service commitments and improve economic and financial management;
- reform the Palau National Development Bank to enhance performance and accountability, refocus its efforts on the provision of venture capital, and increase its capital resources;
- develop an advisory service to improve project preparation and evaluation aimed at increasing the number of bankable projects; and

- increase involvement in international organizations to gain a greater share of technical and financial assistance for business and capital market development.

5.7.2 PROGRAM OUTPUTS: DOMESTIC FINANCIAL SECTOR - PENSION FUNDS

5.7.2.1 Investment Parameters and Accountabilities for the Pension Funds Improved

If the schemes can be placed on a sound financial footing such that they are both fully funded (refer section 5.5.5), then the investment funds should be amalgamated to obtain greater economies and lower fees from investment managers. Costs could also be reduced and inequities removed (given that civil servants gain a double contribution from government) if both schemes were amalgamated into one integrated retirement scheme.

The legislation governing the investment of Pension and Social Security funds should be amended to allow the Boards discretion to invest anywhere (including any securities of the Government of Palau), subject to certain risk parameters. Risk parameters should be based on internationally recognized ratings categories, reputation of the fund manager if units are purchased in a global fund, requirements of the fund manager to limit exchange rate risk by measuring returns in US dollars etc. Legislation should prevent government directions regarding Fund investments, outside the stated risk parameters.

Investments in Palau should be encouraged, but not prescribed - although for diversification reasons the Boards should establish investment country limits. For Palau, the exposure limit should be 20 per cent. A domestic investment manager should be appointed. Board members should be held accountable for portfolio performance. In this respect, direct investments in Palau should only occur once the funds are on a secure financial footing and only after a rigorous evaluation that would need to show that returns were comparable to offshore portfolio returns.

Over time, the Government may develop domestic financing instruments, such as Treasury notes, which should be allowable investments for the funds. Offshore fund managers should be required to evaluate proposals for investment in Palau and to favor Palau if risk/return characteristics meet (or are close to) requirements. The performance of investments of the Funds against recognized benchmarks, including any Palauan investments, should be circulated, through the Boards, to members.

5.7.3 PROGRAM OUTPUTS: FINANCIAL SECTOR - REGULATION AND REFORMS

5.7.3.1 Business Regulation and Banking Supervision Functions Established in Ministry of Commerce and Trade

Responsibility for the registration, regulation and prudential supervision of financial institutions should be assigned to the Ministry of Commerce and Trade. The Ministry should be given a clear objective to enhance the integrity of the financial sector, increase competition in financial services and develop the domestic capital market, and aim to protect the interests of depositors, although no guarantees should be given. The duties of the Ministry should include:

- the establishment of entry requirements for banking licenses, such as minimum capital requirements, proven financial expertise and credentials, risk management systems, banking relationships and guarantees etc;

- the establishment of entry requirements for banking licenses, such as minimum capital requirements, proven financial expertise and credentials, risk management systems, banking relationships and guarantees etc;
- the development of prudential standards, including maximum ownership concentration, minimum capital adequacy standards (for small banks the international standard of 8 per cent is too low), risk weights for capital adequacy calculations, systems to manage liquidity, market and data risks, large exposure restrictions, related party and management contract restrictions, accounting policies such as management of non-performing loans and provisioning policies, adequate disclosure policies, reporting requirements etc;
- produce relevant data series and publish reports regularly;
- develop an on-site inspection capability to confirm that standards, systems and policies are being implemented;
- develop policies that will allow assessment of the current banking licenses with a view to implementing transitional policies to develop more appropriate structures and policies for these institutions. If unable to change, some of these licenses may have to be withdrawn or the operations merged with other banks; and
- regulate and supervise other financial institutions, including credit unions and insurance agents, as well as government financial institutions such as the Melekeok Government Bank, the Palau National Development Bank and the Palau Housing Authority.

Legislation should be enacted to formalize the new responsibilities of the Ministry, incorporate a risk-based system of prudential supervision and the accompanying necessary standards, the essential reporting requirements, enforcement powers, licensing requirements and accounting standards.

5.7.3.2 Interest Rate Controls Removed

Title 11 should be amended to remove the ceiling on interest rates altogether.

5.7.3.3 Trust Deed System to Facilitate Secured Lending Established

A trust deed system should be developed, whereby a public trustee is established to act as an intermediary between foreign financial institutions and the borrower to formalize the arrangements and ensure that the process is just to both parties.

5.7.3.4 Entrepreneurs Advisory Service Established

The Palau National Development Bank should coordinate with the commercial banks, Chamber of Commerce and Palau Business Association to establish an advisory service with distributive material on project preparation to assist Palauan entrepreneurs in obtaining finance.

5.7.3.5 Palau National Development Bank Strengthened

The Palau National Development Bank should increase its expertise and improve its risk management systems. In this respect, the Asian Development Bank could offer assistance through its development bank program which provides technical advice, training and capital contributions. Also, the New Zealand Government has a development bank program for Pacific islands where executives are placed in development banks in key positions on an ongoing basis. Both programs have been very successful.

which should be government guaranteed. The Bank should be given approval to issue securities with a government guarantee and the Government should be prepared to make significant capital injections into the Bank (preferably in the form of subordinated debt).

The Bank should refocus more of its efforts on the development of new enterprises, including a greater use of equity holdings in new enterprises, and move away from areas that can be adequately serviced by the commercial banks. In this respect, more resources should be allocated towards assisting clients in project evaluation, preparation and the targeting of business opportunities. The Bank should be supportive of the development of enterprise zones to encourage industrial development.

The Bank should increase accountability and be brought under the supervision of any new Business Regulation and Banking Supervision legislation and be compelled to meet all the prudential requirements imposed by the Ministry of Commerce and Trade.

The PNDB should pay dividends to the Government and the legislation should be amended to make it pay all government taxes and charges (including a charge for the recommended government guarantee of liabilities). This enhances competitive neutrality and prevents the crowding out of private financial sector activity. The Palau National Development Bank should charge interest rates that reflect the credit risk involved. Any government directives that require interest rate subsidies should be funded directly from the Government's budget so as not to cause inefficient cross subsidization which would adversely affect performance measurement of the Bank.

5.7.3.6 Palau Housing Authority Merged with the Palau National Development Bank

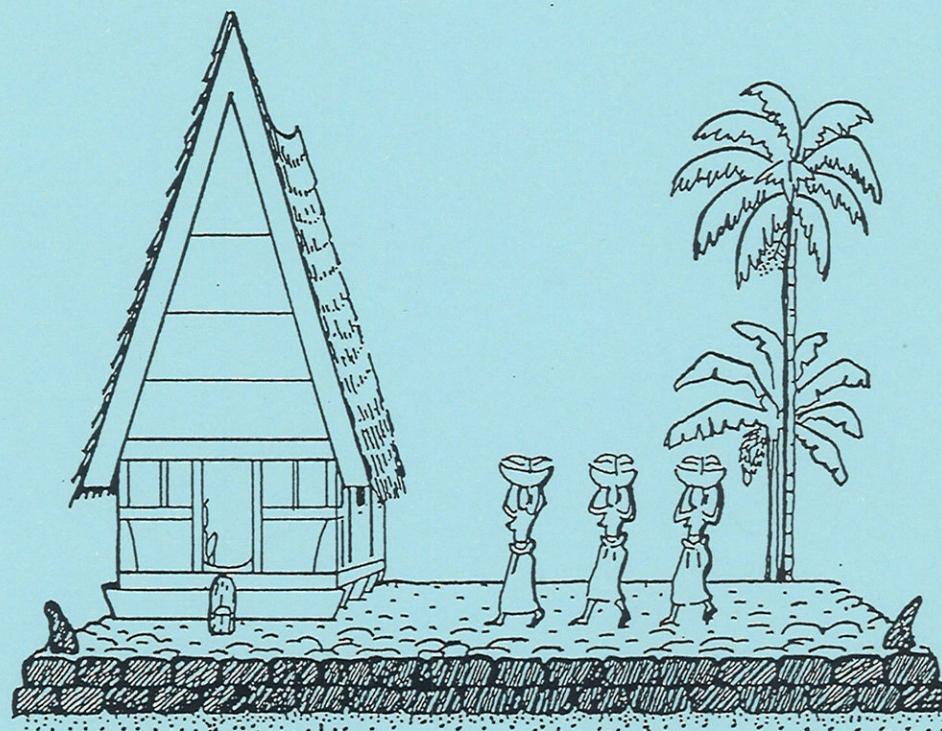
The housing loan portfolio (including the cash balances) of the Palau Housing Authority should be merged with the Palau National Development bank. The Development Bank should develop guidelines for an improved scheme and seek the necessary funding from the Government. The scheme should restrict itself to concessional loans targeted at low-income families. The scheme should have clear objectives and accountabilities, including strong collections and provisioning policies.

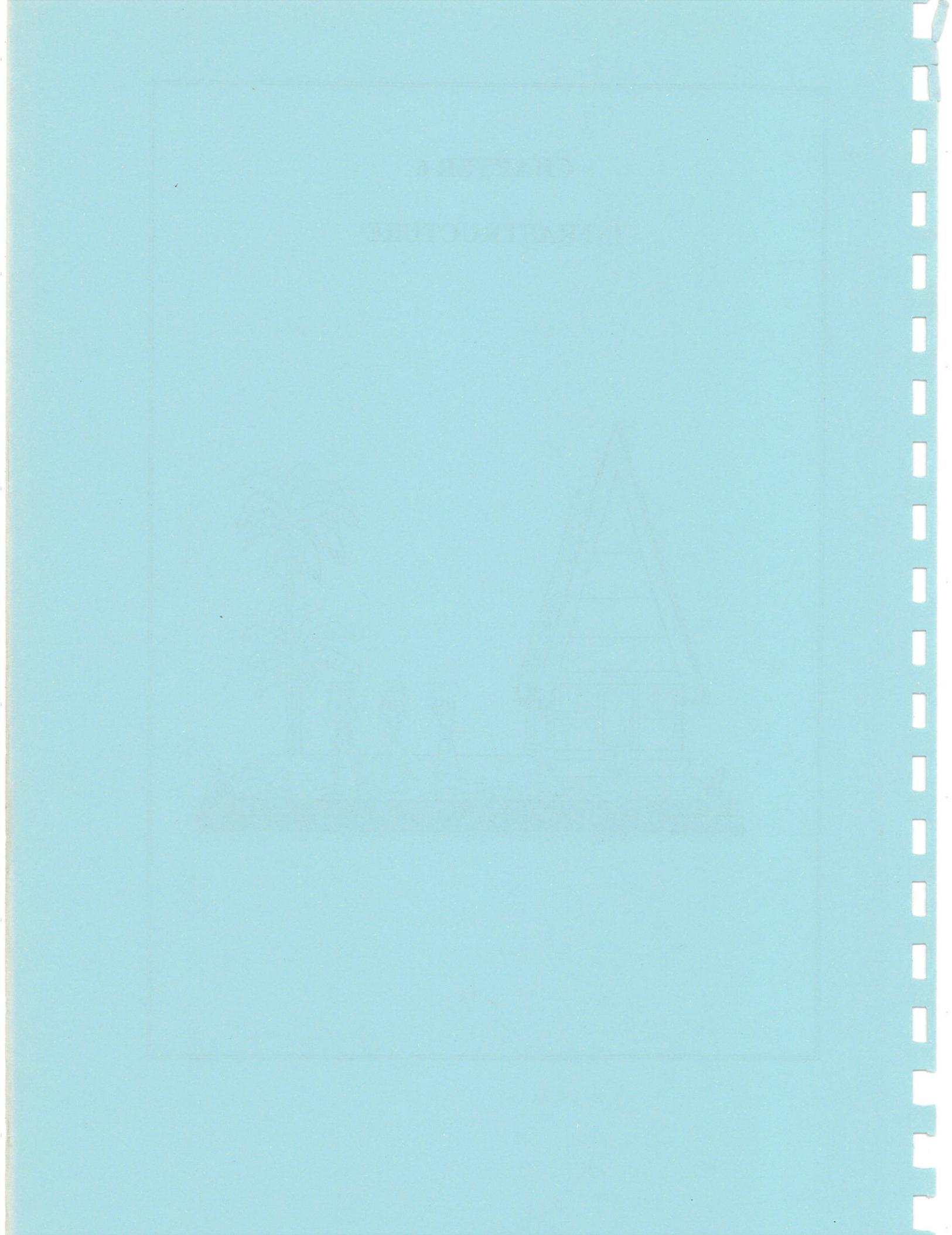
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 5.5.1 Taxation and Government Charges <i>Raise the required level of revenue necessary for Government expenditure plans such that the tax and charging system is competitive, has the least adverse impact on production and consumption decisions (efficiency), achieves the necessary equitable outcomes desired by Palauans, and is conducted in a transparent and professional manner</i>						
OUTPUTS 5.5.2.1 Tax Reform Task Unit established	Inter-Ministry group responsible to Director of the Bureau of Revenue & Taxes developing a plan for reforming the tax system across all sectors with a target date of early 1998	Taxation reform plan. Personnel records - International Consultant (ODA for 2 yrs 2@ \$300,000), Staff training course in-country (\$100,000)	Leadership understands the need for tax reform. Appropriately experienced and willing staff available from key ministries to participate in Task Reform Task Unit	2	recurrent	800
5.5.3.1 Value Added Tax designed and implemented	VAT operating and returning forecast revenue. Selective taxes replaced by VAT repealed	VAT records. VAT design. VAT legislation. PNC	Leadership understands the benefits of VAT to Palau.	2	recurrent	
5.5.3.2 Excise duties system established	Excises on alcoholic drinks, tobacco, petroleum, soft drinks, motor vehicles and cosmetics raising forecast revenue	Excise records. Excise legislation. PNC	Leadership and community understands the benefits of excise duties. Redistribution of any revenue to health or roadworks programs publicized	2	recurrent	
5.5.3.3 Departure Tax increased	Departure Tax collected for foreigners and Palauans, 35% of revenue allocated to PVA	Departure tax records. Budget papers (PVA appropriations)		recurrent		
5.5.3.4 Road Use Tax enacted	Road Use Tax enacted based on vehicle type and/or use and appropriated to cover fixed road costs	Road Use Tax legislation. Budget papers (Roads appropriations)		recurrent		
5.5.4.1 Wages and salaries tax structure strengthened	Wages and salaries tax threshold lifted to \$4000 for all employees, marginal tax rates increased to offset losses from increase in threshold and increase revenue from wages and salaries	Wages & Salaries Tax legislation. Budget papers		recurrent		
5.5.4.2 Net Profits Tax enacted	Net Profits Tax enacted with a threshold, and taxing enterprises on a excess of a broad base of receipts over a narrowly defined range of deductible costs.	Net Profits Tax legislation. Taxation records and policies		recurrent		
5.5.5.1 Social security and civil service pension schemes improved	Actuarial studies of schemes and subsequent plan working towards fully funded schemes by an agreed time.	Actuarial studies. Plan.		recurrent	10	
5.5.6.1 Business license system improved	Businesses operating on one license, obtained from a single source. Proportion of license fees redistributed to respective States	Licensing system. Budget papers line items for States	States agree to change the system	recurrent	recurrent	
5.5.6.2 Business license fee structure simplified	Fee structures operating which are tied to regulatory and administrative costs and to the size or complexity of the business.	Fee structures.	States agree to change the system	recurrent	recurrent	
5.5.6.3 Fees for foreign fishing boat licenses established	Refer Ch. 11			recurrent	recurrent	
5.5.7.1 Nondiscriminatory investment environment maintained	Absence of selective investment incentives e.g. tax holidays, special allowances, tariffs, interest rate subsidies, credit guarantee schemes	PNC	Leadership understands the value of maintaining a non-discriminatory investment environment			

CHAPTER 5: FINANCING DEVELOPMENT LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY						
5.7.1 Domestic financial sector Improve the functioning and integrity of the domestic capital market to lower the costs of financial intermediation, enhance savings and support higher levels of public and private investment and consumption						
OUTPUTS						
5.7.2.1 Investment parameters and accountabilities for the pension funds improved	Pension funds amalgamated, investment managers' fees reduced. Legislation amended to allow investment anywhere (including Palau) subject to risk parameters. Risk parameters operating to international standards. Board members accountable for performance of funds against recognized benchmarks.	Legislation reviewed and enacted	Leadership recognize and agree with the need to allow investment in Palau.	self funding		
5.7.3.1 Bureau of Business Regulation & Banking Supervision established	Bureau established and operational. Entry requirements for banking licenses, prudential standards established and monitored. Existing licenses reviewed , plan for transition to new system established and operational	Legislation, PNC, License data. Regular reports. Personnel records - International Consultant (ODA for 2 yrs 2 @ \$300,000)	Existing banking system can be incorporated into new system through a legislative process	2		600
5.7.3.2 Interest rate controls removed	Interest rates following market trends	Legislation (Title 11 repealed)		recurrent	recurrent	
5.7.3.3 Trust deed system to facilitate secured lending established	Public Trustee established and facilitating access to secured loans within the constraints of Palau's constitution	Legislation. Public Trustee registrations	Constitution of Palau continues to allow land ownership for Palauans only		service fee paid to Govt by banks	
5.7.3.4 Entrepreneurs' advisory service established	Palauan entrepreneurs understand methods of obtaining finance from various sources within Palau, and are submitting successful applications to financial institutions	Promotional materials and programs (\$5,000). PNDB staff training for advisory services.	Palauan entrepreneurs not successful in getting loans because of lack of information on how and where to apply PNDB internal training capability exists to upgrade advisory support with existing staff	1	5	
5.7.3.5 Objectives and performance of the Palau National Development Bank strengthened	Appropriate risk management system operating for PNDB, portfolio including equity holdings. New enterprises including enterprise zones included in portfolio and returning appropriate rates of return for the risk. Dividends paid to Government returning expected levels. Mortgage loans reduced in favor of development loans .	Risk management system. Annual report on investment portfolio & loans. Legislation (ODA placement 2yrs @ 300,000/yr)	PNDB staff available to be training on-the job in new systems and policies	2		600
5.7.3.6 Palau Housing Authority merged with the Palau National Development Bank	Housing loan portfolio PHA administered by PNDB with guidelines for scheme including funding, and category of borrower. Low income families receiving concessional loans which are performing to target	Legislation. Annual report on housing loans		recurrent		

CHAPTER 6

INFRASTRUCTURE





CHAPTER 6

INFRASTRUCTURE

One of the most important areas of government activity is the provision of infrastructure to underpin private sector endeavor and to provide those services to citizens that are essential for improvement in living standards. It is particularly important at this stage of Palau's development because of the attainment of substantial Compact funds for infrastructure spending. This chapter focuses on both the institutional and policy environment to enable the performance of infrastructure spending to be enhanced (sections 6.1 - 6.7) and on feasible project outputs (sections 6.8 - 6.25). The chapter examines the issues and problems that have impacted on project selection and allocation, the importance of pricing policies and performance, the development of a Public Sector Investment Program process, the required institutional arrangements for ongoing allocations, and presents a set of feasible project outputs.

INFRASTRUCTURE INSTITUTIONS AND ADMINISTRATIVE PROCESSES

6.1 CURRENT SITUATION AND ISSUES

6.1.1 GOVERNMENT PROVISION AND PERFORMANCE

The development of adequate infrastructure is essential for private sector development and higher living standards. The development and maintenance of modern infrastructure in Palau could involve the expenditure of hundreds of millions of dollars over the next 10 - 20 years. The modern infrastructure sought by Palau is generally complex and technically sophisticated, requiring the development of high levels of both managerial and technical skills in the work force as well as competent organizational structures, to enable the tasks to be performed efficiently and returns to be optimized.

Whether infrastructure services should be provided by Government, rather than private concerns is a moot point. In general, Governments have tended to intervene in markets on the rationale that such services would otherwise not be forthcoming or because high unit costs meant that monopoly ownership was the appropriate form of structure. In Palau, because of the small size of the private sector and the availability of grant funds, infrastructure development has focused on meeting basic needs of the population. The objectives have generally been to lift basic services to a level where power, sewerage, waste water, and telecommunications are available to a reasonably high developed country standard for all citizens.

In most cases, the lack of a market economy meant that private provision of much infrastructure was not an option. However, there have been exceptions with the commercial port, docks, long-shore services,

warehousing and import distribution system which are owned and run entirely by the private sector. As the market has developed in Palau, there is increasing potential for a number of commercialization strategies to be employed that could lift the performance of infrastructure assets.

Because infrastructure projects were not generally based on economic or financial rates of return and, because the funding was via grants, there was little imperative to seek commercial returns from these assets. As the infrastructure assets depreciated, expectations were that these assets would be replaced with new assets from additional grants. There was little imperative for the assets to perform either in economic or commercial terms. This was exacerbated by the lack of competition and accountability which has tended to result in poor administration, with little concern over design and maintenance.

Overall, despite high investment levels, the financial, economic and technical performance of infrastructure assets in Palau has been poor. It is crucial that the poor performance of infrastructure projects be reversed before or, at least at the same time as substantial additional capital expenditure is undertaken. This is much more important now because there is not likely to be substantial grant funding available after Compact funds have been expended. The assets must perform if these enterprises are to provide continuing and improved services, and Compact funds made sustainable. It would therefore be totally counter productive for the Master Plan to recommend allocating funds from Compact moneys to projects simply on the basis of technical needs without first addressing the institutional and economic problems that result in continuing poor performance.

Once industry structures and organizational arrangements are established for improved performance, each public infrastructure entity will then need to develop a strategic plan for its development within these structures, and economic and financial constraints. Each strategic plan will need to analyze market demands and service delivery, and develop capital and operational spending timeframes, appropriate pricing policies, performance objectives and necessary accountabilities. The individual strategic plans will need to be developed in compliance with and guided by the prescribed industry structural arrangements, taxation requirements and planning environment proposed in the Master Plan. Forward capital and maintenance plans cannot be established with any confidence in isolation of these necessary prerequisites.

Reforms in many countries that have created a more commercial environment have forced much improved capital spending and maintenance programs, and allowed healthy returns to Government which have financed additional capital expansion. Forcing Government enterprises to be on an equal playing field with the private sector in terms of required returns, payment of taxes and fees, allocation of Government contracts etc, have resulted in improved price structures and encouraged the growth of private sector competitors. Efficient pricing is likely to forestall the need for capital spending which will save scarce budget resources. The reform of water, power and telecommunications in many countries in recent years has focused on pricing, metering and collection, and these reforms in most cases have led to improved returns.

6.1.2 ADMINISTRATION

The Bureau of Public Works (BPW) is presently responsible for development, operation and management of infrastructure. In recent years there has been significant effort made to improve the operation and maintenance of key infrastructure in Palau. This program has achieved only limited success. The Capital Improvements Program (CIP) funded by the US Congress has generally been responsible for the

provision of funds to enable essential programs of capital development and maintenance to proceed. No significant capital projects have been funded by internal revenues in Palau.

The Bureau has struggled in recent years to achieve its goals and objectives because of tight budgetary constraints. Limited professional and technical staff, inadequate equipment and insufficient skill training have all contributed to a general lack of capacity to undertake necessary capital and maintenance work on basic infrastructure.

The 1990 Operations and Maintenance Program (OMIP) Report identified substantial problems, including significant subsidization of costs of all utilities to consumers and failure to enforce collection of fees for these services. In 1990 it was estimated that this policy resulted in an operating deficit of \$4.4 million for the utilities. The report made a number of recommendations including the establishment of a public service corporation to manage power generation and distribution, and the water and sewerage systems; improved metering, collection, billing and leak detection for water; repair or replacement of the airport terminal building; and funding of equipment and materials to overhaul the Aimeliik and Malakal power plants.

In February 1994 the first recommendation was accomplished with the passing of legislation to establish a Public Utilities Corporation to be responsible for power generation and distribution including the setting of a scale of charges. The installation of meters on water services are continuing with approximately 80 percent of Koror now metered. Collections of service charges are also up as people respond to the new system. A request for additional CIP funding for purchasing of meters has been granted. The problems regarding major leaks and undetected connections remain to be resolved. The airport terminal building remains as it was in 1990. Efforts have been made recently to evaluate the condition of the building. The recent failure of the runway lighting system is another problem at the airport requiring urgent attention.

The Government's policy of corporatizing major infrastructure operations (PNCC and PUC) is appropriate and accords with the principles shown in Chapter 13 for establishment of independent authorities. The corporatization of smaller infrastructure operations, particularly in the transport area (roads, airport, seaports etc) would not appear to be cost effective at this stage. If the option is taken to transfer water and sewerage to the PUC, then this should be done as soon as practicable. To improve efficiencies, some infrastructure maintenance can be contracted out.

Infrastructure and facilities including the land areas on which they are located were all passed to the National Government as part of the change over of administration from the US Department of Interior Trust Territories of the Pacific Islands (TTPI) to the Republic of Palau. Disputes between landowners and states and national Government are common and many remain unresolved. The National Government needs to urgently identify infrastructure and property which it considers to be in the national interest and declare these as part of the National Estate.

6.1.3 INFRASTRUCTURE AND STATE ALLOCATIONS

Few infrastructure projects, other than some road works, have been provided by State Governments. Grants to the States have been generally based on population shares and most of these funds have been allocated to wages and salaries in the state administrations. In FY1994, block grants to the States totaled \$3.2 million. While a proportion of these funds is supposed to be allocated to capital expenditure, in reality, this has not occurred to any significant extent. Capital projects generally were provided by the centralized Capital Improvements Program (CIP) and much State time has been spent in attempts to gain

these CIP projects rather than in attempts to lift the performance of existing assets and increase returns to enable ongoing self funding.

Because around 70 per cent of the population resides in Koror and, because Koror is the national capital, a very large proportion of the allocation of CIP funds has been directed to this State. This has caused a great deal of argument and conflict, and there have been calls for an improved distribution to the other States. This focus on redistribution, rather than return on capital investment, has dominated the debate over the Compact. Most attention is centered on discussion of how to divide the \$52 million Compact infrastructure fund between competing national and state interests. It is implicit in the argument, that once the funds are allocated, they are lost. In many respects, the poor performance of past infrastructure investments has supported this view. This reinforces the need for a more appropriate evaluation and allocation process such that efficient infrastructure is designed, implemented and priced while, at the same time, the community and leadership in the States have confidence in and lend their support to the resultant allocation.

State Governments do not currently have the resources, either financial or human to adequately establish, properly staff, operate and maintain modern infrastructure within their jurisdictions. At this point of time with such low population levels in the States, it is difficult to envisage that the States will be capable of adequately providing these services in the foreseeable future. The National Government through the Ministries and infrastructure corporations should be responsible for all major public infrastructure functions in Palau, including design, construction, operation and maintenance. These functions should be removed from State legislation. Planning for infrastructure within States would remain a State responsibility, undertaken jointly with the corporations or Ministry of Works as the situation requires.

Because of these concerns and because of the lack of infrastructure development in the States outside of Koror and Airai, all States were consulted to obtain their views and priorities. During the State Planning Commission training workshops held throughout the sixteen States from December 1993 to July 1994, the problems and issues impacting on the States were discussed. Objectives were examined and priorities developed. Projects allocated under the prioritized EDP list were not included. The process was a combined effort between State Planning Commissions, traditional leaders, elected leaders, Governors and community members.

The prioritization process was not based on any assessment of financial or economic rate of return but reflected a consensus of opinion on basic infrastructure requirements, given existing assets. No account was taken of the potential for such assets to create a revenue flow that would provide funds for additional future projects. The requirements for basic needs included criteria such as access to basic health facilities, elementary education, sanitation, and reticulated water supply.

Based on these criteria, the priorities and costings developed by the States are shown in tables 6.2 - 6.17 at the end of this Chapter. These priorities will need to be formalized and evaluated using more rigorous techniques.

6.1.4 COMPACT INFRASTRUCTURE FUNDS

Under the Compact Agreement implemented from October 1, 1994, funding for capital expenditure in Palau is provided through a number of allocations. Details of these amounts are shown in tables 6.1A, 4.1 and 4.2 (Chapter 4) and include:

- ongoing capital improvement program (CIP) with expenditure amounting to around \$14 million;
- energy allocation of \$40 million;
- infrastructure allocation of \$52 million;
- defense site use fund of \$5.5 million available from the second year;
- maritime surveillance allocation of \$0.7 million;
- inflation adjustment account amounting to \$28 million which can be used for any current and capital activities;
- national highway allocation initially estimated to amount to \$41 million but subsequent estimates have increased the amount to \$140 million; and
- trust fund of \$66 million.

A number of these allocations are restricted to certain expenditures:

- the ongoing CIP allocations are tied to specific projects that, in the main, have been commenced and all of which are expected to be completed by 1996;
- the energy allocation must be used for electricity generation and distribution with a specific allocation (\$7 million) for areas not served by the central power generating facility;
- the national highway project (known as the Compact road) will be managed and funded directly by the US Government;
- distributions from the trust fund cannot commence before year 5 and are expected to be used to offset the decline in recurrent funding support and, as such, are unlikely to be available for capital spending purposes;
- funds in the inflation adjustment account are being utilized for recurrent purposes and could be fully drawn down over the next 2 years (around \$20 million of these funds have already been appropriated for recurrent use in the FY1995 budget); and
- there is some doubt over the discretionary use of the defense site moneys.

Moneys that can be used for discretionary infrastructure spending include the \$52 million infrastructure fund, remaining funds in the inflation adjustment account, any funds allocated directly from the national budget for infrastructure expenditure, and any capital funds or aid from other donors. There is likely to be scope for the redirection or the postponement of expenditure from the energy allocation. Currently, all Compact moneys (excluding the trust fund) have been invested with an offshore funds' manager in short-term securities pending drawdown.

The proposed allocation of the \$52 million infrastructure fund showing the targeted projects and project cycle, together with the continuing CIP projects and an unprioritized additional investment program are shown in the Government's Economic Development Plan, a summary of which is outlined in Tables 6.1B and 6.1C attached at the end of this Chapter. These projects are also included in the list of feasible program/project outputs in sections 6.8 - 6.25. Implementation of these projects will depend on available funding and further evaluation. However, given the high recurrent financing requirements of the Government over the medium term, the necessity to build up fiscal reserves over the next five years (refer Chapter 4), capital allocations will be constrained although additional assistance from other donors is likely to be forthcoming and capital funding from retained earnings from Government enterprises should increase if further corporatization reforms are implemented.

The Compact Agreement provides for the construction of 53 miles of road connecting the States on Babeldoab using two coat bitumen with a pavement width of 18 feet. No other design criteria appear to

be specified. Modern US road design criteria, specifications and safety standards will conflict with rigid application of the current specified road width. The Compact also provides for the construction to be subject to US EPA requirements. This may have significant cost implications for the project which may have not been foreseen when drafting the Agreement. Most recent estimates indicate that national highway costs will likely be around \$140 million.

As the Agreement specifies that the US Army Corps of Engineers shall be the engineering authority for the project and, as the Master Plan is not involved in these discussions, it is unable to make significant input into the planning of this project. Discussions are continuing between the Government of Palau and the US Army Corps over road standards and management procedures. Design criteria for the highway from corridor definition to final route location, and design, construction and environmental protection criteria all need to be established and agreed. It is anticipated that the road will follow the alignment of the old Japanese road in order to minimize adverse environmental impacts, earthworks and problems with land acquisition and, thereby, maximize the length of construction. Following the old Japanese road alignment would appear to be a sound proposition.

When the highway is completed, the National Government will assume responsibility for the maintenance of the road. This will become an increasingly significant budgetary cost item. Adequate funding allocations for road maintenance will need to be assured and sufficient local capabilities will need to be developed.

6.2 COMPACT INFRASTRUCTURE FUNDS - INSTITUTIONAL ISSUES

A key issue with respect to the allocation of Compact infrastructure funds is the necessity for a consistent and rigorous framework, with appropriate institutions and policies to provide the right incentives for performance. This will provide scope for the maintenance of an ongoing capital fund, more efficient resource use and greater confidence and public support in capital allocations.

6.2.1 SUSTAINABILITY OF COMPACT CAPITAL FUNDS

Given the conclusions on funding scarcity in Chapter 4, it is essential that the Compact capital funds be made sustainable. This can only be achieved in the short term if investments in Palau start to earn reasonable commercial rates of return. While social rates of return are important, particularly in determining infrastructure allocations in areas such as education and health, the focus of Compact capital spending in the EDP is generally towards the utilities - telecommunications, electricity, water, waste water and sewerage where commercial rates of return (or near commercial rates of return) can be earned and are done so in many countries. While natural monopoly and distributional aspects could justify non-commercial pricing and, therefore, result in lower returns, these issues should be addressed via a direct subsidy from the budget, thereby providing scope for the entity to earn commercial returns. Social cost-benefit analysis should be used to determine the subsidy element and the net present value rule is the most reliable decision rule. In general, distributional or equity aspects are best left to the taxation system or addressed through lump sum grants. Given the difficulty in raising revenue from the community with investment in more socially oriented projects, if sustainability of the capital fund is required, then there is little option for Palau other than to invest in income generating assets that maximize financial returns, at least over the next few crucial years, subject to economically efficient pricing structures.

In this respect, it is important to impose a commercial (or near commercial) cost of capital on the entity. After an asset valuation is undertaken, the issue then is to decide on the capital structure (that is, the debt-equity mix). A capital structure with a significant component of debt compared with equity will require greater cash-flow discipline to meet regular amortization commitments. This is achievable with utilities due to the low risk and regularity of their revenues. Given that the capital structure currently is comprised almost totally of equity with no requirement for dividends, further injections therefore should be through debt. Some account could be taken of the indivisibility of capital and the excess capacity of early stages of the asset's economic life in the assigned debt-equity structure.

If additional equity injections are required, these can be gained through an allocation from retained earnings. If debt funding is provided, then, as far as possible, it should be at commercial rates or close to commercial rates of interest. Failure to levy commercial interest rates is likely to result in substantial distortions to economic activity and poor performance. Capital subsidies tend to be non transparent and cloud performance measurement. They can be either passed on to consumers in the form of lower prices or, more likely, absorbed in the entity through higher expenses (particularly higher remuneration), excessive capital spending and/or poor management practices. Without performance monitoring and rigorous accountability, Government funding subsidies in many countries generally have not been passed on in terms of lower prices. Even if lower prices can be achieved (that is, lower than economically efficient prices), this will tend to lead to excessive consumption (waste) and, in turn, more demand for capital expenditures, and discouragement of more efficient private sector suppliers.

The allocation of infrastructure funds to States or National Government entities that are capable of earning commercial (or near commercial) rates of return, therefore, should be through loans at market interest rates (or close to market rates). This will force such entities to meet fixed interest and principal payments. In meeting the resultant repayment commitments, entities will need to focus attention on achieving improved performance which will lead to a greater emphasis on more appropriate design, technology, pricing policies and collection activities. A more commercial pricing policy will force recipients to evaluate the necessity of the project and to consult the users or potential users of the project. It would reinforce notions of opportunity cost - so important in public policy decisions.

Further, because most of the Government infrastructure entities have strong natural monopoly elements, prices will need to be regulated so that over pricing does not occur simply to meet prescribed commercial performance targets. If not conducted, the efficiency benefits of increased commercialization will be overshadowed by the economic costs of inefficient (higher) price structures.

For those infrastructure projects that are capable of earning commercial rates of return, debt finance should be based on the following criteria which will provide the required discipline necessary for efficient project selection and pricing policies:

- If the number of viable applications exceeds the absorptive capacity of the economy and/or infrastructure fund, then allocation should be based on the evaluation of the project's projected economic rate of return (defined in section 6.3), with preference given to entities with the lowest required subsidy. That is, the higher the projected rate of return, the less credit risk of the loan and the higher priority it should be granted. This assumes account is taken of any other benefit gained from Government or costs involved in providing non-commercial services prescribed by Government.
- If a number of project applications, on evaluation, show similar projected economic rates of return, then allocation should be on the basis of equity.

- Loan approvals should be based on the probability of the recipient meeting the agreed amortization schedule, which will be influenced by the repayment history of the recipient - an important consideration in terms of credit risk. That is, additional loans to the entity would be restricted if the contracted amortization schedule was in arrears or default.

At present there is little trust in the current system because, once capital funds are allocated they are considered lost and there is little or no confidence that the National Government will allocate the funds to other productive uses or accumulate them to enable a future drawdown by the State or entity involved. This lack of trust results in excessive concerns over quick distribution of the funds and projects therefore tend to be skewed towards those areas that stand the best chance of an early grant. These are often not the most efficient projects.

To meet the goals of improved management of Compact funds to ensure sustainability, increased use of debt financing, improved evaluation and the enhancement of trust in allocation decisions, it seems necessary to establish a separate entity that has some independence from Government. Independence is necessary to lessen short-term political pressures and to allow adherence to the goal of seeking commercial returns and, therefore, long-term sustainability and accountability of the capital fund. This will also enhance community confidence and reassure the States that a capital infrastructure fund will be available to meet their ongoing needs. Given the findings in Chapter 4 showing the likelihood of very tight fiscal conditions after 2002, the objective of the independent entity is to ensure a permanent infrastructure fund in Palau is maintained, which will help underpin a more stable economic growth path once Compact assistance starts to decline significantly.

The proposals create the right incentives for project selection and performance, and waste will be minimized by the incentive to establish improved pricing policies. Debt financing, together with the other recommendations on corporatization (Section 6.3) will mean that, in most cases, people will have to pay the full costs of the service (less any Government direct subsidy) and these will differ between States depending on the costs of delivery.

6.2.2 EQUITY MECHANISMS

Because of economic pricing, there could be concerns over equity. This will be particularly apparent for infrastructure on the outer islands where unit costs are likely to be higher. Concerns over high infrastructure prices in these areas should be addressed by a direct subsidy to the entity from OEK appropriations. Concerns about distributional issues should be overcome through use of a regional grant mechanism. These grants could be distributed to the respective State Governments through the normal budget process. Calculation of regional grants to the States could be based on standard basic needs criteria. The Division of Social Services should also have responsibility for broader social policy issues, such as retirement incomes, unemployment benefits, schemes for the disadvantaged etc and advise on such matters as part of the budget process.

Given that the Compact capital funds generally restrict expenditure to infrastructure related to the utilities, there is less need to be involved in protracted discussions about tradeoffs with other public investments which would have difficulty in earning commercial returns. However, infrastructure spending outside of that targeted to Compact capital funds must be evaluated against other Government investment priorities. In a number of these priorities, full or near commercial returns will not be possible and, therefore, evaluation must take account of social returns using social benefit-cost techniques. In this

respect, the entity proposed to manage funding will need to work closely with the Ministry of Administration because of the likelihood that substantial subsidies will be required. The subsidies should be transparent and funded directly from the budget. Cross subsidies from other areas of the entity should be minimized because of the adverse effect of price distortions on performance measurement. Subsidies to these types of entities can range from an interest subsidy on a debt finance package through the above process to a direct grant from the budget.

6.3 STRATEGY AND PROGRAM OUTPUTS: INFRASTRUCTURE INSTITUTIONS

6.3.1 STRATEGY: INFRASTRUCTURE INSTITUTIONS

Provide, on a sustainable basis, the required infrastructure funding and services in an economically efficient manner and of a high standard throughout Palau to improve equitable access and underpin the expansion of economic activity (strategy 3.4.2.7).

To achieve this strategy, a number of policy aims and principles are required which are to:

- Safeguard the Compact capital funds by establishing a dedicated infrastructure fund, thereby preventing the erosion of funds for recurrent spending purposes and, over time, encourage an increase in the direct budget allocation towards public capital investment.
- Develop arrangements to ensure the Compact infrastructure fund is managed professionally to the benefit of Palau in the long term.
- Improve industry structures within the infrastructure sector to increase performance by introducing more competition into structures and management through utilization of commercialization strategies such as contracting out and corporatization, and increasing accountabilities to Government and consumers.
- Develop individual infrastructure strategic plans and evaluate all major projects using benefit-cost techniques, taking account of the Government's likely budget constraints.
- Improve project design and management, and contract supervision to ensure projects meet with expectations.
- Improve pricing policies and demand management to ensure a more efficient allocation of scarce capital resources and improved returns to Government.
- Improve State allocations, and develop institutional arrangements and policies to reorient incentives and approaches to ensure improved project evaluation and implementation in the States, enhance confidence in the allocative process, establish a mechanism to ensure equity and improve returns for the economy on a sustained basis.

6.3.2 PROGRAM OUTPUTS: INFRASTRUCTURE INSTITUTIONS - INSTITUTIONS AND ALLOCATIVE MECHANISM

6.3.2.1 Bureau of Public Works Strengthened

Because of the importance and magnitude of infrastructure and maintenance spending over the Plan period, additional resources to undertake contract management should be provided within the Ministry of Resources and Development, Bureau of Public Works CIP Office to enhance the design and management of projects, and supervision of contracts, with particular responsibility for:

- the development and supervision of 'contracting out' proposals, including the development of schemes that would allow current employees to establish themselves as private contractors;
- the design, liaison on project management, and supervision of ongoing CIP projects and, in particular, the Compact road, including development of proposals for the establishment of Palauan firms that could be involved in the Compact road construction and ongoing maintenance after completion;
- ongoing construction and maintenance of the Palau road network, although some of the network, over time, could be done by private contractors. This may take some time given the problems of 'competitive bidding' in small markets;
- design, contract preparation, project management and supervision of all Government engineering contacts that are not managed by individual Ministries or Government corporatized entities.

The person responsible for this function will need to have recognized engineering qualifications and substantial experience in project design, management and supervision. Because of the importance of this position and the level of expertise required, it should be advertised internationally with market salary and conditions. There are a number of offshore Palauans that are qualified in this respect and an effort should be made to recruit such potential applicants.(See Ch.13 Annex for Position Description).

6.3.2.2 Regional Grant Process Established

To overcome equity concerns a separate recurrent funding subsidy/grant could be paid to those States most affected by high unit costs:

- the States use the funds to provide additional services or provide the funds directly to households identified by the Division of Social Services through a family income supplement;
- the States should not, however use the funds to subsidize infrastructure prices directly (any required economic subsidy being accounted for by the interest rate subsidy mechanism);
- the equity grant should be administered by the Ministry of Administration and be based on basic needs criteria.

The same process could also be used to allocate funds to States for general recurrent purposes through an annual base grant and be based simply on population (residents) with some adjustment for expected population growth. The process stated in program output 6.3.2.2 is shown in table 6.1 and illustrated in figure 6.1.

Figure 6.1 FUNDING FOR PROJECTS & REGIONS
A Model of Sustainability

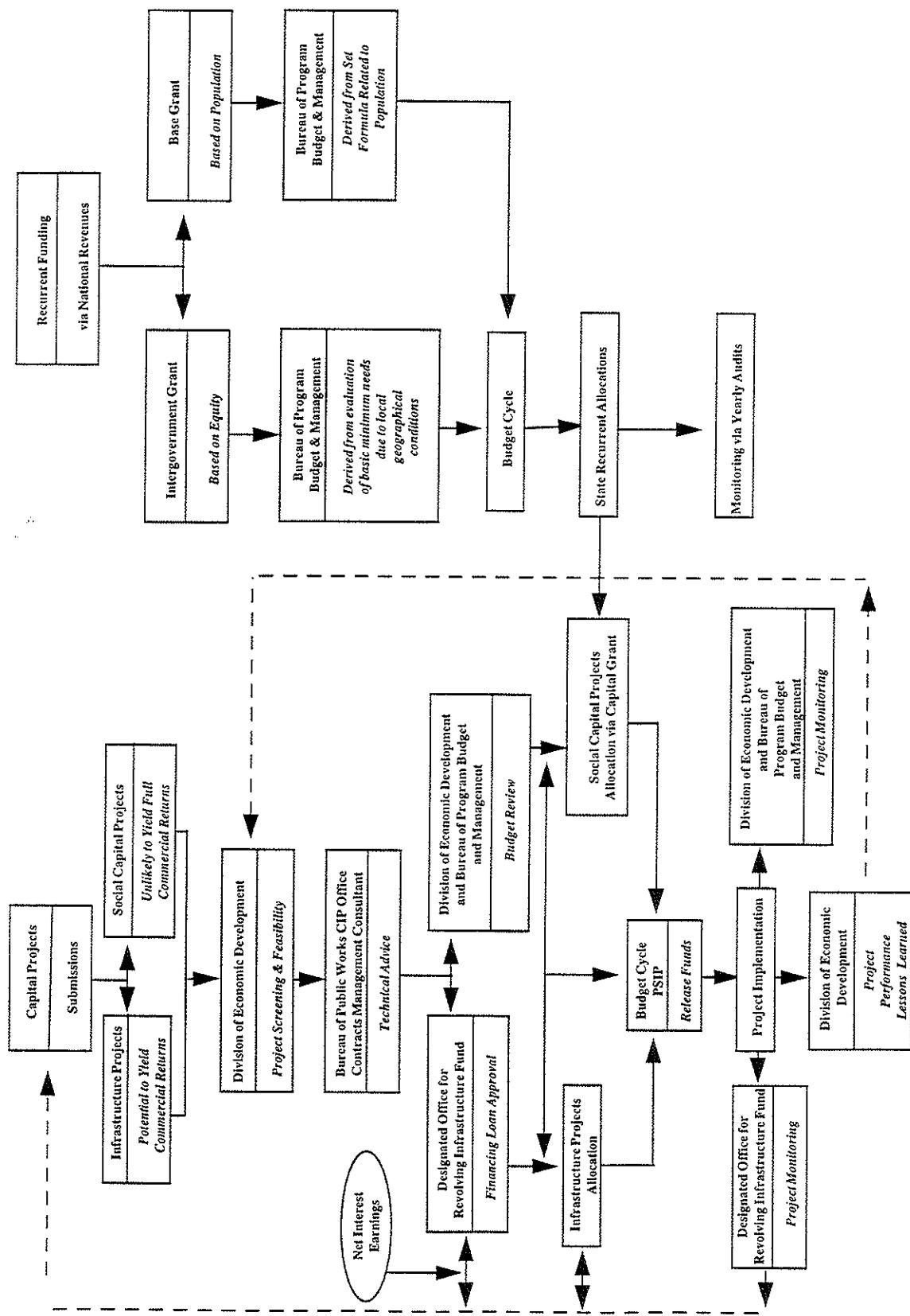


Table 6.1 FUNDING MECHANISM

A National Government entity or State Government would have a number of funding sources through the National Government. These are:

(i) **Loans at Commercial Rates**

A National Government entity or State Government could apply directly to the office responsible for revolving infrastructure funding for a loan for an infrastructure project. This office would seek technical advice, if needed, from the Bureau of Public Works CIPO Office contracts management consultant and economic advice from the Division of Economic Development to assist in modifying the project to increase its bankability. It could also structure the loan to suit the cash flows of the entity (for example, through grace periods, low start loans, interest only loans etc). If the credit risk is satisfactory and a commercial amortization schedule can be serviced by the project, the loan would be approved. If an entity/State failed to meet repayments, the office responsible for revolving infrastructure funding would attempt to assist in rectification by advising on improved pricing, collections or management, or it could restructure the loan terms. If the loan continued to be in arrears, then the entity/State would be given a high credit risk rating which would make it difficult to borrow in future. The areas where commercial rates of return could be expected are in electricity, communications, water, waste water and solid waste.

(ii) **Non-Commercial Projects**

For projects where a commercial rate of return is unlikely, but which have potential to access some revenue from the project, an application can still be made for project funding. The application would be made through the Ministry of Administration and forwarded to the responsible office. The application would request a subsidy and be based on a social benefit-cost analysis. The Division of Economic Development would assess the viability of the project taking into account the subsidy element, which can either be in the form of an annual interest subsidy to the responsible office or an up-front equity injection. The responsible office would undertake collection of the loan segment and bear the default risk.

The level of subsidy would be taken into account in calculation of the overall budget allocation to the entity/State, and would reflect budget priorities and Government development objectives. In the transitional phase of the scheme, higher levels of interest subsidy/grants could be approved. These could then be reduced over time in line with acceptance by users of the facility and development of management expertise and control.

(iii) **Equity Grants to States**

For projects of a public good nature and to meet equity concerns, States can apply to the Ministry of Administration for a recurrent grant that is not tied to any specific expenditure. Of course, the necessary accountabilities would still be required. In assessing the impact of the resultant (higher) price structures for infrastructure on residents, States/entities should take account of the recurrent grant provided through the Ministry of Administration. The grants would only be available to the States. They would not be available to the respective entity or to foreign workers - the latter being forced to pay the full costs (without subsidies) of infrastructure services.

(iv) **Base Grant to States**

States could also receive a base grant related to set criteria (such as population) for recurrent funding purposes.

6.4 INDUSTRY STRUCTURE, COMPETITION AND PRICING POLICIES

Another issue centers on the practice of the Government in providing the full range of infrastructure services. As the market has developed, the scope for introducing private sector provision has increased. The benefits to the economy of competition are substantial, although it is recognized that the market in Palau is still small and competitive pressures need to be nurtured. There are a number of methods and strategies related to privatization and commercialization that introduce competition and greater performance into infrastructure services. These strategies range from contracting out policies to corporatization and full privatization.

6.4.1 PRIVATIZATION STRATEGIES

There are no recommendations for the full privatization of any of the utilities (communications, electricity, water, waste water) at this stage. This reflects the undeveloped nature of the domestic capital market, natural monopoly issues and resultant high unit costs. There would be little gained in privatization because private monopolies tend to be just as inefficient as public monopolies. To ensure greater efficiencies with a private monopoly, the Government would still have to regulate prices and this requires substantial expertise.

Commercialization is a process of introducing into civil service entities the commercial management practices that are common in well managed private companies. Contracting out services to private firms is the most widely practiced form of commercialization. Government maintains control and funds the activity, but contracts out the production of goods and services to the private sector. This method results in price competition through open tendering systems. Government maintains responsibility for determining quality, timing, and quantity of services to be provided.

A wide range of services in Palau could be contracted out, including:

- water supply connections, maintenance and collections;
- maintenance on government buildings, schools, hospitals, vehicles and equipment, office cleaning, hospital food services, security, street cleaning;
- large contracts such as the construction of new roads, bridges, airports, ports, industrial enterprise zones could be managed from the Bureau of Public Works; and
- solid waste collection.

Some of these contracts could be grouped together and managed by a contracts management consultant to the CIP Office if large enough, or could be managed by the respective agency.

Of course, it must be recognized that for contracting out to be successful there needs to be competition among suppliers. If competitive bidding cannot be assured, then the efficiency gains can easily be lost to a private supplier that has sufficient market power to be able to lift bid prices above competitive levels. This is likely to be the case in many areas in Palau. Therefore, an assessment of the existing market will need to be conducted before contracting out proposals are implemented. If the market has few competitors, then services could be offered at a fixed price which could be related to previous Government costs or regional benchmarks.

Further, one of the functions of contracts management is to develop schemes that enhance the number of contractors in the market. This could be achieved by developing schemes that facilitate existing Government employees establishing their own contracting businesses. Business advice and funding could be gained from the Palau National Development Bank and the Small Business Center (in PCC), and existing Government equipment could be leased to contractors. Preferential contracts could then be granted to these contractors for, say, a two year period, after which the businesses would have to compete on the open market.

Corporatization is usually a step further removed from commercialization and involves a complete separation of the entity from government. Corporatization is commonly used to reform infrastructure entities. The Government retains full ownership and usually appoints a Minister to act as a type of shareholding minister. It usually involves an independent board answerable through its own legislation.

Corporatization has not been as successful as privatization, although is a widely used instrument because of its attractiveness to governments in maintaining ownership and influence, particularly in small markets with little competitive pressures.

The poor performance of many corporatized entities, in general, is due to:

- lack of political resolve to implement major structural changes in Government corporatized entities that will encourage more competition both within the enterprise and within the sector;
- continuing government interference, particularly with respect to prices and cross subsidies;
- low Government contributions to capital which usually leads to uneconomic structures;
- lack of rigorous performance monitoring;
- lack of concern over efficient pricing policies as opposed to budget interests, resulting in encouragement of monopoly pricing practices;
- lack of resolve to allow the entity to have authority over employment conditions, staffing levels and industrial relations which are major areas where most corporatized entities can lift their performance by lowering costs and creating more productive incentive structures.

Some Governments prefer to corporatize an entity first in an attempt to increase its performance and separate its operations from Government before eventually privatizing the entity. This assists the adjustment process and can increase the value of the entity.

In general, if corporatization is to be successful, the legislation should prescribe:

- a clear set of non-conflicting objectives, usually focused on a specific economic rate of return and which may or may not confine the entity to a particular industry or sector;
- the industry structural arrangements that will define the entity's scope of operations;
- management autonomy and authority with independence to achieve its objectives without government interference;
- strict accountability for performance; and
- competitive neutrality (defined below).

Given that corporatization is the preferred policy of the Government (PNCC, PUC, PCC and PNDP), these issues are outlined in more detail below:

(a) *Clarity of Objectives*

It is essential that the corporatized entity have clear and non-conflicting objectives. In the past entities often had vague economic development or employment objectives as well as commercial return targets. At times these can be in conflict and have been used as excuses by management for poor performance.

(b) *Economic Rate of Return*

The appropriate measure of performance is economic rate of return which is defined as:

- earnings before interest and tax;
- plus accounting depreciation and amortization;
- plus adjustments for non-interest bearing liabilities;
- plus the change in asset values;

- plus any adjustments for costs of assets acquired under financial leases and for the cost of community service obligations (subsidies) required by Government to be undertaken.

(c) *Competitive Neutrality*

As far as possible (given social benefits and costs, and distributional issues), the corporatized entity should be confronted with competitive neutrality. This means that the special advantages/disadvantages facing the entity should be removed. It means that the entity should pay all Government taxes and charges, and receive no special benefits from its association with government ownership. It also means the entity should be released from the costs imposed by Government ownership, such as civil service employee conditions and salary structures. This is to ensure that the activities of the entity do not distort the allocation of resources, and to ensure economically efficient prices and enable rigorous evaluation of performance against comparable industry benchmarks.

Importantly, if the entity is in a monopoly position, then there must be independent regulation of prices, otherwise it can simply use its monopoly power to reach its target rate of return. There would be no pressure to be efficient in its cost structure or management. In such cases, simply setting a cost recovery target, without price regulation, is inappropriate. Therefore, a prices regulation function should be established in the Ministry of Administration to monitor, evaluate and enforce pricing policies and structures on corporatized entities. Separate legislation may be required.

In assessing price structures and product quality and service, the Ministry of Administration should develop appropriate benchmarks using international comparisons. Benchmarking may involve the prices of all the entity's products, such that the corporatized entity does not use its monopoly position in one area to cross subsidize other areas.

(d) *Capital Structure*

When corporatizing a Government entity, there needs to be a complete audit of the entity. In particular, there needs to be established an asset register and a valuation of assets. This is to assist in the definition of the capital structure of the entity. In this respect, the Government will need to allocate a debt-equity structure and develop a dividend policy. If the entity has solid and steady cash flows, the general rule is to allocate a higher debt level to the enterprise which will increase the discipline on the entity to meet fixed interest payments, rather than more variable dividend payments. The initial capital structure and asset valuation are highly contentious issues because they greatly affect the required rate of return.

(e) *Statement of Corporate Intent*

The contract between the Government and the board of the enterprise can be termed a statement of corporate intent. The statement should contain the performance targets, level of subsidies, capital structure, dividend policy, market structure and reporting requirements.

6.4.2 GOVERNMENT CORPORATIZED ENTITIES

The four Government entities that have been corporatized are the Palau National Communications Corporation (PNCC), the Public Utilities Corporation (PUC), the Palau National Development Bank (PNDP) and the Palau Community College (PCC). The PNCC and PNDP have had corporatized

structures for some years, while the PUC has only just been formed to assume responsibility for electricity generation and distribution. A number of reforms should be made to the operational and legislative arrangements facing these entities. Recommended reforms to PNCC and PUC are outlined below, while reforms to the PNDB are covered in Chapter 5 and the PCC in Chapter 14 of the Master Plan.

(a) *Palau National Communications Corporation*

Significant progress in operational efficiencies, financial stability and profitability have been achieved under the current executive management team. However, a number of issues concerning the framework in which PNCC operates and its relationship with the Government need to be reviewed. These include:

- No dividend policy:
 - all profits are kept as retained earnings and used for expansion;
 - the Government needs to have a more formal relationship with the PNCC in terms of establishing the Government's equity position and a dividend policy;
 - there needs to be an evaluation of the costs and benefits of the resulting increased investment in PNCC as opposed to public investment elsewhere. This is important given the substantial debt levels now being accumulated by PNCC through drawdown of the large REA loan. As the Government's capital constraint is tightened in coming years, choice between public investments will become much more critical.
- There is little ability of Government to influence pricing policy because of various indirect arrangements with US authorities associated with funding:
 - the lack of price monitoring could allow PNCC to exploit its monopoly position by charging higher prices and/or cross subsidizing products, such as domestic telephone consumers at the cost of overseas telephone calls thereby raising business costs;
 - pricing is an important issue in telecommunications, given the technical advances of recent years and the significant decline in unit costs which have been passed on to consumers in more competitive markets;
 - monopoly pricing practices, together with the absence of any dividend policy, could lead to excessive capital expansion, higher wage levels for employees and over staffing.
- Performance of PNCC is not monitored or evaluated by the Government:
 - there is no use of comparative industry benchmarks on prices, costs, returns, service quality, etc;
- PNCC does not pay any government taxes or charges. This situation is likely to give it a marked advantage compared with other industries - advantages that may not be being passed on to the private sector which ultimately funds the other Government services used by PNCC and its employees.

(b) *Public Utilities Corporation (PUC)*

The PUC was established through an Act of Congress in February 1994. It is to assume responsibility for power generation and distribution in Palau, execute a national program for electrification of the Republic and meet the energy needs of the Republic.

The Act has a number important aspects, including:

- The establishment of a five member board, of which only two require technical/financial expertise:
 - the Board has authority to appoint a general manager and can enter into management contracts on approval by the President.
- The debts incurred in constructing the existing power facilities (including the IPSECO debt) will be a liability of the National Government and not the PUC.
- The PUC is exempt from all National and State taxes and charges or fees, and from all State Government regulations and controls.
- PUC is to have authority to set pricing structures to ensure adequate and equitable charges are imposed:
 - the Corporation has powers to price discriminate;
 - PUC has a performance target in that pricing policies must be implemented to meet all operating (including depreciation) costs within five years;
 - price changes require a public hearing;
 - National and State Government will be required to pay for electricity at the same rates as other users;
 - the President can reduce rates by providing a subsidy in the national budget.
- All revenue is to be deposited in a Treasury fund and all expenditures are to be paid from this fund.
- The PUC is to be audited by the Public Auditor.

The legislation will create a more commercial framework for electricity supply. However, a number of aspects can be improved that will support greater performance.

6.4.3 PRICING POLICIES

For corporatized or commercialized entities that have natural monopoly industry structures (increasing returns to scale), there are a number of complications with respect to pricing policies. In Palau, these monopolies include all the utilities - telecommunications, power, water, sewage and roads. The relative ease with which capital resources have been acquired for these utilities and the dominance of management of these sectors by technicians have meant that pricing policies have been neglected. In general, this has tended to result in over capitalization, technically inefficient equipment, under pricing, lack of appropriate developer fees, poor management, low investment returns and considerable waste.

The problem for Palau is that, once Compact funding declines, it will face a sharp capital constraint and within a few years an extremely tight financing position. Capital spending will need to be rationed carefully. Incorrect capital investment now will result in difficulties over time in terms of equipment suitability, maintenance costs, replacement costs and institutional structures. In such an environment, there will need to be an increasing focus on pricing policies to:

- improve revenue flows to the entity and ease capital constraints on Government;
- manage demand and reduce waste;
- create efficient pricing structures (including developer fees) that will utilize existing capacity optimally and, thereby, lead to a more efficient allocation of resources; and
- develop more efficient rules for capital investment in these public enterprises.

Importantly, with respect to these public monopolies, pricing policies cannot be left solely to the respective entity because there would be no incentive for cost efficiency and no control over excessive

pricing. In a number of recent policy documents, there is mention of cost recovery pricing policies (EDP, 1994). However, these public utilities and other Government production units are complex entities and full cost recovery (including the cost of capital) is difficult to define because of problems in ascertaining asset values on which to base cost recovery policies, inappropriate (sunk) capital investments, and large indivisible capital structures.

Pricing policies are particularly important in small island countries like Palau that already have high unit costs and, therefore, are at a disadvantage to larger competitors. Therefore, it is just as vital that prices in the Government's commercial entities are set correctly, as it is to allocate capital for expansion.

Responsibility in many countries for the regulation of pricing policy for corporatized entities rests with some form of independent prices regulator. However, given the costs involved and lack of skilled human resources, at this stage, an independently structured entity could not be justified. The functions, however will still need to be undertaken and the Ministry of Administration would seem the appropriate civil service entity.

Overall, a number of pricing issues will need to be considered. In this respect, there are four areas that will require assessment.

(a) *Average and Marginal Cost Pricing*

In competitive industries, firms will tend to price products and services at marginal cost. This will result in an efficient allocation of resources, which will optimise welfare (given a number of assumptions about behavior and markets). In monopolies with increasing returns to scale, marginal cost will be below average cost and, if restricted to marginal cost pricing, would be unprofitable. As such, these monopolies are likely to charge average cost pricing or greater resulting in inefficient (lower) output levels. If the prices authority restricts the corporatized entity to an average cost pricing policy, inefficient production remains. Setting price above marginal cost for infrastructure enterprises is equivalent to imposing a commodity tax on competitive industries in the private sector. This can be taken into account via a subsidy from Government (refer Section 6.2).

Alternatively, various forms of price discrimination or pricing based on willingness to pay have been used. These have the advantage of increasing use by charging a low price at the margin. A number of pricing mechanisms have been established along these lines. They include a combination of marginal cost pricing combined with a fixed license fee (for example, telephone services). Electricity schedules often employ price discrimination schedules based on quantity consumed or type of consumer (residential or business) or both. Such schemes, though falling short of pricing the last units at marginal cost, are more efficient than uniform pricing and allow greater use of the service in question. Such considerations will be important in the policy approach.

However, the average cost curve for the corporatised GBE may be different from a similar private firm and may not use lowest cost techniques of production. Inefficient production (described as X-inefficiency) may occur as a result of lack of incentives for public firms to minimise costs. The difficulties in containing costs under average cost pricing rules has led to a general trend to use benchmark prices from similar industries elsewhere.

(b) *Sunk Capital*

When corporatising a government entity, the pricing policy that develops depends on the firm's cost curves. In many public projects, the original investment decision was not based on any rigorous project evaluation but political considerations and, therefore, the economic value of the project is difficult to determine, but clearly well below historical or replacement cost. Valuation based on projected discounted cash flows will be more appropriate. However, this method will be influenced by asset values or costs. So efficient pricing policies can be quite complex.

As a general rule, once the investment is made, capital is sunk. Pricing policies should then focus on trying to get efficient outcomes for the economy. If the historical value is used as the basis for average cost pricing, it will cause higher than efficient prices and a contraction in output. That is, consumers should not be required to pay average cost prices to cover the costs of poor investment decisions in the past. This will be an important issue in Palau with respect to electricity pricing and the IPSECO debt.

Price discrimination based on 'willingness to pay' (say, for instance, through various auction systems), is one way of overcoming the problem, although if revenue does not cover variable costs (including depreciation), it will be difficult to justify replacement costs (and inefficient). If 'willingness to pay' revenue does not cover variable costs (excluding depreciation), output should cease.

(c) *Capacity Constraints*

A different set of pricing policies is required when the commodity being provided is constrained by a capacity limit. In monopolies, it is efficient to use a pricing mechanism that will ration production so that all output is just sold. However, it is quite a difficult decision to calculate when additional capacity is required, as opposed to increasing prices to continue rationing production from existing capacity. There are three circumstances involved:

- capacity may not be continuously variable, rather it may be indivisible and expandable only in discrete steps;
- the capacity may be increased subject to either falling or rising marginal costs;
- the use of the capacity may fluctuate so that at times it is fully used (peak periods) and at other times it is not (off-peak periods).

These circumstances are all present in the utilities in Palau. For instance, electricity capital suffers from peak and off-peak demand, and water supply storage and pipelines are indivisible and subject to falling marginal cost. Often utilities will place large demands on government for increased capital with some urgency when more appropriate pricing policies can forestall capital investment for several years. Similarly, inappropriate pricing policies can cause overuse and waste. Demands for capital expansion in these circumstances should be resisted until more efficient pricing policies are implemented. For example, there appears to be considerable waste in water and electricity use in Palau which is directly due to the charging of very low prices and lack of metering. Pricing policies, therefore, can be used to manage demand which can save the government substantial amounts in capital expansion.

In order to determine the optimal capacity, marginal benefits must be equated to marginal costs. There are a number of efficient pricing rules that can be followed. For example, with respect to variable demand and divisible capacity, and when both variable and capacity costs are constant, the optimal capacity is that which equates revenues with total costs. These rules cover the use of peak and off-peak pricing, fixed

and variable costs pricing and the structure of developer fees for large indivisible capital investments such as water and sewerage pipes.

(d) *Developer Fees*

Fees charged by Government for services provided to new developments are often difficult issues. The issues are often complicated by inappropriate general pricing policies. Often general services to consumers are heavily subsidized and it becomes highly uneconomic to connect services to new developments at these rates often because the increased demand requires the upgrading of supply lines. As a consequence, developers are often required to install their own infrastructure (for example, in Palau, the Palau Pacific Resort generates its own electricity, despite the close availability of the central supply). If developers are required to provide infrastructure services themselves, then this could result in an inefficient system. This is because there are usually substantial economies of scale in the provision of most utility services. The problem, initially, is not one of designing complex developer fees, but establishing appropriate pricing policies generally. If efficient pricing policies are established, increased demand from developers should result in positive benefits because of long-run declining unit costs in these industries.

As noted in section 6.4.3 (c), pricing policies should take account of the lumpiness of capital and the growth in future demand. It becomes a problem when utilities face capacity constraints and the connection of a large development results in excess demand. If price volatility is a concern, then long-run marginal cost should form the basis of the pricing rule. Pricing policies should also take account of the location of the development and, as such, differential fee schedules may have to be implemented to account for the differing costs of supply. An assessment of future development and demand around the location would also need to be factored in.

If pricing policies are structured as suggested, the issue of funding is not contentious. Appropriate pricing policies would account for the cost of the new investment in connection over time. That is, the utility would fund the connection, and adequate returns to service the cost of capital would be built in to the pricing structure. If the pricing structure quoted to the developer is higher than that which could be achieved by establishment of the infrastructure by the developer, then the developer should be allowed to proceed independently. If it is considered that the estimation of future associated demand from the development is highly uncertain, then a capital contribution can be required from the developer to share the risk and a lower pricing structure can be levied. The final mix is a matter of judgement and the accuracy of projections.

Overall, in terms of developer fees the following steps should be implemented:

- A general pricing structure should be implemented for all consumers (based on long-run marginal cost principles (refer to sections 6.4.3 (a), (b) and (c)).
- If the development is located within current service areas, fees should be the same as those levied generally with additional capital costs funded by the utility (the new development may result in alterations to projections and changes to the general fee structure).
- If located outside the current service area and projections of future demand in the new area are uncertain, an up-front capital contribution can be sought from the developer to share the risk. Account should be taken of this contribution in the pricing structure to be levied on the developer.

- If the fee structure quoted under these rules is above what the firm's costs are to establish the infrastructure itself, then the firm should be allowed to develop its own infrastructure (subject to other Government criteria such as environmental and land-use requirements).

6.5 STRATEGY AND PROGRAM OUTPUTS: INFRASTRUCTURE PERFORMANCE

6.5.1 STRATEGY: INFRASTRUCTURE PERFORMANCE

Improve the performance of the Government's corporatized and service entities by creating a more commercial and competitive environment, formalizing the relationship with Government, clarifying objectives, improving pricing structures and performance measurement, and establishing a prices regulation function (strategy 3.4.2.8).

6.5.2 PROGRAM OUTPUTS: INFRASTRUCTURE PERFORMANCE - PRICE REGULATION AND CORPORATIZATION

6.5.2.1 Corporatization Criteria Established and Legislation Amended

Provided the corporatized entity does not receive any preferential or adverse treatment that is not accounted for due to its Government relationship and, provided it is forced to charge economically efficient prices, maximizing the economic rate of return on investment should be the only objective of the corporatized entity.

Legislation pertaining to the corporatized entity should not have direct Government powers of direction over operational matters (other than price regulation based on an independent assessment), although it is appropriate for the Government to have reserve powers. If these reserve powers are used to force the entity to provide a non-commercial service and, if such service is not subsidized directly from the budget in a transparent manner, the Government direction should be tabled in Congress, together with an assessment by the entity of the financial cost of the directive.

Before any entity is corporatized, there needs to be a complete audit undertaken, and an asset register and valuation established to facilitate the assigned capital structure. There should be a Statement of Corporate Intent which is the contract between the Government and Board of the corporatized entity. The statement should contain the performance targets, funding arrangements, capital contributions, dividend policy, market structure and reporting requirements of the corporation. The statement should be reviewed periodically and published in the Board's annual report to enable community evaluation.

6.5.2.2 Price Regulation Established and Legislation Implemented

An independent price regulation function should be established within the Ministry of Administration to monitor and regulate the pricing structures of corporatized entities based on economically efficient pricing principles:

- in monopoly situations, the Bureau should seek to introduce competition into the industry structure as much as possible;
- where structures remain uncompetitive, comparisons with international benchmarks should be utilized;

- if an area needs to be subsidized, it should be done directly from the Government's budget.

The function should be established under legislation to ensure its independent assessment and force the necessary accountability for decisions.

The Ministry could also monitor prices generally in the economy and, while price control in other areas is not recommended, moral suasion and publication could be used if price structures were well above expected competitive prices.

Various forms of price discrimination practices should be considered to overcome difficulties in charging marginal cost pricing, and take account of sunk capital due to inappropriate political investment decisions, capacity constraints which will impact on peak and off-peak demand, and developer fees.

In terms of an action plan, the following prioritized pricing structures should be addressed:

- the various charges on the tuna fishing industry;
- electricity tariffs;
- water and sewerage connections, use and maintenance;
- foreign labor fees;
- telecommunications fees;
- hospital and dental service charges;
- fees levied by PCC;
- roads and waterways user taxes and charges;
- airport landing fees;
- search and rescue services of the National Emergency Management Office and Bureau of Public Safety; and
- post office services.

6.5.2.3 Palau National Communications Corporation (PNCC) Structural Arrangements Improved

The PNCC should pay all Government taxes and charges, and should receive no preferential treatment because of its Government ownership. More formal arrangements with Government need to be developed concerning capital structures and a dividend policy established in a yearly statement of corporate intent. Discussions should be held with the US Energy Authority to allow the Ministry of Administration to regulate PNCC's prices, provided there are no political directives or influences and that price regulation is based solely on economic efficiency criteria. Performance of the PNCC should be monitored and evaluated by the Ministry of Commerce and Trade, and Ministry of Administration using various financial performance indicators and offshore industry benchmarks. Performance targets should be provided in the yearly statement of corporate intent.

6.5.2.4 Public Utilities Corporation (PUC) Structural Arrangements Improved

The PUC legislation should be amended in a number of areas. The legislation should specify a requirement for a statement of corporate intent. In this statement, the corporation should be assigned a capital structure (that is, a debt-equity structure). This will require an asset valuation which will provide a sound basis for performance measurement (economic rate of return). This may well entail that the IPSECO debt is not assigned in full, but there should be some recognition of this debt, along with Government equity, in the capital structure. A valuation of assets will also assist in calculating depreciation and replacement schedules. Once a capital structure is assigned, an interest payment schedule and dividend policy can be established. These changes will need to be phased in over time. The existing legislation should be amended to account for these changes.

The PUC should pay all Government taxes and charges, otherwise consumption and production decisions will be distorted. The legislation should state that the objective of pricing policy is to maximize returns to the Government subject to the charging of economically efficient price structures. In this respect, approval for price variations and structures should be regulated by the Ministry of Administration. If this is done, there should be no need to hold public hearings. A target economic rate of return should be phased in over five years. The current Act requires only that operating costs be covered within five years which should be able to be achieved much earlier. PUC should be able to cover operating and capital costs within this period.

PUC should be allowed autonomy to manage its own revenue and expenditures. There seems little reason why this function should remain in the Ministry of Administration. To increase accountability, the PUC should be audited by an external auditor but, more importantly, to ensure financial discipline, its performance should be monitored and evaluated against its set financial targets and industry benchmarks by the Ministry of Administration.

If it is decided to relocate water and waste water from the Bureau of Public Works to the PUC, it should be done as soon as practicable. Legislative amendments will be required. This will result in cost savings through the sharing of common costs, less disruption and more certainty for the PUC in developing its new corporate structure and capital plans, and improve staff morale.

6.6 PUBLIC SECTOR INVESTMENT PROGRAM

Given greater certainty regarding the fiscal outlook and availability of capital funds, a more rigorous Public Sector Investment Program (PSIP) should be developed. The Master Plan institutional capacity building phase will provide technical assistance to Palau to develop a PSIP process. The PSIP should show a prioritized capital expenditure program for the medium term and a definitive set of program and project outputs for the short term where funding has been obtained. The PSIP should include infrastructure projects, including those of corporatized entities, as well as more socially oriented infrastructure projects in the health, education and administration areas. The purpose is to facilitate budget, economic planning and performance. The PSIP should be a rolling 3-5 year plan. This will be important for Palau, given the volatility of project financing and budget support over the next 15 years as Compact funding declines.

Ministries wishing to develop existing and new programs should be required to submit their requests within their strategic plans and in compliance with PSIP guidelines. Corporatized entities requiring capital funds can apply through the process outlined in figure 6.1. If donor assistance is required for capital projects in these entities, then submissions should be made through the PSIP process. Drafting of PSIP guidelines will facilitate a standardized format for investment management and appraisal, and allow prioritization. It will also facilitate program and output budgeting by drawing out the capital investment needs from an overall strategy rather than imposing onto Ministries projects which may not be efficient and which they may not have the resources to manage and maintain. As Compact funding declines, Palau may be able to obtain foreign assistance to bridge its financing gap. The PSIP will assist donors in allocating funds to targeted projects.

The PSIP should be managed by the Ministry of Administration which should coordinate with key personnel responsible for infrastructure financing activities, The Bureau of Public Works responsible for technical design and project implementation, and the instigating Ministry. As such, the normal commercial stages of the project cycle - identification, feasibility, evaluation, prioritization, costing, financial assessment, implementation, pricing and monitoring are established for public sector projects.

The objectives of the PSIP should be to:

- increase the proportion of Government expenditure allocated to investment;
- provide a consistent framework for evaluation of investments across different areas of Government;
- provide a framework that can account for environmental impacts and effects on Palauan culture;
- increase the performance of investment by rigorous evaluation techniques to ensure only projects with the highest net economic benefits succeed in being implemented; and
- increase investment by a judicious use of aid finance and technical assistance and by resource transfers from non-essential recurrent activities.

It is important that the PSIP be aligned to a project cycle and that procedural guidelines be prepared. These guidelines address the relationship of the project cycle to the PSIP, the annual budget, and to program budgeting.

The Project cycle should include four phases:

(a) *Identification Phase*

- Project identification - which should provide a preliminary screening and likely support among beneficiaries. This should be carried out by the responsible Government Ministry or State Government, given technical support by the Division of Economic Development and Bureau of Public Works.

(b) *Planning Phase*

- Project formulation - where the sponsoring agency transforms the idea into a project proposal for technical assessment and decides whether to proceed to the design stage or conduct a pre-feasibility study if a large project.
- Project design - which describes all the elements of the project including the project's objectives, the necessary inputs and outputs, costs and benefits, likely performance or economic rate of return and how it will be implemented. Technical advice should be obtained from the Bureau of Public Works.
- Project appraisal - which provides an overall assessment of key economic, political, social, environmental, institutional and financial aspects of the project which will be conducted by the Division of Economic Development.
- Project selection, negotiation and budget approval - which ranks each project against other approved projects, finalizes donor support if available or budget support, and appoints the project manager.

(c) *Implementation Phase*

- Project preparation for start up - which mobilizes resources for project implementation and involves the formation of the project management committee. This is organized by the Bureau of Public Works.
- Project implementation - which combines implementation, monitoring and mid-term reviews by the Bureau of Public Works where necessary.

- Project completion, termination and transition - where the project is completed according to plan or terminated early, at which time there is a final completion report and the activities scaled down and assets sold, absorbed into another project or become part of the recurrent budget. A report is provided to the Division of Economic Development.

(d) *Evaluation Phase*

- Project evaluation and follow up - which entails a final review of project objectives against outcomes to learn from the successes or failures and this information can be used in planning future projects. This is conducted by the Bureau of Public Works in consultation with the Division of Economic Development.
- Ongoing monitoring - which sets out the performance indicators, perhaps the pricing rules if a natural monopoly and evaluates performance against those indicators. This is the responsibility of the Ministry of Administration and the Bureau of Program Budget and Management which assess performance targets.

It is essential that for large projects in the planning phase an evaluation be undertaken within a cost-benefit framework. Essentially, the methodology requires that all costs and benefits associated with a capital project be identified and, where possible, valued in monetary terms, and that projects only be undertaken (subject to capital rationing) where there is a net benefit to Palau. While all evaluations should be undertaken in a economically rigorous manner, the resources devoted to evaluation should be commensurate with the size of the project.

In cases where a significant portion of the benefits cannot be valued in monetary terms, cost effectiveness analysis (where benefits are expressed in physical units) is the appropriate approach. Also, there may be a need to present distributional effects which are not taken into account in cost-benefit analysis. Financial analysis is important, particularly for infrastructure services that can be priced in commercial terms, but this only concentrates on direct cash flows which impact on the primary project. Economic evaluation considers the wider implications of the project, taking into account the impacts on the broader community which is important for projects that are unable to retrieve commercial returns.

6.7 STRATEGY AND PROGRAM OUTPUTS: PUBLIC SECTOR INVESTMENT PROGRAM

6.7.1 STRATEGY: PUBLIC SECTOR INVESTMENT PROGRAM

Enhance the performance of public sector investment programs and projects by improved evaluation, prioritization, and monitoring techniques incorporated in a comprehensive public sector investment program process (strategy 3.4.2.9).

6.7.2 PROGRAM OUTPUTS: PUBLIC SECTOR INVESTMENT PROGRAM - PROCESS

6.7.2.1 Public Sector Investment Program Process Established

A more rigorous Public Sector Investment Program should be established. The Ministry of Administration should have overall responsibility for coordinating the PSIP. Systems and procedures should be established on:

- project evaluation guidelines outlining cost-benefit techniques. International assistance through the World Bank and/or UNDP may be available to provide such guidelines and accompanying computer software;
- project cycle procedural guidelines that encompass the budget approval process, macroeconomic constraints and performance monitoring procedures;
- procedures on aid disbursement and accounting methods to facilitate the acquisition of concessional assistance;
- coordination with the Bureau of Public Works and instigating entity or Ministry; and
- training requirements. Assistance should be sought from the Australian Government which runs in-country courses on the project cycle throughout the Pacific islands.

INFRASTRUCTURE PROGRAMS AND PROJECTS

Following extensive consultations with the Office of Planning and Statistics, Ministries, State Governments, private sector, investors, and other interested parties, a substantial number of feasible infrastructure proposals have been developed. These are presented in sections 6.8 - 6.25. The total cost of these programs and projects is shown in section 6.26. The total cost far exceeds the likely available resources.

The resources that will be available for infrastructure programs and projects cannot be estimated with any significant degree of accuracy. Available resources will depend on a myriad of factors - both endogenous in nature, such as Government policy changes, and exogenous such as economic growth in Palau's major trading partners. The resources that Palau has available through Compact funds are being eroded rapidly through excessive recurrent expenditure (refer FY 1995 Supplemental Budget). The resources that Palau could mobilize through local revenue measures will depend on the implementation of major policy changes, particularly associated with taxation and user charging changes, which will require concerted action by the leadership over a number of years. There is some scope for additional resources from bilateral and multilateral donors, although such resources are highly uncertain at present, and are more likely to be focussed on technical advice rather than on funding infrastructure projects. The potential to access offshore commercial loans is limited (refer Chapters 4 and 5).

Consequently, the programs and projects will need to be evaluated more thoroughly and prioritized within a PSIP process, and within the constraints of available resources, given the implementation of policy changes, economic prospects, and donor support.

The feasible set of projects and programs presented include the ongoing CIP projects, the Government's proposed prioritized and unprioritized projects as shown in the EDP (1994), and additional projects as assessed in the NMDP sector report on Infrastructure. Projects and programs are presented under sections on transportation, electric power, water supply, waste water, solid waste, communications, and public buildings and utilities.

6.8 LAND TRANSPORTATION

6.8.1 SITUATION ANALYSIS

A sustained increase in economic growth and development will require the provision of adequate transportation links with the outside world and within Palau. Because Palau is comprised of a long chain of Islands, including the large island of Babeldaob , all three forms of transport - air, land and sea - need to be developed. However, with construction of the Compact road, much of the focus on transportation in coming years will be on the establishment of the road network on Babeldaob. In the 1930s, the Japanese constructed around 70 miles of roads, including a network of roads on Koror, connection of the islands of Malakal and Arakabesang to Koror, a primary road on Babeldoab from Airai through Aimeliik, Ngatpang, Ngaremlengui and Ngardmau, and roads on Peleliu Island.

Many of the Japanese roads, including causeways and streets in the Koror-Airai area are still in use today after having been improved with funds from the US Trust Territory Capital Improvement Program (CIP). This road improvement program entailed the improvement of approximately 22 miles of asphalt paved primary and secondary roads from 1974 to 1988. With US CIP funds, a two-lane concrete box girder type bridge spanning the Koror-Airai channel was constructed in 1976 connecting Babeldaob Island with Koror State. The Babeldaob north-south primary road is still in use in certain sections after having been improved by the combined efforts of the US Military Civic Action Team, the Palau National Government and various State Governments. However, 4-wheel drive type vehicles are required when driving in the area. A land transportation system linking all the 10 states in Babeldaob Island with the civic, commercial and administrative center of Koror State is still lacking.

Through their own initiative and using Japanese construction companies, the State Governments of Melekeok, Ngiwal, Ngaremlengui and Ngarchelong constructed a combined total of 13.9 miles of asphalt concrete paved roads within their respective states from 1985 to 1988. Through the combined efforts of the US Military Civic Action Team and the National and State Governments, a considerable number of dirt roads have been constructed in 7 of the 10 states in Babeldaob. At present, the states of Ngaremlengui, Ngchesar, Ngatpang and Melekeok are accessible from Koror by means of 4 wheel drive vehicles and the States of Airai and Aimeliik are accessible by regular vehicles. Overall, the total length of the road network is estimated to be in excess of 190 miles. The road network on Babeldaob is shown in Map 9, Annex 3.

A provision in the Compact of Free Association makes it the responsibility of the US Government to provide a 53-mile road on the island of Babeldaob. The national highway project is the most important of all proposed infrastructure projects in Palau. The economic benefits will be substantial, both in direct terms to construction activity and indirectly in providing the necessary transportation links to potential development areas. Without knowledge of the alignment and timing of construction, the total economic benefit is difficult to quantify. However, it is anticipated that the development of Palau's economy will be largely dependent on the development of the Island of Babeldaob. Babeldaob is the second largest land mass in Micronesia. Its size and topography make it an ideal location for the development of tourist facilities such as golf courses, resorts, and expatriate retirement communities. It is anticipated that within seven years there will be as many as three golf courses, five destination resorts (some of which may have golf courses associated with them), and two retirement communities. Improvement to the international airport and tourist accommodation capacity should result in a significant expansion of tourist numbers in Palau. The highway will be a critical underpinning of this expansion.

Additionally, there will be substantial local travel in Babeldaob, given that the National Capitol is planned to be relocated to Melekeok; fisheries and agricultural centers will continue to expand in Babeldaob; many Palauans originally from Babeldaob who now live in Koror will be able to travel to their ancestral villages on weekends and holidays; and Palauans living in Babeldaob will be able to utilize medical and educational facilities and pursue job opportunities in Koror. Because the commercial sea port is located in Koror, all construction materials and equipment needed for this development must travel over the National Highway. In addition the Highway will carry school buses, tourists, commercial and maintenance traffic. It has been estimated that the volume will likely be as high as 400 vehicles per hour during peak periods.

In terms of the number of motor vehicles, registrations have grown by 15 percent per annum in the 1990s and are currently around 5,000; nearly 90 percent of which are registered in Koror. A fleet of approximately 106 taxis individually owned and operated provides the only public land transportation in Palau, mainly in the urbanized Koror-Airai area. A few car rental companies with a combined total of 157 vehicles (in 1994) are in operation, also in the Koror-Airai area.

The responsibility for the implementation of the US financed CIP was shared by the current Bureau of Public Works and the US Naval Facilities Engineering Command through its Officer-In-Charge of Construction (OICC) who maintained a representative in Palau until 1992. The US Military Civic Action Team was instrumental in pioneering coral sealed roads, particularly in Aimeliik and Airai States during the 1970s. The Civic Action Team has also helped the various States in other minor construction projects.

The current Bureau of Public Works is responsible for the maintenance of primary roads. The primary road presently consists of about 10 miles of asphalt concrete road within the Koror-Airai area. Each State is generally considered responsible for the maintenance of secondary and tertiary roads within its boundary; but this policy must be formalized during the Plan period to clarify the division of responsibility of road development and maintenance between the National and State Governments. The Bureau of Public Works in coordination with State Governments is presently engaged in road work in some States. Work is being concentrated on mitigation of detrimental environmental effects caused by previous road work, the construction of a causeway connecting Melekeok State with Ngiwal State, and the capping of the dirt road with coral from Ngchesar to Koksai area of Ngatpang State. Permits have recently been issued and US Community Development Block Grants funds are anticipated to be released soon for the construction of bridges associated with roads in Ngardmau, Ngaremlengui, Ngiwal and Ngaraard States.

6.8.2 PROBLEMS AND ISSUES

The major problems and issues are outlined below:

(a) Road Infrastructure

The lack of road infrastructure linking the communities of Babeldaob with Koror is a major constraint on economic development, particularly tourism and agricultural development. While the Compact provides for the construction of 53 miles of two coat bitumen sealed road with a pavement width of 18 feet, no other design criteria appear to have been specified. Whether these specific criteria are to be read as indicative only or as absolute is a matter for negotiation between the parties. Modern US road design

criteria, specifications and safety standards may conflict with rigid application of the criteria set out in the Compact documents.

(b) *Structural Faults*

The asphalt concrete paved primary roads in the Koror-Airai area have begun to show structural failures requiring immediate correction action. The existing asphalt surface, constructed in 1986, has deteriorated significantly, possibly due to poor quality aggregate, poor grading of the aggregate in the mix, salt laden coral sand fillers and the continuing presence of abrasive salt laden coral fines which are either washed onto the surface by rainfall runoff or carried on by vehicular traffic. The abrasive effect of vehicular tyres from high density traffic combined with water and coral fines produce a significant wear effect on the soft bitumen binder and weaker stone aggregates in the mix. Stormwater drainage channels have been constructed along sections of the road, but these are often only on one side of the road and are not connected to adequate drainage outlet structures. The underground piped stormwater drainage system in Koror is of very limited extent. The current road system on Babedaob in many sections is deteriorating and causing significant environmental damage from soil erosion (refer Chapter 12).

(c) *Land Easements*

It has been difficult for the Government to obtain land easements and construction rights of ways for the CIP and the problem appears to be becoming more complicated. The National Government and State Governments must face this issue in the immediate future.

(d) *Institutions*

The current Bureau of Public Works has the overall responsibility for the management and maintenance of the national roads. The essential support provided by the US Navy CAT Program is now being reduced following Compact implementation. There would appear to be no single person or group within the BPW responsible for planning, design or construction management of road works, associated drainage and other civil engineering works. The Babedaob Road Project Office is staffed by two persons, neither of which is fully qualified in road design and construction. There is an urgent need to improve the management of the BPW and increase its funding. In addition, financial resources are needed for the acquisition of proper road construction/maintenance equipment and appropriate materials and hiring of personnel with the expertise for road construction, repair and maintenance. The Bureau of Public Works currently needs to develop the technical expertise for large-scale road construction and repair involving asphalt concrete pavement.

The Office of the Capital Improvement Program provides in-house engineering design services, administration of engineering design contracts performed by private consultants, and administers construction contracts which are performed by private firms. The Office also performs construction inspection and engineering/land surveys for Government CIP projects.

6.9 STRATEGY AND PROGRAM OUTPUTS: ROAD TRANSPORTATION

6.9.1 STRATEGY: ROAD TRANSPORTATION

Provide a fully coordinated effort to ensure the planning, design and construction of the Compact primary road on Babeldaob progresses urgently and maximizes the economic and social benefits to Palau; repair the existing paved roads and streets in the Koror - Airai area; improve other access roads on Babeldaob, Peleliu and Anguar; and improve the management, technical capability and resources of the Bureau of Public Works.

6.9.2 PROGRAM OUTPUTS: ROAD TRANSPORTATION

6.9.2.1 Compact Road Planning Coordinated and Maintenance Funded

A collaborative planning effort between National and State Governments and the US Government should be undertaken to determine the road alignment, design and specifications. Affected State Governments should make a firm commitment to provide the necessary land easements and construction rights of way. The development of this project will include the establishment or reopening of hard rock quarries and a geotechnical testing laboratory. While the US Government will fund the project development, additional resources will be required for technical staffing in the Bureau of Public Works. There will also be a need for an allocation for maintenance works following construction that will increase for around 5 years and then level off at around \$1.5m a year from FY 2005.

6.9.2.2 National Road Building and Maintenance Program Established

To remedy the deficiencies in the Koror-Airai road network (including inadequate drainage structures, poor road bed stabilization, asphalt concrete deterioration, inadequate roadway safety elements and inadequate carrying capacity), provide for the construction of new roads, and underpin the maintenance of the whole road transport system, funding should be made available for acquisition of appropriate heavy road construction and asphalt concrete paving equipment (including a hot-mix asphalt plant) and a centralized equipment repair facility, together with adequate training. This is a prioritized EDP project costed at \$7.885 million, to be funded from Compact infrastructure funds.

6.9.2.3 Access Roads Constructed

To connect communities, farming areas and potential development to the national highway, 45 miles of access roads are required. In fiscal years 1997 and 1998, 8 - 10 miles are expected to be constructed at a cost of \$3.85m per year. The total allocated cost is an unprioritized EDP project to be funded from general appropriation. To complete the project, further annual amounts of around \$2.6m will be required for the subsequent 4 years together with a maintenance component. These funds are also expected from general appropriations.

6.9.2.4 Bureau of Public Works Strengthened

The Bureau should be given overall responsibility for the management, design, construction and maintenance of all roadworks throughout Palau. Additional technical expertise will be required and appropriate training courses should be introduced. The Bureau should delegate its strengthened Contracts Management function to coordinate the Compact road project, design and supervise contracts generally, and promote contracting-out schemes, particularly for maintenance. The Bureau of Public Works should be responsible for new roads, and the Division

of Maintenance for maintaining the existing road system. Additional recurrent funds will be required from general appropriations, estimated at \$0.5m per annum. Alternatively, a proportion of the proposed excise tax on fuel, together with vehicle registration fees could be allocated directly to the Ministry for Roadworks.

The estimated costs, source of funds, and timing of the above program/project outputs are shown in table 6.18:

Table 6.18 Road Transportation

Program/ Project	1996	1997	1998	1999	2000 \$'million	2001	2002	2003	2004	2005	Funding Source
Compact Road	(to be determined)										Compact
Maintenance/ National Highway		0.05	0.15	0.25	0.35	0.5	1.0	1.5	1.5		Budget
National Road Building and Maintenance	7.9(P)										Compact
Babeldaob Secondary Roads	3.9(U)	3.9(U)	2.6	2.6	2.6	2.5					Budget
Maintenance Secondary Roads	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5		Budget
PWD Upgrade	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		Budget
TOTAL	8.7	4.7	4.7	3.6	3.7	3.8	3.8	2.0	2.5	2.5	

Note: P denotes an EDP prioritized program.

6.10 SEA TRANSPORTATION

6.10.1 SITUATION ANALYSIS

Palau depends on sea transportation for the bulk of its imports, transport within Palau outside of Koror, and access to its main tourist attractions. External sea transportation is provided by three shipping lines - the Palau Shipping Company, the Kyowa Shipping Company Limited, and the Philippines, Micronesia and Orient Shipping Line (PM & O), which provide access to the US West Coast, Japan, Australia, Taiwan, Hong Kong, Philippines and Guam.

There are currently two ports in Palau which handle international shipping. The main commercial port is in Malakal Harbor, the other a bulk fuel facility located in Gamliangle Bay, Aimeliik State for supplying the power station. At the main commercial port, facilities include two perpendicular faced wharves, with lengths of 510 feet and 350 feet respectively and a water depth of 25 feet at low tide. Limited container handling and storage space is available at the Malakal commercial dock. Other facilities includes two warehouses of 5,000 square feet of floor space each. Cargo handling equipment includes a 30-ton capacity forklift, other forklifts of lesser lifting capacity, and a 30-ton truck tractor with a flatbed trailer for hauling containers and other heavy loads. Cargo tonnage delivered at the port has increased by around 7 percent per annum in the 1990's to over 70,000 tons in 1994. Nearby is located the bulk plant of Mobil Oil Micronesia with a combined capacity of 3 million gallons of fuel, with storage tanks primarily for diesel fuel and gasoline. Bunkering facilities for vessels are available at dockside. A deep harbor at Aimeliik accommodates fuel oil tankers up to 15,000 tonnage. However, the harbor currently lacks docking facilities, and therefore oil tankers calling at Aimeliik have to anchor in the harbor and pump their cargo of fuel oil through floating hoses. This fuel oil delivery method is inefficient and environmentally unsound.

The two private commercial fishing companies own and operate their own docking facilities on Malakal Island. A significant area of the finger pier on the Island has been leased on a long-term basis by the Koror State Government to Palau International Trade Inc (PITI), a commercial tuna fishing company. The leased area effectively annexes one side of the entire pier, the north quay face comprising approximately two berth spaces, as well as approximately 30 percent of the land area created by the pier for port terminal activities. The presence of this establishment severely limits the ability to further develop the port terminal. The Palau coast guard cutter permanently occupies a 100 feet berth space at the outer end of the north quay adjacent to the PITI berths. Due to the number of vessels wanting access to berths for maintenance, layby and normal operations, a significant amount of multiple berthing occurs, particularly so in the case of the long-line fishing vessels. These vessels also anchor in the harbor when on standby. A second tuna fishing company, PMIC operates from quite restricted berth facilities on the opposite side of Malakal Island, in between a ship repair facility and a tourist dive operation. Because of the limited berth space, fishing vessels are moored with up to 5 vessels lying along side each other, which at times can result in difficult operational conditions in the waterway, particularly for adjoining operators.

Other maritime facilities available at Malakal Harbor include ship repair facilities, and small retail handling facilities. Tourist shipping in the form of live aboard dive boats, charter yachts and the occasional cruise liner all utilize the commercial port facilities for embarking passengers. The live aboard vessels and charter craft require regular scheduled access to a berth to maintain their operational schedules. The current demand for berth space is such that congestion (double berthing) frequently occurs.

Facilities for domestic water transport include numerous small docks in Koror, notably M-Dock for accommodation of government boats, Malakal fishery dock for inshore fishery operations, and T-Dock for accommodation of boats traveling to and from various points in Babedaob. In general, each of the outlying States has its own docking facility(s), except the State of Hatohobei and Sonsorol. Dredged channels provide access to small water crafts several State docking facilities at all tide conditions. However, at some of the States, notably Peleliu, Ngiwal, and Ngaraard, either the existing channels have been silted up or channels are lacking, thereby making it impossible for even small water craft to reach the dock at low tide. In the mid-1980's, four small fishing ports were constructed under Japanese grant aid assistance in the States of Anguar, Ngatpang, Melekeok and Ngarchelong at a cost of over \$10 million.

Limited public passenger and freight services are operated between Koror and a few of the outlying States. These include a 3 times a week service to Peleliu, a once a week service to Anguar, and a bi-weekly service to Kayangel. Heavy reliance is placed on small privately owned water craft (outboard motor boats) for transportation between Koror and outlying States. Dozens of tour and dive companies, as well as individual boat owners, provide guided boat tours and diving expeditions to the dive spots and land tours of the outlying States.

The Division of Transportation of the Ministry of Commerce and Trade has jurisdiction over the administration of both marine and air transportation in the Republic of Palau. The Division is responsible for navigational aids, beacons and channel markers. Minor maintenance on these items is undertaken by personnel from the Division. Major works such as installation and replacement of beacons and markers on the main navigational channels has been undertaken by the US Coast Guard operating out of Guam. The Coast Guard makes annual visits to Palau to inspect and install navigational aids, carry out maintenance, and instruct personnel from the Division in operation and maintenance procedures.

With increasing numbers of tourist craft and small craft plying the inner reef waters, there is a requirement for additional channel markers and the replacement of old, broken markers throughout the waterways of

Palau. The ability to install and maintain these markers should be developed in Palau. There is also a need to prepare additional navigational charts of the reef areas of Palau. Good quality charts exist of the main channels and anchorages. There is a bad shoal in the main eastern approach channel to Malakal Harbor which is unmarked. This urgently needs marking and removal at some time in the future.

State Governments have been responsible for constructing and improving their own respective docking facilities. There is no set regular schedule of services to the southwest island states of Hatohobei and Sonsorol. Field trips to the two remote states are organized utilizing chartered private vessels at least once every three months plus special trips for medical evacuation and election purposes. An appropriate vessel may be needed for servicing the outer island States on a regularly scheduled basis. Alternatively, a sea plane could be utilized, perhaps in conjunction with maritime surveillance.

The Government operates a former US Coast Guard cutter as a sea patrol boat. The vessel is usually used in response to calls from the various States, notably the two southwest island States when they report vessels intruding in their state waters. The States of Anguar, Peleliu and Kayangel own and operate State boats which make regularly scheduled runs between their respective States and Koror State. These State boats bring passengers to Koror, and cargo consisting of firewood, fish and other items to be sold in the Koror local produce or fish markets. On returning trips, the boats carry passengers, cargo of merchandise for sale in local retail outlets, building materials, block ice, diesel fuel and gasoline, and occasionally an automobile. Other outlying States also have State boats (usually outboard motor boats) for the purpose of carrying farm produce and fish from the States to the local produce and fish markets in Koror on a once-or-twice a week schedule.

Several hundred outboard motor boats ranging from 25 horsepower to 200 horsepower are individually owned and are used for fishing, scuba diving operations, catering to tourists and other recreational purposes.

6.10.2 PROBLEMS AND ISSUES

A number of problems and issues pertaining to sea transportation and infrastructure continue to stifle development. These include:

(a) *Commercial Port*

Operations of the Malakal commercial port presently lack adequate heavy equipment for loads in excess of 30 tons which limits cargo destined for Palau. There is also very limited container space, and no room for expansion. The existing warehouses have limited space and are built close to the edge of the wharf making the loading/off-loading of ships difficult. Recent development of commercial property and businesses on waterfront land and in the port industrial area would appear to have occurred without a development or zoning plan for the area. From a planning aspect, this has resulted in a somewhat undesirable mix of commercial, residential, industrial, tourist, construction and port-related industries, much of which annexes water front land for non-marine related activities. The port currently functions under State jurisdiction although this is disputed by the National Government. The drawn out nature and lack of resolution on this issue has meant that neither Government accepts responsibility for port maintenance works, although if there is a serious problem, the Bureau of Public Works would be requested to effect repairs.

(b) *Aimeliik Facility*

The lack of the proper oil terminal facility for off-loading fuel oil from oil tankers to the oil tank farm in Aimeliik makes the fuel oil off-loading operation extremely inconvenient, and dangerous for the workers, and potentially hazardous to the environment in the event of an oil spill. An oil boom facility is not utilized during normal loading and unloading procedures. It is only used when spillage occurs. It is understood that this equipment belongs to the US Coastguard and may be withdrawn from Palau. The National Government should procure oil boom equipment if this situation eventuates. The National Government has been in dispute with the land owner over the use of the land for the power station and port facility. This should be settled as soon as possible.

(c) *Regulation*

The National Government exercises responsibility for all maritime matters through a Port Manager, who functions within the Transportation Division of the Bureau of Commerce and Trade. The Office of Port Manager operates with very limited staff and budget, and is only responsible for the inspection and clearing of vessels. The Office is not responsible for collection of harbor dues, these being collected by the private company Belau Transfer and Terminal Company (BTTC), contracted by the State of Koror to manage the port, and who subsequently pays the collected fees to National and State Government. Port charges are considered low by regional standards. State Governments are responsible for marine terminals and docks within their borders. Overall the existing institutional organization responsible for Ports and Marine Infrastructure is inadequate in terms of authority and the ability to exercise the legislated responsibilities. The lack of clear definition of responsibility between National Government and State Government of Koror continues to hamper the establishment of a proper port authority and the establishment of modern commercial port facilities. State Governments generally have insufficient resources to undertake significant marine project work or maintenance of such facilities.

(d) *State Ports*

It is anticipated that the docking facilities at each state in Babeldaob will become less important and most probably will be utilized mainly for support of small-scale inshore fishing activities after the completion of the Babeldaob road system. However, the outlying States of Kayangel, Peleliu, Anguar, Hatohobei and Sonsorol will continue to depend, to a large degree, on sea transport. Accordingly, special attention should be given to the improvement of docking facilities, navigational aids, and waterways for the five (5) outlying States.

(e) *Drydock*

A facility is badly needed for drydocking and repair of larger sized fishing vessels and live-a-board dive vessels. Sending these Palau-based vessels outside of Palau for drydocking is too costly and time consuming.

6.11 STRATEGY AND PROGRAM OUTPUTS: SEA TRANSPORTATION

6.11.1 STRATEGY: SEA TRANSPORTATION

Establish, maintain and manage adequate port and marine facilities to meet the requirements for international shipping, internal transport, tourism and development of marine resources.

6.11.2 PROGRAM OUTPUTS: SEA TRANSPORTATION

6.11.2.1 Malakal Harbor Expanded

Given the expected increase in demand for commercial port facilities in Palau over the NMDP period, existing facilities will have difficulty coping, and additional berth and storage areas will be required. Given all the options (refer Infrastructure Sector Report, NMDP), a new facility on the site reserved for US military purposes should be established as the new national commercial port. The US Government will need to approve the utilization of the site. Given Palau's requirements for a clear and open container facility and terminal area, together with mobile equipment, this should not conflict with any military purpose.

Malakal Harbor and its associated port facilities are considered a national asset and should be under the control of the National Government which has the resources, capability and responsibility to manage and operate the asset for the benefit of the Republic of Palau. The harbor and its waterfront facilities should be acquired for the National Estate, by negotiation with the State Government of Koror. If resolution cannot be achieved acquisition through a declaration of eminent domain should be made to forestall protracted negotiation. Land within the port boundaries should be leased back to current lease holders on an agreed basis.

The National Government should undertake a Master Plan Study for future development of Malakal Harbor and water front facilities on Malakal Harbor following acquisition of the site for the national estate. The estimated cost of the Master Plan study is \$0.25 million and should be carried out in FY 1997. The estimated cost of the port development is \$20 million which should commence in FY 1998 and be completed by FY 2001. If additional US aid is not forthcoming, the Government would need to fund the development from general appropriations or through concessional borrowings from donors.

6.11.2.2 Gamliangle Bay Facilities Improved for Commercial Bulk Port

Gamliangle Bay is considered a suitable site for import and export of bulk commodities including bulk petroleum products, coal, acid, phosphate products and heavy lift items. An appropriate area of the Bay and water front land, including land required for power generation purposes, should be declared part of the national estate for port and power generation and acquired from the owners for that purpose.

Some of the products to be handled at the port are of a hazardous nature and therefore better located away from major population areas. In time, the existing petroleum facilities on Malakal Island should be relocated to Gamliangle Bay and product transported by road to distribution centres. The current situation on Malakal with fuel storage and high density accommodation in close proximity presents a serious fire hazard to the community. The proposed port facilities at Gamliangle Bay should include a breasting wharf facility with mooring dolphins, capable of handling petroleum products, bulk coal unloading and stockpiling, stockpile/storage facilities for bulk phosphate products, acid storage tanks and other bulk commodities which may be required for mining projects. The facility should be fully equipped with fire fighting facilities for petroleum products and oil spill/pollution control equipment.

The National Government should undertake a study for the development of Gamliangle Bay as a commercial bulk port facility. The estimated cost of the study is \$150,000 which should commence around FY 1998. The estimated cost of the improvements to the port is \$15 million which should commence in FY 1999. Foreign assistance should be sought for funding and/or local revenues should be mobilized.

6.11.2.3 Ibeduls Pier (T Dock) Redeveloped

The prime location of Ibeduls Pier gives it significant potential for re-development as a centre for tourism and marine transportation. Reef fish is a major commodity of the Palau economy and a tourist attraction. The relocation of the centralized fish handling facilities from Malakal to Ibedul's Pier could provide a "fisherman's wharf and market" environment to the facility and provide more centrality to the distribution of local fish. The disused swimming facility could be reconstructed as a large marine aquarium containing turtles and colorful reef fish. The relocation of these activities from Malakal Harbor would, to a degree, relieve the waterway demands on the harbor and separate the smaller tourist craft and fishing fleet away from the commercial shipping area. Ibedul's Pier is also centrally located on the east-west Toachel Passage linking the east and west coast of Babeldaob Island, giving it a key location for servicing the marine transportation requirements of the nation. It is recommended that, in conjunction with the State Government of Koror, the National Government undertake the redevelopment of Ibedul's Pier as a tourist and marine transportation center. The estimated cost is \$10 million and funding should be sought from private investors and through local revenues. The project should commence in FY 1996-97.

6.11.2.4 Dry Dock Feasibility Study Conducted

During the Japanese administration of Palau, the military commenced the construction of a dry dock facility on the western side of Malakal Island. The facility was evidently left uncompleted during the war, and has remained so since that time. A dry dock facility of its size could be of economic benefit to Palau, given the number of fishing vessels now using its waters. There are no dry dock facilities in the western Pacific.

It is recommended that a study be undertaken to determine the economic feasibility of rehabilitation and completion of the dry dock, and the opportunities for servicing the maritime industry in the western Pacific. If feasible, the facility should be developed as part of the national commercial port facilities and leased to an operator to manage and maintain the facility on a commercial basis. The National Government should not attempt to operate and maintain a dry dock facility. It is more appropriate for private industry to undertake such ventures because of risk and international marketing factors. The EDP has this project in their unprioritized list and has allocated \$3.5 million for its renovation, to be funded by possible Japanese aid.

6.11.2.5 Docking Facilities, Harbor and Channel Dredging at Peleliu Upgraded

Due to siltation, the existing channel leading from the protected lagoon just north of the Peleliu community dock has become too shallow. The Peleliu State boat has to wait for high tide to be able to pass through the channel. To facilitate boat travel between Peleliu and Koror at all tide conditions, the 15,000 feet long channel will need to be dredged down to eight feet at low tide. The Peleliu community dock will need to have the loading area concreted, and the dock extended by 300 feet with sheet piling, as well as being dredged to eight feet at low tide. At Kambek Harbor, the harbor entrance will need to be dredged to the original depth of 12 feet with a width of 40 feet. The breakwater structure which was destroyed by a typhoon will need to be repaired. Kambek Harbor is important as a shelter for fishing and dive boats during inclement weather. This is an unprioritized EDP project costed at \$7 million, to be commenced in FY 1997 and funded by possible Japanese aid.

6.11.2.6 Harbor at Anguar Repaired

Anguar dock has already been improved with funds from Japanese grant aid assistance. However, the breakwater structure was damaged by a typhoon, and now must be repaired. This is an unprioritized EDP project costed at \$1.2million to commence in FY 1995 and be funded by possible FEMA and Government matching funds.

6.11.2.7 Ship to Shore Transport System at Sonsorol and Hatohobei Established

This project consists of the construction of a concrete ramp with a marine railway complete with a powered winch for pulling a shore-to-ship boat in and out of the water into a boat shelter, construction of a combination boathouse/copra storage structure, and procurement of an appropriate shore-to-ship vessel similar in design to a Landing Craft for Vehicle and Personnel (LCVP) used by American landing forces during World War II. Facilities should be established at both Sonsorol and Hatohobei. This is an EDP unprioritized project costed at \$2.5 million. Source of the funds is unidentified.

6.11.2.8 Small Boat Navigational Aids Upgraded and Expanded

Damaged channel markers should be repaired and additional channel or shallow area markers should be installed throughout Palau. This is an unprioritized EDP project costed at \$150,000 for FY 1996, to be funded through general appropriations.

6.11.2.9 Inter-Island Vessel Service Established for Southwest Islands

An appropriately designed and equipped vessel should be purchased to be used for servicing the Southwest Island States of Hatohobei and Sonsorol. This is an unprioritized EDP project costed at \$1.5 million for purchase in FY 1999. Possible contracting of these services from a private operator should be investigated.

6.11.2.10 Division of Transport and Communication Strengthened

Resources of the Division and particularly the Port Manager's Unit should be increased and responsibilities defined more clearly. The Division should review existing port charges. The National Government should nominate the port and marine facilities for which it intends assuming a national responsibility (new commercial port, bulk port, maintenance of channels and waterways, navigation aids and beacons, marine transportation docks of national importance). Legislation may need to be enacted. The Division will need to supervise the proposed planning exercise of the two commercial ports. Additional recurrent costs are estimated at \$0.4 million per annum, to be funded from general appropriations.

The estimated costs, source of funds and timing of the above project/program outputs are shown in table 6.19.

Table 6.19: Sea Transport

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
\$'millions											
Expansion Malakal Harbor Study: Port:		0.25									Budget US or Donors Budget
Maintenance:			5.0	10.0	5.0				0.2	0.2	0.2
Gamliangle Bay Study: Port Maintenance			0.15								Budget Donors Budget
Ebadul's Pier Maintenance:	0.25	5.0	4.75		0.1	0.1	0.1	0.1	0.1	0.1	Private Investors
Dry Dock Study: Dock: Maintenance:		0.15		3.5							Budget Japanese Aid
(Private Industry)											
Peleliu Harbor		4.0(U)	3.0(U)								Japanese Aid
Anguar Harbor	1.2(U)										FEMA & Budget
Sonsorol and Hatohobei			2.5(U)								Budget or Donors
Navigational Aids	0.15(U)										Budget
Inter Island Vessel			1.5(U)								Private
Division of Transport	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	Private Investor/ Budget
TOTAL	2.0	9.8	16.8	24.7	10.7	0.65	0.85	0.85	0.85	1.1	

Note: U denotes unprioritized EDP project.

6.12 AIR TRANSPORTATION

6.12.1 SITUATION ANALYSIS

Air transportation is a key element in the economic development of Palau, providing essential communication links with the international community and rapid access to international markets. Adequate airport infrastructure is essential for growth in tourism and exports generally, and to meet the domestic needs for quick access between the islands. Palau currently has three airport facilities - the international airport at Airai and two domestic airports on the islands of Peleliu and Anguar.

Palau's international airport is located in Airai State, approximately twenty minutes by car from downtown Koror. The airport has a 7,200 foot runway capable of accommodating medium range, narrow bodied type aircraft such as B-727-200's, DC-8's and B-707's. The runway is equipped for night operation and includes navigational aids such as rotating beacon, runway, taxiway and apron lighting, visual approach slope indicator (VASI) and runway end identifier light system/OMNI-directional approach light system (REILS/ODALS). The 1978 Master Plan for the airport projected that the design

would be adequate for at least the next 20 years, and indicated an expansion potential for the runway from 7,200 feet to 8,400 feet plus additional taxiways and aircraft standing areas.

The land on which the airport has been constructed has been in dispute, even though the National Government has acquired the land under the provision of 'eminent domain' and placed the compensation payments in a trust fund until all the claimants come forward. The non resolution of the dispute has prevented the Government taking action in regard to planning and development at Airai airport. It is urgent that this dispute be resolved to allow further development of the airport to proceed.

The terminal building and facilities were constructed in 1984-5. The building is currently in a poor state of repair and has been found to be structurally unsound. Electrical wiring is also reported to be in a poor condition and penetration of rain water into the building during storms continues to be a serious electrical, fire and safety hazard. Efforts are being made to either have the building refurbished and structurally strengthened, or to provide a temporary facility to allow the existing building to be demolished and rebuilt at a location which would allow expansion of the existing taxiway.

The provision of hydrant-type fire fighting capacity at the airport is not available as there is only a 2 inch water main feeding the terminal building, even though there is a 1 million gallon water storage tank within 100 yards of the building. The capability of the existing fire tender/crash rescue vehicles at the airport is also extremely limited; the existing vehicles being of considerable age. Emergency power generation capacity at the airport has been non functional for several years due to lack of maintenance.

Continental Micronesia, utilizing both B-727-100 and B-727-200 aircraft, is the only carrier for passengers, airfreight and airmail for Palau. The airline provides 7 weekly turn-around services between Guam and Palau with 4 of the flights stopping on Yap enroute to Palau and in returning to Guam, stopping on Yap. Three weekly flights from Guam stop in Palau enroute to Manila and in returning back to Guam, stop in Palau for passengers and airfreight. One of the 7 weekly turn-around flights is routed via Saipan in returning to Guam. There is a once a week flight direct to and from Taipei. Transfer connections on Continental Micronesia flights and other airlines out of Guam are available to Honolulu, Tokyo, Nagoya, Okinawa, Taipei, Sydney, Indonesia, Korea, Saipan, and points in the Federated States of Micronesia and the Republic of the Marshall Islands.

A number of studies have been carried out on the international airport (refer Infrastructure Sector Report). The introduction to the feasibility study prepared by Japan Airport Consultants, Inc. (JAC) acknowledges that the study was prepared for the Government of Palau. The study also became the key document in a joint venture proposal by private enterprise interests and the State Governments of Ngatpang, Ngchesar and Melekeok to construct a new international airport in central Babeldaob. The subsequent report by Cress and Kim is a detailed report covering air carrier requirements and traffic projects. However it fails to review the airport options available to Palau, opting instead to unquestioningly adopt the development proposal contained in the Japan Airport Consultants report for a new international airport in central Babeldaob, less than 10km from the existing international airport. The joint venture proposal received Foreign Investment Board approval in 1991, but the proposal has reportedly lapsed through lack of financial support, although interest and commitment to the concept is still being fostered by the proponents.

Two domestic airlines utilize six-passenger Cessna 207 aircraft in providing regularly scheduled services between Airai and Anguar via Peleliu. Privately chartered flights can also be arranged with these domestic airlines. The domestic airlines utilize airstrips on Peleliu which were constructed during World War II. The runway on Anguar is approximately 7,000 feet with an asphalt concrete pavement while the runway on Peleliu is only 6,000 feet long and is coral surfaced. A more recent development is the

Melekeok airstrip constructed through the efforts of Melekeok State, however currently there is little demand for air services to Melekeok State and, therefore, there are no scheduled flights there.

The Division of Transportation, Ministry of Commerce and Trade, has the responsibility for the operation of the Palau International Airport and the maintenance of the aeronautical navigational aids at the Airport. Ground to air communications are provided by PNCC in coordination with personnel from the Division. Immigration and fire fighting services at the airport are provided by the Ministry of Justice, customs services are provided by the Ministry of Administration, and quarantine services are provided by the Division of Agriculture within the Ministry of Resources and Development. Presently, landing rights for any foreign non-scheduled flights are issued by the Ministry of Commerce and Trade, and entry permits are issued by the Division of Immigration, Ministry of Justice.

6.12.2 PROBLEMS AND ISSUES

The major constraints to the development of the air transportation sector include:

(a) *International Airport Requirements and Site*

There has been much discussion and a number of studies concerning the adequacy and location of international airport facilities in Palau. The timing of airport development in Palau should be dependent upon the projected growth in tourism numbers. The capacity of the existing airport runway (other facilities do need improvement) is totally sufficient for Palau's internal requirements, the present level of international tourism and the projected number of tourists for the next 3-5 years. Proposed improvements to the standing apron, taxiways, cargo areas and the terminal building may extend this period from 5-8 years. It is understood that a report on the state of the terminal building and recommendations is currently being undertaken by a consulting firm. It is unlikely that long-range, wide-bodied aircraft will be placed on the Palau routes for a number of years because of the lack of capacity in hotel rooms to accommodate the carrying capacity of such aircraft. Current projections of tourist numbers suggest that this will not happen for 8 - 10 years.

The present international airport, with a runway length of 7,200 feet, was constructed at the recommended site in Airai in 1979 - 80. The design was prepared in such a manner that the runway could be extended without difficulty to 8,400 feet at some future date. In fact, the runway could be extended a further 800 feet to 9,200 feet if necessary, but this would involve quite significant additional earthworks. The Cress and Kim Report points out that a runway length of 8,400 feet is sufficient to accommodate direct flights from Tokyo, the furthest likely direct flight destination, if the tourist numbers reach a sufficient level to justify wide-bodied aircraft.

The topography of central Babeldaob has been reviewed in an effort to identify suitable alternative sites, but the review reached a similar conclusion to that of the 1978 Master Plan Report. The JAC Report acknowledges (in effect) that it experienced similar difficulties in identifying suitable sites; this being illustrated by the very significant volumes of earthworks involving 30 - 35 yard cut to fills to generate the required runway profiles shown in their Alternatives D and F. In undertaking their comparative cost study between the two sites in central Babeldaob (Alternatives D and F) and the existing Airai Site (Alternative J), the JAC proposal adopts a runway length of 9,200 feet, which is, on the basis of the Cress and Kim Report, likely to be unnecessarily long for the current and foreseeable future requirements of Palau. In addition, the position chosen for the taxiway on the southern side of the runway results in

excessive amounts of fill being required by the works, which of course results in high cost figures associated with the earthworks.

It is suggested that a better location for a possible future taxiway would be on the northern side of the existing runway, to make use of existing land at or above runway level and minimise the amount of fill earthworks required to provide the taxiway. The positioning of the taxiway on the northern side also provides direct access to a proposed location for a cargo freight terminal to service the fishing industry and separate freight functions from the passenger terminal area, as currently occurs with the present layout at the airport. The construction of the taxiway can be staged to meet the requirements of the cargo freight terminal and later extended to provide a taxiway to/from the eastern end of the runway.

The 1,200 foot extension of the runway, planned for the western end of the runway, (proposed in the 1978 Airport Master Plan) can be undertaken at the required time to meet projected demand by air carriers. The work on the cargo terminal, taxiway and runway extension can be staged to meet the budgetary constraints of the Government and do not need to occur simultaneously. Estimates of major earthwork volumes for the above developments have been determined to be in the order of 12.5 million cubic yards, which is substantially lower than for Alternative J in the JAC Report. It is clear that there are significant earthwork cost advantages to the layout option proposed above. If this alternative proposal was utilized in the JAC study, the Airai site can be expected to show clear cost advantages over the recommended Alternative F.

Costing in the JAC Report also assumes a significant requirement for blasting of rock (high unit costs) at the Airai site to produce the earthwork volumes. It is considered that this would not remain a valid cost item in the estimates given the smaller earthwork volumes required and the geological nature of the potential borrow area north of the airstrip. Assuming this proposition is correct, the cost of earthwork construction at the Airai Site for either proposal would fall considerably, giving the Airai Site an even better cost advantage to the sites in central Babedaob. These considerations demonstrate that there is unlikely to be any economic grounds for the Government to favor relocation of the international airport to a site in central Babedaob. Both cases assume no particular obstacle of land claims or compensation.

The ownership of the airport property is not clearly defined. The Trust Territory Government through condemnation procedures purchased the existing airport property collectively from individual land claimants in the 1970's. Although the property was then transferred directly to the National Government, subsequent actions by various parties have created some uncertainty regarding the ownership of the property. The Trust Territory Administration in 1979 placed \$500,000, the agreed upon land price, in escrow until the rightful owners of the different parcels of land within the airport property had been identified. From a national development point of view and for security, important public facilities such as airports and seaports are best put under the control of the National Government.

Over the medium term, if an additional airport is to be redeveloped than it should be on Peleliu. The island of Peleliu is at the apex of the transportation triangle for the primary tourist destination of Palau (Koror-Airai-Peleliu). Peleliu already has an airport runway with a classification of General Utility II, (Cress and Kim, Exhibit IV 8 and IV 9) which is sufficient for operating a Boeing 727-200 aircraft at 70 percent load. A detailed study of the capacity of this site and facility to be upgraded to cater for long-range, wide-bodied aircraft needs to be undertaken. However an examination of existing site information indicates that potentially there should be no difficulty extending the runway to a length of 9,200 feet to cater for the larger Boeing 747-400, or the A300 wide-bodied aircraft required to service the long distance flights and high tourist numbers. Ample construction material, soft limestone rock, used in the

construction of the existing runway is still readily available within 1 km of the airport. The earthwork volumes associated with the extension will be significantly less than that required for a similar extension at Airai airport or for a new airport in central Babeldaob, providing a significant cost advantage to the Peleliu site. The airstrip would extend slightly into mangrove areas in the estuary at the northern end of the airstrip but only minor disruption would occur (refer Chapter 12). An additional benefit of a decision to develop Peleliu airport would be that, because of the sharing of air traffic between the two airports, it is unlikely there would be any requirement to construct a parallel taxiway at the Airai airport (or Peleliu for that matter), extend the length of the runway at Airai to 8,400 feet or to strengthen the runway pavement. The Airai International Airport could remain a facility for aircraft in the B727-200 class servicing the Taiwan - Manila - Guam route, as it does today. Peleliu would take the B272 and B747 aircraft.

(b) *Other Airport Sites*

The State Plan for Melekeok identifies a location for an airport facility on the western side of the proposed residential area, and approximately one mile from the existing township. The location appears to be close to, if it is not indeed the same site to that of a disused light aircraft airstrip mentioned in the Cress & Kim Report. Examination of topographical maps and aerial photographs indicate that it would be difficult to construct a light aircraft airstrip of 3,000 - 4,500 feet length on this site because of the slope of the land profile. Construction would require quite extensive earthworks, which would make the airport an expensive exercise for a small airstrip. An alternative location 150 west of this site would allow a 3,000 feet strip to be located between the 40 - 50 yard level contours, but it would also require extensive earthworks. An alternative location may be along the ridge south west of the Melekeok township, although the route of the proposed National Highway is along this ridge. As the section of the National Highway on Babeldaob Island between Airai and Melekeok is expected to be completed before the year 2000, it should be recognised that the travel time between Melekeok and the international airport in Airai will be a matter of 15 - 20 minutes which is a relatively short travel time. While a shift in population to Babeldaob is anticipated, the majority of the population and the centre of the tourism industry are likely to remain in and around southern Babeldaob and Koror. For these reasons a small domestic airport in Melekeok cannot be justified on economic grounds.

The domestic airports on Peleliu and Anguar are in need of runway and airfield maintenance including minor pavement repair, removal of grass, vines and other vegetation, as well as the removal or trimming of trees on the flight path and improved terminal facilities to serve passenger requirements. The runway surface has been observed to be breaking down in patches, probably more as a result of natural deterioration due to environmental effects (the pavements are almost 50 years old) than due to use by aircraft. The deterioration is resulting in coral fragments the size of coarse gravel being left on the runway surface. This needs to be swept off the runway and the surface patched and sealed with a two coal bitumen chip seal to provide an improved service life of the runway. In the future, commercial operations associated with export industries such as tuna fisheries or the mining of phosphate may require larger aircraft. As part of the project development costs, the development companies should be required to contribute to the capital cost of any required additional upgrades as well as pay landing charges for these airports.

The States of Sonsorol and Hatohobei have proposed in their State Plans that an aircraft runway be developed on their islands to provide improved transportation to the island States. An analysis of available maps and aerial photographs was undertaken. While there are potential runway locations on the islands, suitable construction material is limited and the cost of importing such material very high. Any

runways would also occupy a significant amount of the island resulting in environmental concerns (refer Chapter 12). These islands, however could be serviced by sea plane, perhaps in conjunction with marine surveillance activities.

The Kayangel State Plan identifies a requirement for a roadway to join the islands as well as an airstrip for small aircraft, which could be located on either of the islands or part of the adjoining reef. There are major environmental concerns with this proposal (refer Chapter 12).

Existing and potential airport sites are shown in Map 2, Annex 3.

(c) *Airfares*

Airfares in Micronesia are relatively expensive compared to other parts of the world, and this fact discourages tourists from traveling to Palau. Continental Micronesia is the only carrier in the Micronesian region, excluding Guam and Saipan, although there are some charter flights there no direct flights to Palau by other foreign flag carriers. This results in a lack of competition and contributes to the high cost of airfares to and from Palau in comparison to airfares in other countries. As the tourism market in Palau expands, this should provide opportunities for the introduction of additional carriers.

(d) *Jurisdiction*

Under pre-Compact arrangements, both the US Civil Aeronautics Board (CAB) and the Federal Aviation Administration (FAA) had jurisdiction over approval of applications from foreign flag carriers for landing rights in Palau and the control over airports and safety regulations. The necessity for foreign flag carriers to deal with the CAB in bilateral agreements for landing rights in Palau is not only time consuming but discouraging. Foreign flag carriers interested in landing rights in Palau anticipate the CAB to reciprocate by asking the country in question for landing rights for US flag carriers in that foreign country in return. Using Palau as a landing rights commodity to trade for additional landing rights in foreign countries for US flag carriers may have discouraged foreign flag carriers applying for landing rights in Palau.

The CAB economic regulation functions transferred to the Republic of Palau upon the implementation of the Compact, but US technical assistance will continue to help get the necessary control activities in place and functioning under Palau's administration. FAA safety regulation functions were not transferred immediately, but US technical assistance will be provided to equip Palau to assume responsibility for its own aviation services as soon as possible.

(e) *Administration*

Division of Transport and Communications currently lacks trained personnel to readily assume the responsibilities of managing and regulating the civil aviation functions of the Republic. A modern international airport facility with over 40,000 visitors per year and a projected average nine percent increase in tourist visits over the next five years, plus business and export traffic, should be capable of sustaining a proper operations and management structure required for such a facility. Airport user fees in Palau are considered to be low in comparison with other countries. Airport revenue generated in 1993/94 amounted to approximately \$150,000. If fees similar to those charged at Manila Airport were adopted, the revenue would rise to more than \$600,000. This level of revenue should be sufficient to operate and basically maintain the airport facilities.

6.13 STRATEGIES AND PROGRAM OUTCOMES: AIR TRANSPORTATION

6.13.1 STRATEGY: AIR TRANSPORTATION

Provide an internationally acceptable and economically efficient airport infrastructure system to cope with existing and project demands, including improvements to the international and secondary airports, and evaluate and, if necessary, construct a new airport terminal building; reduce uncertainty of resolving land ownership issues; legislate to provide the necessary civil aviation laws to replace US regulatory functions; increase resources to the Division of Transport; and enhance competition by encouraging other carriers to establish direct air services to Palau.

6.13.2 PROGRAM OUTPUTS: AIR TRANSPORTATION

6.13.2.1 Palau International Airport Upgraded

A number of improvements are recommended for the Palau International Airport. These are:

- resurfacing of the taxiway and apron in FY1995 at a cost of \$0.09 million, funded by the CIP;
- replace airport runway lighting system urgently at a cost of \$0.6 million, funded by Compact funds;
- if necessary, construct a new terminal building and facilities at a cost of \$6.0 million to commence in FY1996 and funded by Compact funds;
- extend aircraft parking apron and add additional taxiway costing \$2 million, funded by OEK appropriations;
- develop an air cargo handling terminal and taxiway costing \$5.0 million, funded by private investment and airport revenues;
- undertake studies to determine carrier requirements to utilize wide bodied aircraft and a runway improvement study for design and construction documentation for a strengthened pavement (cost \$0.2 million);
- obtain new fire and rescue vehicles, and training, costing \$1.3 million; and
- improve water supply and emergency power supply to the airport, costing \$0.8 million.

6.13.2.2 Domestic Airport Terminals Constructed

Improved terminal facilities should be provided at Peleliu and Anguar airports, costing \$0.2million.

6.13.2.3 Feasibility Study for International Airport Conducted

To meet future demand, a feasibility study should be undertaken of the development and upgrading options for the existing International Airport at Airai and for a new international airport. The study should include an appraisal of the potential for the existing Peleliu Airport to be upgraded to international standards for long-range, wide-bodied aircraft. The estimated cost is \$0.25 million. Possible donor funding should be sought.

6.13.2.4 Civil Aviation Code Drafted

The US Department of Transport should be requested to assist in the drafting of a Palau civil aviation code. Estimated cost is \$35,000 which should be able to be funded under a DOI technical assistance program.

6.13.2.5 Ownership of Palau International Airport Land Confirmed

The Government should aggressively pursue the resolution of the dispute over the legal ownership of the Palau International Airport property. Funding, if necessary, should be from the Ministry of Justice recurrent budget.

6.13.2.6 Division of Transport and Communication Strengthened

To manage and regulate civil aviation functions adequately, the Division's resources need to be increased. An improved management structure needs to be established. The structure and level of user fees needs review, and an adequate maintenance budget needs to be established.

The estimated costs, source of funds and timing of the above project outputs are shown in table 6.20 below:

Table 6.20: Air Transportation

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
\$'millions											
Resurfacing Taxiway & Apron Maintenance	0.9										CIP
Replace Lighting System Maintenance	0.6		0.1		0.2		0.3		0.5		Budget
New Terminal Building Maintenance	0.5(P)	3.0(P)	2.5(P)								Compact Budget
	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3		
Apron Extension Maintenance	2.0			0.02		0.02		0.04			Donor Budget
Air Cargo Terminal	0.2	4.8									Private/ User Fees
Carrier and Runway Studies	0.2										Budget
Emergency Vehicles Maintenance	1.25										Donor
Water Supply	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		Budget
Domestic Airport Upgrade	0.75										
Civil Aviation Code	0.25										Budget
Division of Transport	0.04										DOI
TOTAL	4.3	6.1	7.9	0.5	0.7	0.5	0.9	0.7	1.1	0.7	Budget

Note: P denotes prioritized EDP Project; U denotes unprioritized EDP Project.

6.14 ELECTRIC POWER

6.14 SITUATION ANALYSIS

The Republic of Palau is one of the highest consumers of electrical energy amongst the island nations in the central and west Pacific. The generation of electricity is a major cost component in the economy of Palau because all power is produced by consumption of high quality diesel fuel. Electric power is generated in both the public and private sectors, but only the Government produces and sells power as a utility service. The four states of Koror, Airai, Aimeliik and Ngatpang are served by the central power generating facility. The main sources of electric power are the 12.8 megawatt Aimeliik power plant and 6.25 megawatt Malakal power plant. Smaller conventional diesel power plants are found in Anguar, Peleliu, Ngaremlengui, Ngchesar, Melekeok, Ngaraard, Ngarchelong States, and Ibobang village. Each of these smaller plants is owned by the respective state government, with a few in operation up to 12 hours per day, although most are operating only 6 hours every night. Airai State has a 14 megawatt private power plant which has never been put in operation. The electric power produced in the outlying States is used primarily for light and, to a lesser extent, for refrigeration and other miscellaneous uses. The installed capacity of each of these state-owned power plants varies from a minimum of 30 KW to a maximum of 300 KW.

The major privately owned power generating facilities are located in Koror State. They are utilized by the major commercial and industrial establishments as standby units or as prime power. The combined installed capacities of these private power generating facilities amounts to 6,400 KW. Of these facilities, one major hotel is totally dependent on its own 1,800 KW power plant for electric power. The rest of the privately owned power generating facilities are used by the respective owners as auxiliary units.

Due to growth in the number of residences, dwellings, offices, commercial and industrial establishments and activities in the Koror-Airai area, the average "peak" electrical load growth has been increasing over 13 percent per year from 1989 to 1993 when it reached 10,700 KW. At this rate of growth, the supply capacity of power generation will be inadequate by 1995, considering that only 14,550 KW is currently available from the combined output of Aimeliik and Malakal power plants. Given the age and obsolescence of the Republic's power generating equipment and the difficulty in obtaining spare parts, only 60 percent of the combined 6,250 KW installed rated capacity of the Malakal power plant can be counted upon as prime power. Despite long delays, the overhaul maintenance program was able to commence in 1993 as funding became available through the CIP program, and as the mothballed units at Malakal Station were brought on line to allow one Aimeliik unit to be closed down for maintenance. A second Aimeliik unit was overhauled in 1994. It is planned to continue the program until all units have been serviced. In addition, increased demand has also placed heavy loads on the transmission system which has resulted in higher than desired electrical transmission losses and the stressing of switch yard equipment and transformers.

In 1994 the Government received grant aid from Japan for improvement and expansion of the existing power transmission and distribution system. The first phase of the project tied together the Aimeliik and Malakal power plants so that they can be operated in a synchronized manner and updated both the transmission and the distribution system in Koror State. Phases two and three of the project will enable the extension of the 34.5 KV transmission lines from Nekkeng north to Ngaremlengui and 13.8 KV distribution lines east to Melekeok and Ngchesar States, and north to Ibobang village.

Operation and maintenance of the National Government-owned power system, as well as the retailing of electric power to consumers, in the past has been carried out by the Ministry of Resources and Development through the current Bureau of Public Works. Billing for and collection of utility charges is the responsibility of the Ministry of Administration through its Utility Agency. In 1994, a Public Utility Corporation (PUC) was established and the assets and operation of the currently government-owned power system transferred to the corporation. In the past, the Governments of Palau have adopted a policy of substantial cost subsidization to the community in terms of power charges and revenue collection. This policy should gradually change following the formation of the Public Utilities Corporation (PUC), which should have greater scope to improve pricing structures and recover costs. Several state governments operate their own power plants and receive technical assistance support upon request from the Bureau of Public Works and presumably the PUC now. State governments also receive technical assistance from both the Palau National Communications Corporation and the Bureau of Public Works for the repair of their photovoltaic communication systems, dispensary lighting and refrigeration systems, and household lighting systems where required.

The existing and proposed transmission system are shown in Maps 12 and 20, Annex 3.

6.14.2 PROBLEMS AND ISSUES

(a) Electricity Subsidization and Waste

The cost of electrical power production at the major power plants has been estimated at 22 cents per kilowatt-hour, and this does not take into account the cost of capital. The real cost does not seem to have ever been estimated. Based on regional comparisons of similar diesel plant, the actual cost is more likely to be in the order of 27-30 cents per kilowatt hour, given the impact of transportation costs on fuel, and the type of fuel being consumed. The present charge rate for power is 9 cents per kilowatt hour for a consumption level of up to 2000 kWh per month and 10 cents per kWh above that level. There is no differentiation between industrial, commercial or domestic consumers.

The BPW has undertaken an active program of installing power meters at consumer premises in recent years. It is estimated that 80 percent of consumers now have meters installed. Where meters are not installed, a flat rate is applied. Payment of accounts has been a problem in the past, although a recently adopted policy of switching off the power for non payment of accounts appears to be achieving the desired results.

Total energy in kilowatt hours produced per annum in recent years is given in the table 6.21 along with the market value of production.

Table 6.21 Kilowatt Hours Generated 1987 - 1992 and Value of Production

	1987	1988	1989	1990	1991	1992
Total kWh	32 412	38 068	40 972	46 208	51 875	57 471
Ave kWh/D	88.8	104.0	112.2	126.6	142.1	157.1
% Growth		17.0	8.0	13.0	12.0	10.0
Value @ 9c (\$'M)	2.92	3.42	3.69	4.16	4.67	5.17
Value @ 22c (\$'M)	7.06	8.36	9.02	10.19	11.41	12.63
Effective Subsidy (\$M)	4.14	4.94	5.33	6.03	6.74	7.46

Source: Bureau of Public Works, Nov 93

The table illustrates the magnitude of the annual loss to Government revenue through the adoption of a low pricing policy for electrical power and inadequate measurement of power consumption upon which revenue collection may be based. The recovery of the majority of this loss through the introduction of efficient pricing and collections policies would enable operating and maintenance costs to be recovered and retirement of the IPSECO debt to be achieved. For this to occur, there needs to be complete metering of consumers. Various pricing techniques, such as peak and off-peak rates, and price discrimination between consumers, can then be introduced over time.

Government offices and other facilities are presently not metered. This leads to a waste of energy as there is little incentive for the power consuming departments to practice conservation measures. The same attitude may be true of private consumers who are not metered, as they are paying a preset amount per month that is likely to reflect considerably less than the actual energy consumed. Overall, complete metering and more appropriate prices would reduce demand (that is, reduce waste) which would relieve some of the pressures on the system.

In this respect, it is noteworthy that the Pacific Regional Energy Assessment Report points out that Palau's per capita energy consumption is very high by Pacific islands standards, being more than twice that of any other island nation and four times that of the neighboring Federated States of Micronesia. Palau's consumption level is more typical of large developed countries such as Australia or Japan than of a developing island nation.

(b) *Increased Demand and Requirements*

The projections of peak load demand and the required installed capacity from all power stations, including new installations are shown in table 6.22.

Table 6.22 Projected Peak Power Demand 1993 - 2000 and Installed Capacity (MW)

	1993	1994	1995	1996	1997	1998	1999	2000
Peak Load	10.8	12.4	14.1	16.1	18.3	20.8	23.8	27.0
Installed Capacity	13.7	17.4	18.1	23.8	23.8	36.0	36.0	36.0

Source: Bureau of Public Works

The projections are only indicative and are based on historical trends. As such, no account is taken of the reduction in demand from efficient pricing and improved collections policies. Nevertheless, demand growth is expected to be substantial and installed capacity will need to be increased with some urgency.

To satisfy the projected demand up to the year 2000, the BPW in its Plan of Action (POA) proposes the following be undertaken:

- install the fifth 3.2 MW unit at Aimeliik;
- install a second 2.5 MW (second hand) unit at Malakal;
- install a new 20 MW base load station at Malakal;
- relocate 'old' overhauled units from the existing Malakal Station around Babeldoab Island as emergency standby units; and
- after year 2000 install a high efficiency base load station of 15 - 20 MW capacity using low cost fuel.

While the POA report recommends the new 20 MW base load station be located at Malakal, the location of the new station after year 2000 is not identified. The Malakal site is the most centrally located power station to the major load center of Koror-Airai. Its proximity to the industrial and residential area of Koror has positive economic benefits in terms of minimizing distribution losses within the system. It is also strategically placed within the distribution network (essentially at the end of the line as far as the Aimeliik Station is concerned) to provide load balancing within the system. On the negative side, the station occupies scarce industrial land in the Malakal industrial area. Given the typical combined industrial - residential, multi-storied development favored in Koror, which is particularly evident in the Malakal area, it is arguable from a town planning aspect whether a major power station should be positioned in this location. However alternative sites with favorable access to fuel storage areas and port facilities, and with low impact on the visual environment do not appear available in Koror or adjoining islands.

The operational units at the existing station (6.75 MW) seem well silenced and do not create objectionable noise. The proposed larger units for Malakal will require high quality noise attenuation on air intakes and exhaust to ensure that noise emissions do not exceed environmental guidelines, given the proximity of residential development.

The site at Aimeliik is also considered an appropriate site for a future coal fired power station. The site is located well away from residential areas on an exposed coastline which will minimize environmental impacts from noise and smoke stack emissions. Low ash coals from Indonesia may be utilized to minimize the ash disposal requirements. High capacity electrostatic filters should be used on exhaust stacks to minimize pollution of the environment.

(c) Distribution System and Coverage

A large part of the existing power transmission and distribution system in Koror has been in service for over 20 years resulting in many deteriorated poles and cross-arms. Additionally, the original design capacities of cables and service transformers have been exceeded in many instances. This situation must be corrected by upgrading the Koror power grid system.

Currently only Koror and three of the 10 states in Babedoab receive power from the public power grid. Limited financial resources has precluded the Government from extending the power grid to any point in Babedoab to the north and east of Ngatpang State. The outlying states of Kayangel, Peleliu, Anguar,

Hatohobei and Sonsorol do not have regular 24-hour supply of electric power. The existing power systems in Peleliu and Anguar are in operation only part of the day to conserve fuel. Kayangel State is dependent on photovoltaic systems for lighting individual homes. Kayangel State needs a more reliable source of power to support its fishing industry. The remote states of Hatohobei and Sonsorol, because of the difficulty and expense in transporting petroleum fuel, must consider renewable energy sources such as photovoltaic systems for household lighting. The outlying 7 states in Babeldaob have the potential of to be connected to the public power grid in the future.

The new PUC legislation provides for the PUC to take over responsibility for power supply and distribution on all the islands and provide similar services and revenue collection to the Koror - Babeldaob system. The PUC will need to develop strategies and programs for the introduction, operation and maintenance of improved power systems on the outer islands.

(d) *Power Supplies to Development Projects*

The provision of power supply to potential development projects such as tourism resorts, fishing or mining projects will need to be dealt with on a project-by-project basis depending on location and size of the project. As a general principle these projects should seek to be connected to the national grid if in the Koror - Babeldaob area. Depending on demand, development projects on Peleliu and Anguar should also be connected to the local grid. The principles for levying developer fees are outlined in Section 6.4.3(d). Depending on the nature and location of the project, the developer may choose to install standby generation capacity on the project to maintain essential services in the event of an outage in the main supply. As standby sets need to be operated for certain periods of time, for them to be maintained in good condition, the PUC could offer a co-generation agreement to the developers whereby the PUC would buy power from the project under certain conditions including periods of maintenance.

In the situation where grid power may not be available for a number of years, a developer will need to provide the full power requirements of the project including additional standby capacity. If a local community has inadequate power capacity, conditional agreements in the terms of the land lease or State/National government approval could require the developer to provide a certain amount of power to the community. In these arrangements, the subsidy element needs to be made transparent.

(e) *Consumer Education*

While much waste of electricity is due to inappropriate pricing and collections policies, there would appear to be a significant opportunity in Palau to reduce the overall demand through consumer education in the principles of energy conservation. Extravagant use of power can be observed throughout the community including the leaving of lights on all night, the continuous running of air conditioning units and the use of high air leakage louver windows in air conditioned buildings where there should be fully closed and sealed window systems.

Considerable attention should be given to the methods of construction of buildings and dwellings as current practices produce buildings which are significant heat sinks in the tropical environment, and which require continuous cooling if a comfortable living and working environment is to be achieved. A greater use of insulation and alternative building materials would greatly assist in the reduction of the cooling energy load in the community. The Public Utilities Corporation plans to undertake such a program in conjunction with the completion of the introduction of metering and revenue collection services.

6.15 STRATEGY AND PROGRAM OUTPUTS: ELECTRIC POWER

6.15.1 STRATEGY: ELECTRIC POWER

Provide electrical power to all communities in Palau to an adequate standard and at efficient prices which will entail allocation of additional revenues to overhaul existing units and expand capacity at Aimeliik Station; upgrade Malakal Station; upgrade the Koror power grid; extend distribution to additional States on Babeldoab; upgrade plants and systems on the other islands; encourage energy conservation; and improve the management arrangements for PUC to enhance its economic efficiency.

6.15.2 PROGRAM OUTPUTS: ELECTRIC POWER

6.15.2.1 Public Utilities Corporation

Refer Program Output 6.5.2.4

6.15.2.2 Aimeliik Power Station Upgraded

There is a need to complete the overhaul of existing units at the Aimeliik Power Station scheduled for 1995-96. The estimated cost is \$2 million funded through the existing CIP program. In 1998, a prime mover and fifth 3.2 MW unit should be purchased and installed at a cost of \$5.5 million which should be funded from Compact funds. This is a prioritized EDP project, although only \$3 million has been allocated. A second major overhaul of all Aimeliik units should commence in 1999, costing \$5 million over 5 years. Funding should be through retained earnings.

6.14.2.3 Malakal Power Station Upgraded

A number of projects should be undertaken at the Malakal Station. These are:

- repair of Malakal power plant (includes overhaul and repair of 1.25 MW unit and repair of station transformer, costing \$60,000 funded through CIP);
- purchase and install a second hand 2.5 MW unit in addition to the existing 2.5 MW standby unit, costing \$0.7 million funded through CIP;
- overhaul of existing 2.5 MW standby unit costing \$0.1 million through CIP;
- upgrade of substation and distribution system costing \$0.61 million;
- purchase and install new base load units (capacity 16-20 MW), including overhaul and relocation of serviceable old Malakal units to strategic locations on Babeldoab Island for emergency standby purposes. One or more of these units should be relocated to Peleliu Island to provide additional capacity. Estimated cost is \$25 million. This should be funded, in part, by Compact moneys and in part through concessional borrowings. This is an EDP prioritized project for which \$5.5 million has been allocated from Compact moneys.

6.15.2.4 Koror-Airai Power Grid Upgraded

An ongoing Japanese Government grant aid assistance is being utilized to upgrade the power grid in the Koror-Airai area. The scope of this project is to extend the 34.5 KV transmission power lines from the Airai substation all the way to the Malakal power plant; remove the existing 13.8 KV transmission lines and replace them with new 13.8 KV distribution lines on new 34.5 KV power poles (34.5 KV lines on top while 13.8 KV lines are installed below); upgrade certain 13.8 KV power loops within Koror; install a new 10 MVA step-up transformer substation at Malakal power plant; and tie the Aimeliik and Malakal power plants together to operate in a synchronized manner. The estimated cost is \$5.3 million funded by Japanese grant aid, and is expected to be completed in 1995.

6.15.2.5 Power Grid on Babeldaob Expanded

It is anticipated that Japanese Government grant aid assistance already awarded for the upgrading of the power grid in Koror will be increased by an amount necessary to finance the extension of the 34.5 KV transmission lines from Nekken to Ngaremlengui, along the way at Koksai and, 13.8 KV power lines to Ngchesar and Melekeok. Materials such as concrete poles, hardware, transformers and insulators, etc will be given to the Palau Government to provide 13.8 KV rated distribution lines within Ibobang, Ngchesar and from the terminus of the 34.5 KV power transmission lines at Yamato to Imeong. Given the rest of Ngaremlengui and Melekeok States already have appropriate 13.8 KV distribution lines, and it is therefore only necessary to tie these systems to the new power grid through appropriately sized step-down transformer substations. The estimated cost is \$6.7 million.

To connect the remaining states, projects will need to include:

- design and installation of HV transmission lines along the west coast to Ngaremlengui, Ngardmau, Ngaraard and Ngcherlong, costing \$6 million;
- extension of HV Transmission line from Melekeok through Ngiwal to join up with the west coast HV Transmission line, costing \$3 million;
- interconnection of the grid system with links between Ngatpang and Melekeok, Ngchesar and Airai, costing \$3 million;
- extension of sub mains to community areas, and development projects such as tourism resorts and fishing industry projects, costing \$5 million;
- power Transmission Line Maintenance Program costing \$0.3 - 0.7 million per annum; and
- ongoing technical training of maintenance and operational staff. It is anticipated that the management of the PUC will maintain and enhance the program of skill development and training currently being undertaken by the BPW. This program may require continued technical assistance grants to provide training personnel with appropriate experience and skill levels. Estimated costs are \$500,000 over 5 years.

Funding sources have not been identified for the above projects but could come from concessional loans from donors and/or internally generated revenues. These projects are listed as unprioritized EDP projects with an allocation of \$9.95 million.

6.15.2.6 Electricity Consumption Meters Installed

All private and public housing units, facilities and offices receiving electric power from the public utility grid should be equipped with electricity consumption meters. Estimated costs are \$120,000, funded from internal revenues.

6.15.2.7 Outer Island Systems Upgraded

To improve systems on the outer islands, a number of projects have been proposed. These are:

- upgrade of Peleliu Power System: upgrade power plant building; purchase and install new and appropriate power generating equipment complete with new switch gear, exhaust and cooling systems; upgrade the step-up transformer substation; upgrade existing power distribution system including the installation of watt-hour meters at all customers facilities, and upgrade fuel oil storage facilities. Estimated cost is \$650,000;
- upgrade Anguar Power Station: upgrade power plant building and fuel oil facilities; purchase and install new and appropriate power generating equipment complete with new cooling and exhaust system and new switch gear; upgrade step-up power transformer substation; and the existing power distribution system, including the installation of watt-hour meters at all customers facilities. Estimated cost is \$580,000;
- upgrade of Kayangel Power System: upgrade the existing photovoltaic lighting systems at each household; and purchase an appropriately sized conventional diesel power plant to support fishing and other economic activities of the state. Estimated cost is \$385,000; and
- development of Power Systems for the States of Hatohobei and Sonsoroi: Due to the difficulty and high cost of transportation of fuel for a conventional power plant, the most viable power source for these two remote States would be individual photovoltaic lighting systems for each household. Accordingly, an appropriate photovoltaic system should be designed and installed at each household and school building classroom. Estimated cost is \$160,000. Coconut oil extraction technology may also be an alternative.

The estimated costs, source of funds and timing of above program/project outputs are shown in table 6.23.

Table 6.23: Electric Power

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
PUC	6.0	5.0	3.5	2.0							Budget
<u>Aimelik</u> Upgrade maintenance	1.0	1.0		0.6	0.6	0.6	0.6	0.6	0.6	0.6	CIP Internal Revenues
New Unit Maintenance				5.5(P)	0.15	0.50	0.15	0.15	0.15	0.50	Compact Internal Revenues
2nd overhaul					1.0	1.0	1.0	1.0	1.0	0.15	Internal Revenues /Donor
<u>Malakal</u> Upgrades Maintenance	1.47 0.25	0.25		0.25	0.25	0.25	0.35	0.35	0.35	0.35	CIP Internal Revenues
New Unit				13.0(P)		12.0					Compact/ Donor
<u>Koror - Airai</u> Grid	2.3	3.0									Japan Aid
<u>Babeldaob</u> Expansion		1.0		2.7	3.0						Japan Aid
<u>Babeldaob</u> Expansion Maintenance Training	0.35 0.5	6.0(UP) 0.4 0.5	6.0(P) 0.45 0.5	2.5 0.5 0.5	2.5 0.55 0.5	0.66	0.7	0.7	0.7	0.7	Donors Internal Revenues
<u>Outer Island</u> Upgrades	1.62(UP)	0.2(UP)									Compact
Meters	0.06	0.06									Internal Revenues
TOTAL	13.6	17.4	32.5	10.5	17.9	3.3	3.3	3.3	2.7	2.3	

NOTE: P denotes a prioritized EDP project; UP denotes an unprioritized EDP Project.

6.16 WATER SUPPLY

6.16.1 SITUATION ANALYSIS

At present, about 70 percent of the communities in the Republic have their own water systems which vary in extent and degree of operational sophistication. The sources for the public water system serving the urbanized Koror-Airai area are the 20 million gallon impoundment at the Ngirimel dam and the water of the Ngirikiil River, which discharge an average of 20 million gallons per day. The smaller public water systems located throughout Babeldaob derive their water supply from dammed streams. Anguar and Peleliu States obtain their water supplies from groundwater sources. Some communities have no public water systems, resulting in dependence on rainwater tanks and shallow wells.

The Koror-Airai water system is the largest public water system in the Republic (see Map 18, Annex 3). During the rainy season, water from Ngirimel river dam is fed to the Airai water treatment plant (WTP) by gravity. In the dry season, the system relies on the Ngirikiil river. The Ngirikiil river pump station facility has three 150 horse power electric driven pumps, with a capacity of 1400 gallons per minute (gpm) each. The pump station is connected to the dam by two separate transmission force mains. At the Airai WTP, water received through the gravity pipe from the Ngirimel dam is then delivered by three 700 GPM booster pumps into one or two of the four 1.0 MGD rapid sand filters, while the water pumped directly from the Ngirikiil river source flows directly into the other two 1.0 MGD rapid sand filters. Subsequently, the filtered water flows into a 100,000-gallon clearwell where it is chlorinated and pumped to several storage tanks in Airai and Koror through a combination of 12-inch and 10-inch transmission mains. Three pumps, each rated at 1050 gpm at 289 feet of head, are utilized for pumping water to the several storage tanks. From the three 1.0 million gallon and two 0.50 million gallon storage tanks located in Airai and Koror States, potable water flows by gravity directly to industrial, commercial and household consumers through over 100,000 feet of water distribution mains and lateral pipes, and 2035 service connections. The system also has 60 fire hydrants located throughout the service area.

The communities in the 10 states in Babeldaob Island situated near streams are served mainly by small community water systems, some of which were crudely designed and constructed between 1965 to 1975. The average system typically has a small concrete diversion dam which diverts raw water through a small diameter gravity transmission main to a steel or concrete storage tank from which water is transmitted through a main gravity line and distributed to the homes in the village. As a result of poor maintenance over the years, many of these small community water systems are malfunctioning. Between FY 1984 and FY 1993, \$10 million has been made available by the U.S. Government for rural water improvement programs. To date, ten rural community water systems have been built and/or are presently under construction, leaving six to be completed over the near term. The projects are fully designed and feature diversion dams, pump stations where required, transmission and distribution pipelines, slow sand filter, storage tanks and chlorination facilities. In communities where there are no surface water sources, such as in Anguar and Peleliu, gallery-type wells are used. In communities such as Kayangel State and the Southwest Island States of Hatohobei and Sonsorol, where there are no surface water sources and the groundwater sources are either inadequate or could easily become contaminated, utilization of rainwater caught off roof areas and stored in tanks is the only alternative.

The Bureau of Public Works is responsible for the operation and maintenance of the Koror-Airai water system. The Airai WTP requires 24-hour operation in three 8-hour shifts to ensure that pumps, filters and chlorinators are continuously operational. Operations and maintenance of the water systems in the outlying communities are the responsibility of each state government, although upon request, the BPW will provide technical assistance.

6.16.2 PROBLEMS AND ISSUES

(a) *Inadequate capacity for the Airai-Koror Area*

In terms of storage capacity, the yield of the two catchment areas averages 26 MGD, which is substantially in excess of current and future demands, although during the drought of 1983, the flow fell to 0.8 MGD. The Gihmel Dam has a storage capacity of 25 MG which has been reduced to 20 MG over the years due to siltation. In 1993 the average daily water production from the treatment plant was 3.7

MGD. The BPW can only account for 1.6 MGD. Only 80 per cent of consumers are metered. It is estimated that system leaks, unmetered users and operator errors may cause the loss of 2 MGD. Should drought conditions such as that experienced in 1983 occur in the future, the system will be incapable of meeting the present demand, particularly with system losses being at such a high level. The storage capacity of the Gihmel Dam is incapable of providing any more than a 14 day supply at present rates or 26 day supply at a demand of 2 MGD if the losses are stopped.

The 1989 JICA Report projected a water demand of approximately 100 gallons per head of population by the year 2000. BPW consumption records for July 1993 suggest that the estimated average daily use is already approximately 117 gallons per head (and this does not include the current level of losses from the system). Allowing a factor of 1.5 on average daily demand to allow for peak demands and seasonal variations, a projected water demand of approximately 180 gallons per head per day should be adopted for future design purposes, which is similar to that of other modernized high consumption communities around the world. Based on NMDP population projections for the Airai-Koror area (refer Chapter 14), table 6.24 shows projections of water demand to the year 2020. The figures show demand could reach 3 MGD by year 2000 and 4 MGD by year 2020. These demand figures are likely to be conservative, given the expected major tourism developments, such as the golf course proposal for Airai.

Table 6.24: Projected Water Demand - Airai-Koror Area (Millions of gallons per day)

Year	1990	1995	2000	2005	2010	2015	2020
Population ('000)	11.7	13.6	16.5	17.2	18.2	19.7	21.7
Demand @ 117 gpd	1.38	1.59	1.93	2.00	2.13	2.30	2.54
Demand @ 180 gpd	2.12	2.44	2.96	3.09	3.27	3.54	3.90

Source: PWD and NMDP estimates

The catchment system, with an average yield of 26 MGD is capable of providing this demand under normal circumstances, but the storage system, in times of drought, will be inadequate. Without detailed analysis of stream flow data and catchment characteristics, it is not possible to provide a definitive figure on the storage capacity required. Rough estimates indicate that the storage capacity required to meet this demand during a dry period could be in the order of 1.25 MG or five times the existing storage capacity of Gihmel dam. Therefore it will be necessary to increase the storage capacity over the Plan period to provide for adequate future demand.

Suitable sites for additional water storage areas possibly exist within the existing river catchment. A review of topographic maps indicates there may be a potential site on the Kmekeumel River approximately 1 mile upstream from the existing pumping station, where a dam approximately 450 feet in length with a height of 100-120 feet could be constructed. A second site possibly exists on the Edeng River 2 miles upstream from the pumping station. A dam in this location could be 370 feet in length and 60 - 80 feet high. The design and development of an additional water storage should start early in the Plan period in order to reduce the risk of water restrictions during future drought periods. In line with increased demand, additional capacity will need to be provided at the intake facility, water treatment plant, pumping systems to elevated reservoirs, and distribution system.

There are a number of current technical problems. Due to the low holding capacity of the existing clearwell, a considerable amount of finished water is wasted at the Airai WTP. The rate of filtered water entering the clearwell exceeds the rate of finished water being pumped out of the clearwell into the

distribution system and the excess water is lost through the overflow pipe. This situation is particularly true during the dry season when the incoming raw water has a lower turbidity level than during the rainy season, thus making the water faster to filter. A new 100,000-gallon clearwell is needed at the Airai WTP not only to prevent the waste of treated water, but also to allow the existing clearwell to be emptied for maintenance and repair without having to shut down the WTP operation.

Another problem is the lack of standby electric power generators at both the Ngirikiil pump station and at the Airai WTP. During a power outage, which occurs quite often, the Ngirikiil raw water source system ceases to operate. The little raw water that does reach the filters through the 12-inch gravity main from Ngirimel dam is filtered but is lost through the overflow outlet at the clearwell because the transmission pump for the treated water at the WTP is not operational during a power outage. Clearly this situation could be improved if standby electric generators were installed at the Airai WTP and at Ngirikiil pump station to power the pumps during island-wide power outages. If one of the existing three 1050 GPM clearwell pumps is shut down, even just for an hour period for repair and maintenance, there will be inadequate water reaching the consumers. Accordingly, a standby pump must be installed.

(b) *Inadequate Water Treatment*

Due to a combination of financial cash flow and shipping problems, chlorine supply to Palau, is delayed at times, which results in a lack of chlorine treatment in the Koror-Airai public water system. Also, chlorine disinfection of water is not performed in many of the outlying community water systems. None of the public water systems which derive their water supply from surface sources meet U.S. Public Health Service criteria for minimum allowable turbidity. There have been a number of health problems in recent years resulting from inadequate water treatment. The only effective way to remove the turbidity in the water from surface sources is by filtration and chemical pre-treatment, which is an expensive but necessary process.

(c) *State Water Supply Systems*

The provision of water supply services to the communities in the States other than Koror and Airai has been undertaken through the Rural Water Supply Program funded by the U.S. CIP. This program commenced in 1984 and has been in progress since that time. The major program of works is due for completion by 1996. However, there will be a need for follow-up maintenance work, upgrading and minor system improvements. In 1986-89 four states, Melekeok, Ngiwal, Ngaremlengui and Ngerchelong undertook the development of water supply systems through contracts with Japanese contractors who installed headworks and water mains throughout the major villages, as well as performing other works. These systems are in use and generally providing adequate supply, although the quality of supply needs improvement. Unfortunately, these States have been unable to meet their contractual obligations on payment for the works, and the now sizeable debt remains an issue for resolution between the National and State Governments and the Government of Japan. This is a matter which needs to be resolved as quickly as possible because of debt accumulation.

At the time of preparation of the NMDP there were no definitive proposals for tourist resorts in the rural areas. Comment on the impact of resort development on any of the existing water supply systems is, therefore, difficult. As a general observation, it can be said that most areas of Palau are well endowed with rainfall and ample supplies should be available for any resort project provided proper engineering studies are undertaken for the work. Overall, State (or rural) water supply systems are presently adequately catered for in terms of completed construction or programmed for construction within the

next two years. The requirement for minor system upgrades including filtration and chlorination, and extension of the distribution system have been identified by BPW engineers and are planned for in future programs.

(d) *Management, Excessive Use, Metering and Charging*

The management, operation and servicing of Palau's water supply facilities have been deficient for a number of years. Successive OMIP reports by Berger International and the 1990 JICA report both identified the deficiencies and recommended changes. The fundamental changes have not been implemented by successive Governments with the result that the identified problems remain in the system.

The JICA Report notes that the fundamental problem is that a large share of the budget allocation is taken up in personnel expenses, so little remains for the operation, maintenance, and purchasing of tools and spare parts for the facilities. The report calls for budget improvements and increased resource allocations. If the nation's expectation for high quality centralized water supply systems is to be fulfilled, supply will need to be upgraded and demand managed much more efficiently.

The 2 MGD water that is produced and unaccounted for requires urgent attention, given current capacity constraints. Approximately 80 percent of water consumers in Koror and Airai are now metered. The program of installing meters is continuing, although has slowed recently due to insufficient funds to procure additional meters. This problem must be remedied. The operation and maintenance of the urban system needs to be improved substantially. The personnel assigned to operate and maintain the Airai WTP lack the technical expertise required for the operations of the facility. For example, the technical support personnel for the maintenance and repair of electrical control and pumps at the WTP lack the requisite knowledge. Similarly, the personnel in charge of the management of the overall Koror-Airai water system lack the full understanding of the hydraulics of the system and therefore are not able to properly analyze the system to account for the 2 MGD allegedly lost due to wasteful use and/or leaks in the system.

The charging system needs to be reformed. Consumers are charged at a rate of 85 cents per 1000 gallons. Collection of charges is undertaken by the collections office, in the Ministry of Administration with proceeds being placed in the General Fund. It has been estimated (EDP, 1994) that the operating costs of the water supply system are approximately \$350,000 per annum. If the cost of capital and depreciation are included, total costs would be substantially higher. Based on the current level of charges, and assuming an average daily consumption of 1.3 MG and 20 per cent bad debts, receipts should be around \$258,000. Consequently, the current charges are insufficient even to cover operating costs, let alone capital and depreciation costs. This results in major subsidies to the population of Koror-Airai which are not transparent and which contribute to over consumption of water.

If operations and maintenance are improved, and metering completed, then a more appropriate level and structure of charges can be established to recover both operational and capital costs. For efficiency, the charging systems should comprise fixed and variable components. The appropriate time to introduce a new charging structure is now, given that services have been either recently upgraded, or are programmed to be upgraded over the near term. In this way, increased charges can be tied to improved services.

6.17 STRATEGY AND PROGRAM OUTPUTS: WATER SUPPLY

6.17.1 STRATEGY: WATER SUPPLY

Provide a reliable, safe water system to the vast majority of the country in a cost effective manner, and recover sufficient revenues to assist in demand management and generally meet funding requirements on a sustained basis.

6.17.2 PROGRAM OUTPUTS: WATER SUPPLY

6.17.2.1 Hydraulic Analysis and Leak Detection Survey Undertaken

An hydraulic analysis and leak detection survey should be conducted on the Koror-Airai water system to account for production losses of the Airai WTP. The estimated cost is \$75,000, to be funded from the OMIP with ROP matching funds.

6.17.2.2 Water Meters Installed

Five hundred new and replacement water meters should be purchased and installed at consumers' facilities in the Koror-Airai area. The estimated cost is \$65,000, funded from general appropriations.

6.17.2.3 Public Water Systems Improved

The Koror-Airai water system should be upgraded in terms of the operational reliability and quality of the finished water. This should entail:

- At the Airai WTP, install/construct a 4.0 MGD chemical pretreatment unit; a chemical storage/laboratory building; a 100,000-gallon clearwell; two appropriately sized standby power generator sets; a 1050 GPM potable transmission pump; two raw water influent pumps; new chlorinator units; and, all the necessary electrical appurtenances and wiring to make the system workable.
- At the Ngirikiil pump station, construct/install an appropriately sized standby power generator set complete with housing; two new 1400 GPM raw water transmission pumps and all the necessary electrical appurtenances and wiring to make the system workable.
- Upgrade six community water systems in certain States, including Ngardmau, Ngiwal, Ngaremlengui, Kayangel and Ngchesar (2 locations) to provide each community with a reliable and safe water supply.

The total estimated cost for the improvement of the public water systems as scoped is \$8,750,000. This is an EDP prioritized project; however, only \$5,000,000 from the Compact CIP funds has been allotted, with the remainder sought from donors and/or budget/internal revenues.

6.17.2.4 Additional Operational Funds Appropriated

The present level of operational funds should be increased for operational and maintenance needs for the Koror-Airai water system, rural water systems, and implementation of a training program to upgrade skills and knowledge in management, operation and maintenance of the Republic's public water systems. The estimated cost is \$350,000 per year, to be funded by internal revenue.

6.17.2.5 Additional Water Source for Koror-Airai Identified

Additional water sources for the Koror-Airai water system should be identified. Costs for design and documentation of a new water storage dam are estimated at \$250,000, to be funded from general appropriations/internal revenues. The cost of construction, pipeline, access roads and power supply is estimated at \$15 million, to be funded via possible concessional donor borrowings.

The estimated costs, source of funds and timing of the above program outputs are shown in table 6.25 below:

Table 6.25: Water Supply Systems

Program/ Project	1996	1997	1998	1999 \$' millions	2000	2001	2002	2003	2004	2005	Funding Source
Hydraulic Analysis & Leak Detection	0.075										OMIP/ Budget
Water Meters	0.065										Budget
System Improvements	2.0(P)	3.0(P)	2.0(U)	1.75(U)							Compact/ Donors
Maintenance	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	Internal Revenue
New Dam Design		0.25	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	Internal Revenue
New Dam Construction Maintenance			5.0	7.5	2.5			0.15	0.15	0.15	0.15
TOTAL	2.5	3.6	2.4	7.1	7.9	2.9	0.5	0.5	0.5	0.5	

NOTE: P denotes a prioritized EDP project; U denotes an unprioritized EDP Project.

6.18 WASTE WATER SYSTEM

6.18.1 SITUATION ANALYSIS

Currently a central sewer system exists only in the State of Koror (see Map 19, Annex 3). Constructed in the early 1970's, the Koror sewer system has been gradually expanded by "satellite sewers". The system includes integrated gravity collector sewers, sewer force mains, manholes and sewage lift stations for the individual hamlets in Koror. The sewage effluent from these satellite sewers and the regional sewer system flow by gravity and pumping into elevated manholes to two main sewage pump stations along the sewer main to the Malakal Sewage Treatment Plant (STP). At present, the Koror sewer system is comprised of over 20 miles of gravity collector sewers, 7.5 miles of sewer force mains, 445 sewer manholes, 3 major pump stations, 34 lift stations and a sewage treatment plant with a 1.0 MGD capacity. The treated effluent from the Malakal STP flows through an 18-inch, 2,000 feet outfall pipe down to a 60 feet depth of water in Malakal Harbor where it is discharged through two 6-inch pipe diffusers and dispersed with the tidal current.

In the early 1980s, funds made available by the US Environmental Protection Agency enabled the House Sewer Protection Program to commence. At present, there are over 1,600 facilities (comprised of residential, commercial, government, and industrial) connected to the central sewer system. However, there are several areas in Koror State where the sewer system has not yet been extended. New satellite sewer systems are needed for the hamlets of Echang, lower Ngermid, lower Ngerkesoao, Ngerias, Diberdii, Ngesaol and the developing commercial areas of Malakal and M-Dock. Short sewer extensions to existing satellite sewer systems are also needed in certain areas of Koror. In 1994, there were 755 people living in 126 households, as well as commercial facilities in these unsewered areas. During the past few years, water quality sampling by the Palau Environmental Quality Protection Board has shown coastal waters to be contaminated by raw sewerage near some of these areas. Wastewater flows received at the plant during the first three months of 1993 averaged about 1.3million gallons per day (MGD) which represents 130 percent of the plant's capacity. Flows received at the plant during prolonged periods of wet weather have already reached as high as 2.4 MGD. Wastewater flows are expected to continue to increase (a recent study conducted by the Parsons Overseas Company indicated a potential average of 1.7 MGD by the year 2000).

The Malakal STP was designed as a secondary waste water treatment plant employing the trickling biofilter treatment process. Recent monitoring reports in 1991 and 1992 indicate that the Malakal STP is actually operating only as a primary treatment plant. The reports note that recent operational difficulties with sludge removal have resulted in the plant producing poor quality effluent. Most of the critical equipment of the plant was found to be operational. However, overall mechanical equipment condition and process redundancy has been jeopardized due to the lack of established preventative maintenance. The lack of an adequate maintenance workshop for repair of plant items, storage of spares, and budget constraints on purchase of spare parts places considerable restriction on the ability of the maintenance team to satisfactorily undertake their task of keeping the plant fully operational.

The continuing growth of population and the resulting sanitary and environmental stress in the unsewered areas have made the provision of satellite sewer systems an absolute necessity. As such, the treatment capacity of the Malakal STP will need to be expanded as soon as possible in order to properly treat the ever increasing wastewater flow received at the plant. Unless this expansion takes place in the next few years, the Koror sewer system and the Malakal STP will not be able to protect the environment and the

public health of the people of Koror. The Koror Wastewater Facilities Plan was issued in 1994 and provides a detailed evaluation of wastewater development and management issues, the existing wastewater facilities and supporting infrastructure, operational and maintenance difficulties and requirements, and a 25 year development plan for the centralized wastewater system in the State of Koror.

In FY 1991 and FY 1992 the US Environmental Protection Agency provided funds to implement a Rural Sanitation Program. As a result of the FY 1991 program, practically every household in Kayangel, Peleliu, Anguar, Hatohobei and Sonsorol was provided with a better designed latrine. The FY 1992 program provided Airai State residents with 125 septic tank/leaching field systems with 80 more systems planned for Phase B of the program. Approximately 70 percent of the households for which a septic tank/leaching system has been provided are already connected to western-style plumbing.

The operations of the Koror centralized sewer system are the responsibility of the Sewer Branch of the Bureau of Public Works. The primary functions of the Sewer Branch are to: operate and maintain the sewerage collection system and sewerage pump stations; repair and overhaul sewerage pump station equipment; and operate and maintain the Malakal STP. The Palau Environmental Quality Protection Board is responsible for the enforcement of the Sewer Use Act of 1984.

6.18.2 PROBLEMS AND ISSUES

(a) Malakal Sewerage Treatment Plant

The Malakal STP, originally designed for a treatment capacity of one million gallons of domestic wastewater per day, was constructed and put in operation in the late 1970s. At present the dry weather average and peak wet weather daily flows to the Malakal STP are 0.815 MGD and 1.45 MGD respectively. Wastewater received at the plant during prolonged periods of wet weather has already reached as high as 2.4 million gallons per day. The Malakal STP was not designed to treat this much wastewater. Accordingly, a project for the expansion of the treatment capacity of the Malakal STP should be accorded a very high priority in the Plan period. Further, it is essential to limit the system to its intended purpose. As such, stormwater and industrial waste need to be excluded from the system. This will require additional site inspections. Sludge from the Koror centralized wastewater system is collected in disposal vehicles and taken to the waste dump at M Dock and pumped into the land fill there. This is not the best method of disposal because if the sludge is not immediately covered by soil, it could contaminate the adjoining waterway. This practice should cease, and proper drying beds established in a suitable location, perhaps in Airai where the sludge can eventually be converted into humus and fertilizer. The sludge tanker truck utilized by the BPW is quite old and has received much repair. Its capacity for continued operation is questionable. The BPW and the community at times have to rely on a privately owned tanker truck belonging to the Palau Pacific Resort to meet the service requirements. A new tanker truck should be obtained for this service.

(b) Coverage

Although the sewer system provides service to most of the hamlets located within Koror State, additional satellite sewer systems are needed to serve unsewered areas which have experienced rapid growth and development over the past several years. In 1994 there were 126 households and 12 business establishments located in 6 different areas with a combined population of 755 within Koror State which

are not serviced by the centralized sewer system. A project to expand the centralized sewer system to these areas should be accorded a very high priority during the Plan period.

(c) *Operations and Maintenance*

The operations and servicing of the sewerage facilities in Palau has been deficient for a number of years. Staffing positions in the existing organizations have been vacant for long periods of time resulting in lack of adequate management and maintenance. Funding for staff, essential maintenance equipment and replacement parts has not been available with the result that the Malakal Treatment Plant has been operating below expected performance levels and discharging effluent to the ocean which does meet the required EPA standards. Servicing and maintenance of sewerage lines, manholes, pump stations and septic tanks is restricted through lack of personnel and equipment. If the national expectations for adequate sewerage facilities within the community are to be met, it is essential that there be an increase in funding and improved management of sewerage facilities.

(d) *User Fees*

At present, consumers are not charged for sewerage services. Appropriate charges should be levied and relate to quantities placed in the system (number of toilets) and costs (operational as well as capital and depreciation charges). This will contribute towards meeting future expenditure needs.

(e) *Rural Systems*

Only a few homes in the outlying states have flush toilet/septic tank/leaching field disposal systems. The majority of the homes and government facilities such as schools in the outlying states use pit latrines which are difficult to maintain and can become breeding grounds for flies and other vermin. On islands and in communities where the ground is sandy or porous, pit latrines as well as flush toilet/septic tank/leaching field systems may contaminate groundwater sources. Since groundwater sources may be the only means of water supply in these communities during extended dry periods, they must be protected from contamination.

Small package treatment plants with aerobic and anaerobic tanks that produce an effluent quality equal to that of major treatment plants (30/30 BOD/TTS) and which are suitable for single dwelling (5-10 persons), multiple dwellings (30 - 60 persons) or whole villages, (100 - 300 people) are now readily available on the market. These systems are the next step in level of sophistication of sewerage treatment systems and require a small amount of power to drive pumps for recirculation and discharge of effluent.

An advantage of these systems is that they are odourless and are not dependent on the water absorption characteristics of the soil. They can be located in any type of ground condition, or where water tables are high because of proximity to water courses, or tidal areas. As the effluent quality meets normal environmental standards, the effluent can be pumped 30 - 50 meters away from the dwelling before discharge to ground or used for irrigation purposes. The Australian manufactured ENVIROFLO Package Sewerage Treatment Plant, which is widely used in the South Pacific and throughout Australia in sensitive environments is one such unit which could be utilized. Package treatment plants should be utilized in Anguar and Peleliu, and other such locations where for environmental reasons, lesser methods of sewerage treatment are not appropriate. Package treatment plants are essential for resorts and tourist facilities located outside the Koror centralized wastewater system. They are particularly useful on low lying islands because of their suitability in environmentally sensitive areas.

6.19 STRATEGY AND PROGRAM OUTPUTS: WASTEWATER

6.19.1 STRATEGY: WASTEWATER

Expand the existing Koror centralized wastewater collection system to cover those areas presently unsewered; improve the whole system to ensure adequate quality of discharged wastewater; extend the rural sanitation program to those outlying states which have not had the benefit of the program to date; and improve management and pricing structures to ensure efficiency in service delivery and consumer demands.

6.19.2 PROGRAM OUTPUTS: WASTEWATER

6.19.2.1 Koror Sewer Collection System Expanded

New satellite sewer systems should be constructed to serve those areas in Koror State presently unsewered, including lower Ngermid, lower Ngerkesoao, Ngerias, and Diberdii, and existing sewer lines should be extended to enable more homes and commercial establishments to be connected to the system. The estimated cost is \$2,500,000, funded from Compact monies. This is a prioritized EDP Project. Expansion of the Malakal STP should also be undertaken at a cost of \$3.85 million. Donor concessional loans or grants should be sought. Sludge handling equipment should also be purchased, costing around \$200,000 to be funded by general appropriations.

6.19.2.2 Workshop Established

A new workshop, store and laboratory at the Malakal STP should also be established at a cost of \$250,000, to be funded by general appropriations.

6.19.2.3 Sewage Pump Stations Upgraded

The existing 37 sewage pump stations in the Koror system need to be upgraded at a cost of \$150,000 per year for 5 years. Funds should be allocated from general appropriations.

6.19.2.4 The Rural Sanitation Program Expanded

The rural sanitation program should be extended during the Plan period to those outlying States/communities which have not received the benefit of the program. The estimated cost is \$150,000 per year, to be funded by the US, EPA, FmHA funds and general appropriations.

The estimated costs, source of funds and timing of the above programs/project outcomes are shown in table 6.26 below:

Table 6.26: Wastewater System

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
	\$'millions										
Sewer Collection Expansion Maintenance											Compact Budget Internal Revenue
	1.2(P)	1.3(P)	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	
Malakal WTP Maintenance	1.85 0.3	2.0 0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	Donor Internal Revenue Budget
Sludge Equipment	0.2										Budget
Workshop Maintenance		0.25		0.02	0.02	0.02	0.02	0.02	0.02	0.02	Budget Internal Revenue
Pump Stations	0.15	0.15	0.15	0.15	0.15						Budget
Rural Program	0.15	0.15	0.15	0.15	0.15						US/Budget
TOTAL	3.9	4.2	0.8	0.8	0.8	0.6	0.7	0.7	0.7	0.7	

Note: P denotes an EDP prioritized program.

6.20 SOLID WASTE

6.20.1 SITUATION ANALYSIS

In the concentrated population area of Koror-Airai, solid waste from households and businesses is generally placed in 55 gallon oil drums by the roadside. With no lids, vermin and other animals have access to the garbage. The collection service is provided by the State of Koror using Izusu Compactor - Garbage Trucks, although due to difficulty with procurement of spare parts two of the four trucks have been out of service for more than 2 years. Regular small pick up trucks are utilized as replacement collection vehicles. The labourers are prisoners who have been sentenced to community service. The State does not impose charges on households for the collection service.

The primary waste disposal site in Koror is a bunded land fill area over reef flat on the road to 'M' Dock in central Koror. The site covers an area of approximately 15 acres and is estimated to be at 80 percent capacity. The rate at which filling is occurring has not been estimated so it is difficult to determine within what time frame it is expected that the dump will reach full capacity. Additional sites are being sought. The dump area is maintained by the BPW which provides a bulldozer for spreading and compacting the waste, and earth fill for covering of the waste. The bund surrounding the waste dump does not fully enclose the site. As a result, the dump face is subject to inundation by tidal waters which in turn results in polluted waters flowing back into the nearby estuary. The EQPB has registered its concern at this uncontrolled pollution of harbor waters. The bund should be closed as soon as possible and the inflow/outflow of seepage water through the bund controlled.

Based on NMDP population projections (refer Chapter 14), it is expected that solid waste from the Koror-Airai area will increase from around 1,900 tons in 1995 to 2,500 tons in the year 2000 and 4,000 tons in the year 2020.

In all other areas, the State government is responsible for solid waste disposal. Generally the practice is to utilize 55 gallon drums or smaller bins for household collection. In most locations, a State-owned pick up truck provides the collection service, although households sometimes have to be responsible for delivery of waste to the dump. States nominate a dump area in close proximity to the community. Many of the sites are located in low lying swamp or mangrove areas which are generally undesirable. Lack of suitable earth moving equipment in rural areas often means that the dumps remain uncovered and open to vermin, although some States manage to cover the rubbish. Random dumping of waste along roadside is not uncommon.

A casual observation of the urban, industrial and rural environments of Palau quickly reveals there is a waste disposal problem associated with aluminium cans, old cars, plant and equipment and miscellaneous scrap metals. Aluminium cans are a major litter item throughout Palau. A scheme for recycling these cans is outlined in Chapter 12. There does not appear to be any program for removal or disposal of heavy scrap. Occasionally a contractor will assemble a tonnage of scrap as a backload for a barge returning to the Philippines or Indonesia. For steel scrap to be acceptable to end purchasers there needs to be some sorting into different steel types. The cutting up and removal of scrap from its present location is a major problem irrespective of the method of disposal. Many marine wrecks have become cemented in coral and sand, and old disused trawlers anchored in Malakal harbor cause navigational hazards and create a potential environmental problem. There are many old bulldozers, draglines, tanks and the like abandoned along the road sides or stacked in equipment yards. The newer pieces of plant may have a use for spare parts, although there is little evidence of them being used for such purposes. Some of the equipment in the Government yard at M Dock is kept for this purpose, but much of it is useless and should be removed for scrap. Derelict and abandoned cars are an eyesore throughout Koror and Babeldaob and are one of the intractable disposal problems because of their low value as a recyclable resource.

6.20.2 PROBLEMS AND ISSUES

(a) *Public Dump*

Operations and maintenance of the public dump at M-Dock should be improved. The operation lacks equipment as well as appropriate fill material for the disposal of solid wastes by means of landfill operation. The problem is further aggravated by the location of the public dump site which is at sea level and is surrounded by the sea and therefore has a potential for contamination of the surrounding water. During the Plan period, an alternate public dump site must be found and developed. This could be a commercial proposition for one of the States which has road access to Koror. An appropriate dumping charge would need to be negotiated with the Koror State Government. In 1994, a program was initiated by the EQPB with an application for technical assistance from the EPA to evaluate the existing dump and identify guidelines and sites for a new dump site in the Koror-Airai region.

(b) *Funding*

A Waste Management Study in 1985 (Solid/Hazardous Waste Management Plan, Environmental Protection Board, TTPI, 1985) contains the most in depth review of waste management practice and condition in Koror. It also provided guidelines and specific recommendations for community education, dump management, collection procedures, disposal of various classes of waste including hazardous substances, and legislative requirements. It would appear that State and National Government agencies

have not had the resources to adequately address or implement many of the issues identified in the report. As a result, significant improvement in waste management and disposal practice is yet to be achieved. The continuation of poor practices has become a matter of protestations by the EQPB regarding mismanagement and pollution of the waterways.

To obtain additional financial resources, State Governments should introduce appropriate waste collection fees. To be successful, this needs to be accompanied by increased penalties for littering and an education campaign to increase community awareness. In Palau it may be difficult to apply charges through a levy system on the rateable value of a block of land (as in many developed countries) because of the complex system of land ownership and usage which exists in Palau. However all properties in Koror and Airai are in the process of being charged for water and electricity, and sewerage, and waste collection, and disposal charges could be added to the invoices sent to households for these services. In other State locations, a similar arrangement could be made.

(c) *Recycling*

The Butler report (Scrap Metal in Micronesia 1993) concludes that there is little possibility of achieving the broad clean up of scrap that is required in Palau on a strictly commercial basis. Some types of scrap such as aluminium cans can be recycled on a limited commercial basis (refer Chapter 12 for recycling scheme). Other scrap such as radiators, car batteries, non ferrous metals could also be bought and recycled on a profitable basis. Steel scrap including cars, however can be only dealt with on some sort of supported basis with Government, community, shippers and suppliers all working together to resolve a community waste problem. Governments could negotiate concessional rates with shipping companies for back loaded cargo. Communities could be involved in 'clean up' days with Governments providing collection vehicles, compacting equipment and personnel.

6.21 STRATEGY AND PROGRAM OUTPUTS: SOLID WASTE

6.21.1 STRATEGY: SOLID WASTE

Provide adequate facilities for the disposal of solid waste, improve the management and operation of facilities, increase community involvement and awareness, and increase the commercialization aspects of waste management, including introduction of user fees.

6.21.2 PROGRAM OUTPUTS: SOLID WASTE

6.21.2.1 New Public Dump Site Established and Collection Equipment Purchased

An alternate waste transfer and recycling station plus a solid waste dump away from the sea should be developed to develop an appropriate landfill operation for the disposal of solid waste. This project entails purchase of landfill operations and rubbish collection equipment and the cleanup and closure of M-Dock public dump. The estimated cost is \$1,500,000 to be funded by possible donor assistance.

6.21.2.2 Feasibility Study of Utilizing Private Contractors Conducted

A solid waste specialist should be contracted to prepare a detailed feasibility study on development costs and economics of utilizing private contractors for waste management and disposal in Palau, plus the preparation of terms of reference, specifications and bid documents for international contractors to bid for a solid waste management contract in Palau. The estimated cost is \$300,000, to be funded from general appropriations.

The estimated costs, source of funds and timing of the above programs/projects are shown in table 6.27 below:

Table 6.27: Solid Waste

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
\$'millions											
New Dump			0.75	0.75							Donor/ Private Investor
Maintenance	0.15	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.20	0.20	Internal Revenue
Study Private Contractors	0.30										Budget
TOTAL	0.45	0.15	1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.2	

6.22 TELECOMMUNICATIONS

6.22.1 SITUATION ANALYSIS

Telecommunications in the Republic of Palau is the responsibility of the Palau National Communications Corporation (PNCC) which was established in 1982 to provide and operate telecommunication services, both domestic and international, within the Republic. The PNCC currently provides communications throughout Palau by telecommunication and side band radio. International communications are provided through a 13 meter diameter earth station with 28 SCPC circuits. The service provides digital switching in the Koror and Airai exchange areas through a Northern DMS - 10 switch, equipped with a 2500 line capacity. Telephone services are distributed on aerial cables attached to power poles. The Koror central office is connected to the international gateway and earth Station in Meyuns via an aerial fibre optic cable. The Airai switch reaches the International gateway and the Koror central office via microwave link and optical cable.

In 1994 there were 2318 working lines with 680 applicants pending connection to the service. The total number of lines required exceed the capacity of the DMS - 10 switch. A new switch with additional capacity is required.

The international earth station was recently purchased from COMSAT and is operated under an FCC licence, issued to a wholly owned subsidiary of PNCC. The antenna of the Earth Station is scheduled for refurbishing and upgrading to digital IDR circuits using AT & T's multi destination IAT equipment. When this is completed in late 1994, the PNCC will be able to begin a direct service to the USA via the

AT & T system. The existing direct services to Guam through MCI, and Japan through KDD will continue.

Services to States outside the existing hard wire network are being provided by high frequency (HF) single side band radio between State offices and the Koror central office. A project is currently under way to provide full duplex very high frequency (VHF) radio telephone services to each of the States using a system from EXICOM International, a New Zealand based manufacturer. Each system will provide two discrete telephone lines, one for the State Office, the other for public pay phones. To date four States have had the system installed. The distant States of Sonsorol and Hatohobei are currently being upgraded to HF radio telephone system utilizing equipment manufactured by CODAN of Australia. This system will give these States access to the global public switch network.

The PNCC facilities are presently located in three buildings. In late 1994 work commenced on the construction of a new headquarters and central office building adjacent to the airport in Airai. The new facility will house modern telecommunication equipment, workshops, and office spaces.

Other communications systems in Palau which are under the control of the PNCC include two way communication systems in the Citizen Band (CB-27MHz), the VHF (150 MHz) and UHF (450 & 850 MHz) frequency bands. The CB communications system is predominantly used by the taxi companies in the Airai - Koror area. Very High Frequency (VHF) systems are used by several Government agencies including the Bureau of Public Safety, Bureau of Public Works, the Port Authority, the marine safety organization and several commercial enterprises. The UHF radio system is used by the Tourist Industry and various commercial enterprises. The radios used in this system operate through a community repeater provided by the local radio company. There is a monthly charge for access to the system. The system is encoded to allow individual calls and telephone connections. The effective range of the system covers the west coast of Babeldaob and the southern part of Palau.

The Government owns and operates a 5 kW radio broadcasting station (WSZB) which is used for local broadcasting services. A private 175 kW broadcasting station is owned and operated by a Christian missionary group and broadcasts to selected Asian regions. There are two television companies broadcasting to the Koror-Airai area, one of which is a cable TV network, partly owned by PNCC. Both companies provide public service announcements, one week old taped programs from major US TV stations (Westcoast) and live CNN newscasts.

PNCC was incorporated in 1982 by enactment of the Republic of Palau Public Law No. 1-40 to establish, provide and operate telecommunications services, both domestic and international, within the Republic. The corporation is headed by a President and Chief Executive Officer. The President/CEO reports to a five member Board of Directors who are appointed by the President of the Republic of Palau with the advice and consent of the Senate. The Board of Directors are appointed for a four-year term and meet monthly or more frequently as need arises. PNCC has a total of 71 employees, including 23 administrative/financial, 28 technical, and 20 operational staff members. The Corporation had total revenues of almost \$2.7 million against total expenditures of about \$1.9 million during 1993. At the present time, all profits are being retained and reinvested in infrastructure. However, the Corporation expects to be returning dividends to the Republic as soon as its REA funded improvement and expansion program is completed and its basic financial and service objectives are being met.

6.22.2 PROBLEMS AND ISSUES

(a) Resources

Lack of financial resources has been a major hindrance in the development of a suitable telecommunications system for Palau. A long-term, low-interest loan from the US Rural Electrification Authority (REA) for \$39 million has recently been approved, providing the PNCC with the necessary capital to fund the modern communications equipment needed to service the community and secure international communications. An improved charging structure may be required to service the loan and provide adequate returns to the Government.

(b) Personnel

Suitably qualified and trained technical staff in the telecommunications area are difficult to find in Palau. The PNCC has embarked on an active program of educational support and training to develop Palauan personnel with the skills required to operate a modern telecommunication system.

(c) Land Access

As with the other infrastructure entities, one of the most difficult issues confronting the PNCC is the acquisition of easements across land to provide right-of-way access for installation of telephones and communication equipment. This issue may be eased in the mind of the public and land holders if a public education program on radio and TV were to advise the public of the requirement for such access and of the rights and obligations of the owner and the Government in establishing such easements.

(d) Corporation

The arrangements between the Government and Corporation need to be enhanced and a more appropriate capital structure and dividend policy established. Performance indicators also need to be developed, perhaps using regional performance benchmarks. These issues are discussed in Section 6.4.

6.23 STRATEGY AND PROGRAM OUTPUTS: TELECOMMUNICATIONS

6.23.1 STRATEGY: TELECOMMUNICATIONS

Provide a high quality telecommunications network throughout Palau in a cost effective manner that provides an adequate return to Government, and that is competitively priced and oriented towards full customer service.

The mission statement of the PNCC is broadly in line with the above strategy, although does not focus on a commercial return to Government or on competitive pricing goals. In achieving its objective the PNCC aims to:

- integrate Palau into the global telecommunications network;
- provide 7000 telephone lines by the year 2000 (35 lines per 100 persons);

- provide quality customer service by meeting set standards of operational efficiency, reliability and cost effectiveness;
- upgrade skills of employees through short and long term training opportunities; AND
- commit to an aggressive and prudent fiscal program, recognising that optimum return on capital investment is essential to achieve development and operational objectives.

The following planned programs and projects are to be implemented using the REA \$39 million loan. PNCC anticipates reducing the amount of loan funds actually required through application of the most cost effective technologies and through internal construction and funding of significant portions of the rural telecommunications infrastructure.

6.23.2 PROGRAM OUTPUTS: TELECOMMUNICATIONS

6.23.2.1 Central Office Equipment Installed

PNCC currently uses a Northern Telecom DMS-10 (genetic 400) switch in a container at the Koror Central Office in downtown Koror. This switch is state-of-the-art digital technology currently equipped for 2,500 lines with an ultimate capacity limit of over 10,000 lines. The Corporation will expand the line capacity of the Koror switch and purchase and install a second DMS-10 switch in Airai at its new Headquarters & Central office complex due for completion in 1996.

The Corporation will also install small class 5 central offices or remote switches for the other exchanges (States). The last rural telephone system projected to be built in Kayangel State is expected to be in operation by 1996. The Corporation also plans to purchase a packet switch to provide on-demand access to the global X.25 data network. The REA loan includes money for a new switching system in Koror. However, this purchase is expected to be deferred to the end of the REA "A" loan period. The estimated cost is \$7,218,000, funded through both the REA loan and retained earnings.

6.23.2.2 Electronic Equipment Installed

With the purchase of the Koror earth station from COMSAT in October of 1993, PNCC assumed full responsibility for international communications to and from Palau. A project contracted with AT & T will refurbish the 13 meter antenna and upgrade the station to digital 'IDR' standards scheduled for completion by late 1994. The multi-destinational IAT equipment from AT & T will provide greatly increased capacity at a reduced space segment cost due to 4 to 1 compression. The dynamic allocation of bandwidth provided by this new equipment will make high speed data applications possible in Palau, including compressed video conferencing, medical imaging, interactive distance learning, etc.

PNCC will also be installing a second satellite earth station to provide redundancy in the international network in the near future. This station is likely to have a smaller aperture antenna (9 meters or less) and will track an alternative satellite. The addition of a second earth station will ensure that Palau is never out of touch with the global network.

The "Electronic Equipment" category of projects includes state-of-the-art distribution technology, using a "fiber to the distribution node" design with subscriber carrier systems directly interfaced to the DMS-10 switch in Koror. This design is compatible with a future migration to a "fiber-to-the-curb" and, ultimately "fiber-to-the-home" architecture.

PNCC is also using or has plans to use wireless (radio) telephone and microwave trunking technology to provide communications to outlying areas of Palau. The EXICOM "Hawk" radio telephone systems are currently being installed in all states outside of Koror and Airai (except Sonsorol and Hatohobei) to provide basic telephone service. The total estimated cost is \$9,146,000 to be funded from the REA loan and retained earnings.

6.23.2.3 Outside Plant Installed

A major project began in 1994 to place a buried outside plant distribution system in Koror and Airai to replace current overburdened and undersized aerial facilities. During the construction phase of this project, PNCC construction personnel will perform placing and inspection functions alongside the contract personnel in order to gain first hand, on-the-job experience in buried placing techniques. Outside (distribution) plants in the rural states of Palau will initially be a combination of buried and aerial plants (both fiber and copper), designed and installed by PNCC employees. An emphasis is being placed on the use of fiber optic cable for all inter-office trunking.

Discussions have also been initiated with several providers of undersea fiber cable about the technical and economic viability of a festooned fiber optic ring around Babeldaob and a link to Peleliu using newly available shallow depth materials and placing methods. Such facilities could also provide capacity for the distribution of educational and public services, such as interactive distance learning and television. In the long term, there is a recognition that Palau must be linked to the outside world via undersea fiber optic facilities. This is a project that is beyond Palau's ability to fund alone; however, PNCC will watch for any opportunity to participate in future projects, such as the proposed Indonesia to Guam cable, that could reach Palau. The total estimated cost is \$11,670,000 to be funded by the REA loan and retained earnings.

6.23.2.4 Station Equipment Installed

This equipment includes the purchase and installation of telephone instruments, key and PBX systems, and pay phones. With the exception of pay phones, PNCC is moving toward a complete "deregulation" of customer premises equipment (CPE) in accordance with global trends. The estimated cost is \$1,237,000, to be funded by the REA loan and retained earnings.

6.23.2.5 Land Secured and Buildings Developed

The most significant facility planned is the Headquarters and Central Office complex at the Airai airport. This multi-million dollar facility will be the primary administrative office for PNCC and communications hub for the nation. The facility will have about 15,000 square feet of office/public floor space and 6,000 square feet of equipment/technical space. The site will also have a large warehouse/shop building for materials and supplies and equipment maintenance. The facility should be completed by 1996.

Support facilities in rural states will generally be limited to small central office structures to house electronics switching and trunking equipment. These small "equipment huts" will be either prefabricated containers or will be constructed from hollow blocks and concrete. PNCC will need to secure sites for these small structures and is currently approaching each state to determine the best location. The total estimated cost is \$4,608,000, to be funded by the REA loan and retained earnings.

6.23.2.6 Support Systems Established and Equipment Purchased

This equipment includes test equipment and tools, vehicles and construction equipment, computer systems, and office fixtures. The construction of the central office facilities in Airai and planned reconstruction of the downtown Koror business office will require a significant investment in office furnishings and computer equipment. The estimated cost is \$1,427,000, to be funded by the REA loan and retained earnings.

6.23.2.7 Engineering Funds Allocated

All projects require engineering and architectural work to be done. The REA program requires that this work be done by an REA certified engineer. This category provides engineering funds of up to 15 percent of the project cost. Since much of the work will be internally funded, PNCC does not anticipate spending the full amount budgeted under this category. The estimated cost is \$6,153,000, to be funded by the REA loans and retained earnings.

The estimated costs, source of funds, and timing of the above programs/projects are shown in table 6.28 below:

Table 6.28: Telecommunications

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
	\$'millions										
Central Office Equipment	2.7	0.5	0.3	0.2	3.6						REA Loan and
Electronic Equipment	1.9	2.9	2.2	1.5	0.7						Retained
Outside Plant	5.6	2.4	1.8	1.2	0.6						Earnings
Station Equipment	0.6	0.3	0.2	0.1	0.1						(all expenditure)
Land and Buildings	2.7	1.8	0.1								
Support Systems & Equipment	0.4	0.5	0.2	0.2	0.2						
Engineering	2.4	1.5	0.8	0.6	0.9						
TOTAL	16.1	9.8	5.6	3.8	6.1						

6.24 PUBLIC BUILDINGS AND FACILITIES

6.24.1 SITUATION ANALYSIS

The National Government of Palau owns and maintains over three hundred and thirty buildings and facilities, most of which were handed over to the Republic at the time of the change over between the TTPI Administration and the Republic of Palau.

Some of these buildings were constructed during the Japanese Administration period (1921-1945). Since 1945 a number of additional government buildings, primarily schools and a major hospital have been constructed by the US Administration. Public buildings are maintained by the Bureau of Public Works, Building Maintenance Division which is responsible for repairs and routine maintenance, renovations, and extensions. Capital works are generally undertaken by contractors.

In general, apart from the more recently constructed school buildings and the hospital, almost all government buildings are old, either dating from pre-war or immediate post-war years, in poor condition, and are generally unsuitable for their functional use. Maintenance requirements of buildings in tropical conditions is substantial. Unfortunately, the budgetary constraints on recent administrations have meant that inadequate funds have been available to undertake both regular and urgent maintenance. A number of buildings are becoming hazardous in terms of public safety in regard to potential electrical, fire and

structural requirements and should be demolished. Government buildings occupy three main precincts in central Koror. School buildings, utility buildings and facilities are in scattered locations according to their function. Land ownership issues are a major concern for the National Government which require urgent resolution.

(a) *Education Facilities*

The Republic of Palau School System consists of one public high school located in the central district of Koror and twenty-two elementary schools found throughout the sixteen states, three of which are located in Koror. More than 76 of buildings are being managed and utilized by the Education Department in the primary and secondary system. Of these, three buildings are used for administration and two are used for storage. The high school consists of twelve buildings and the remaining fifty-nine buildings are part of the elementary school system. The total building floor area of these buildings is in excess of 21,000 square feet. The Palau Community College (PCC) is the only tertiary level institution in Palau. It was formed in 1993, following reorganization of the Micronesian Occupational College (MOC). It is located in the building complex formally occupied by the MOC. The buildings were built during the Japanese Administration and used as a hospital. Most of the buildings are on a single campus in central Koror, although several vocational buildings are located off campus on nearby properties. The National Government is in dispute over claims for the campus land.

A large number of existing educational and support facilities at the elementary, secondary and post-secondary school levels throughout Palau need repair. Major renovations are needed to be carried out at the PCC to include student dormitories, cafeteria, trade shops, laundry, classroom and administration buildings. In addition, a new classroom building and staff housing facilities are needed for the college as well as improvements to parking facilities, landscaping, fencing and outdoor lighting. At the Palau High School, a dormitory complete with a cafeteria has been proposed to accommodate students from the outlying States. Other proposed improvements at the high school include complete renovation of the existing toilet facilities and classroom buildings. The whole high school complex needs to be fenced. New classroom buildings are needed at various elementary school sites throughout Palau. Existing support facilities as well as classroom buildings at various elementary school sites need to be renovated. In addition, some sport facilities are also needed at these schools.

The Ministry of Education office complex needs to be renovated and properly equipped. There are also non-government schools, both elementary and high schools, notably those operated by the Lutheran Church, the Roman Catholic Church and the Seventh-Day Adventist Church, which require governmental assistance.

For additional discussion and program outputs for the education sector, refer to Chapter 14.

(b) *Health Facilities*

The Belau National Hospital, located in Meyuns Hamlet, was opened in December 1992 and provides primary, secondary and tertiary health care services to the entire population of Palau. This 70 bed hospital facility also houses the administration of the Ministry of Health, maintenance division, the dental program, the behavioral health division, and outpatient services. The hospital has a self-contained water supply system with two underground 300,000 gallon tanks that collect the rain water from a roof catchment. One tank is treated chemically through the hospital processing plant and used for hospital purposes and the second tank is reserved for fire fighting needs. The hospital has a 500 KW auxiliary

power generating unit. The hospital also includes a maintenance and engineering division that provides services to all health facilities. It has become apparent that certain modifications/remodeling as well as construction of support infrastructure/facilities are necessary at the hospital to enhance the efficiency of health care services. These improvements could include the expansion/remodeling of the hemodialysis, physical therapy and mental health areas; construction of an apartment facility for temporary housing of visiting medical specialists; and repair of the old jetty/pier for receiving patients coming to the hospital by boats from the outlying States.

In addition to the main health facilities in Koror, health clinics and dispensaries have been built in 13 of the 16 States, although only seven centers are operational with permanently assigned staff. The buildings which house the dispensaries were constructed by the TTPI Administration over 18 years ago using prefabricated sandwich panels, which have not performed well in the tropical climate and have required extensive repair. The buildings have a floor area of approximately 700 square feet. A number of dispensaries are now located in more modern State Government buildings.

Some of the northern States in Babelfaob are relatively far from the Belau National Hospital, resulting in a need for a central Babelfaob clinic which when properly constructed, equipped and staffed by doctors and nurses would provide primary and preventive treatment, as well as emergency services to patients prior to evacuating them to the Belau National Hospital in Koror. In addition, the existing dispensaries in the outlying States should be completely renovated.

For additional discussions on the health sector, refer to Chapter 15.

(c) *Government Administrative Facilities*

Administration facilities for the three branches of the Government are located in Koror State. Some of these administrative facilities are of reinforced concrete construction, some are prefabricated steel structures, and still others are wooden structures with corrugated tin sheet roofing. A few of the facilities were constructed by the Japanese prior to World War II for purposes other than that for which they are presently being utilized. These include buildings which house the Palau Supreme Court, the Courts of Common Pleas, and the offices of the Attorney General, Public Defender and Immigration, the Entomology Office, and the Belau National Museum.

Each State government has a State administration building where the Governor or State Administrator maintains an office. Such buildings are also utilized by the State legislatures when they are in session, and for public meetings. In addition, some States or hamlets have their own public meeting houses. A considerable number of the outlying States maintain liaison offices in Koror State, normally in rented spaces. The structural makeup of the State administrative buildings vary considerably from modern reinforced concrete structures to old wood and tin structures.

In addition to judiciary, health and education facilities, other important government facilities in Koror include: the telecommunication center, the museum, the weather observation station, the post office, the civic center, the Malakal power plant; warehousing facilities; and facilities housing the various governmental functions such as finance, public safety, education administration, public works, land management, marine resources, etc.

(d) *Housing*

During the TTPI Administration, a number of housing units were built to meet the housing needs of the Government. Modern 3-bedroom housing units built to western standards were constructed in some of the outlying States specifically to house expatriate teachers. Other housing units and apartment buildings were constructed in Koror to house expatriate government employees. Many of the original housing units for teachers in the outlying States have been taken over by landowners on whose lands the houses were built. Koror State government has taken most of the original 39 government built houses and apartment complexes located in Koror, with only a few being retained by the National Government. Similarly, much of the old hospital complex (MacDonald Memorial) is currently being used by Koror State Government.

Financing construction of private homes in Palau is generally handled by the individual homeowner. Commercial banks fund a very small part of the private home construction industry due to inability to secure collateral. Some individuals borrow money from credit unions to finance home repair projects. Through the U.S. Federally funded Community Development Block Grant (CDBG), the Palau Housing Authority has, since 1978, financed the construction/renovation of a considerable number of low-income-family housing units. The U.S. Farmers Home Administration (FmHA) has been in operation in Palau since 1977. Low income families are eligible for loans up to a maximum of \$2,500 for partial rehabilitation of their dwellings, at one percent interest per year with a repayment period of up to 15 years. In addition, FmHA grants up to \$5,000 to eligible elderly individuals for the rehabilitation of their dwellings. Since the inception of the FmHA program in Palau, a total of over \$5,000,000 has been spent on over 1,000 loans and grants. The great majority of homeowners finance the construction of their houses through the traditional "Ocheraol" and, more recently, the system of "House Parties".

6.24.2 PROBLEMS AND ISSUES

(a) *Maintenance*

A more systematic maintenance program needs to be developed through which an adequate yearly budget for the repair and maintenance of all the governmental facilities such as schools, hospital, dispensaries, administration offices and other facilities is determined. Sufficient funding is needed for the implementation of an proactive maintenance program to protect government facilities from deterioration. If provision of maintenance were to be based on a percentage (say 1.5 percent) of the value of the property involved, and if that was put at \$20 million, then a nominal maintenance budget of \$300,000 per annum could be anticipated.

Nearly all of the current maintenance work is done by the BPW. There are often more efficient ways of undertaking such work. Many of these activities are better and more economically performed by private industry building contractors (who should be registered for classes of work) which bid by tender to undertake maintenance activities and services. Depending on the nature and regularity of these services, such contracts may be on a job-by-job basis or on a period basis for specific tasks. The pitfalls of contracting out in small markets need to be recognized.

(b) *Zoning and Building Codes*

The lack of uniform building and zoning codes for Palau is a problem that needs to be resolved. Only Koror State adheres to some form of zoning regulation. Although the formulation and implementation

of a building code is necessary, the standard for such a code must be set by taking into account the high cost of building materials and absence of low cost financial resources for financing housing development. However, the safety provisions of the building code should not be sacrificed because of cost, especially for buildings or structures to be constructed of reinforced concrete. Strict code control of electrical wiring, sanitary facilities, structural design and insulation for conservation of energy should be major requirements of the code.

(c) *Ownership*

Koror State has acquired both housing and government facilities originally granted to the Palau National Government from the TTPI Administration. The legal status of land on which some public facilities are located is also unresolved.

(d) *Capital Relocation Project*

Republic of Palau Public Law No. 1-70 mandates the relocation of the seat of Palau Government from Koror State to Babeldaob Island with Melekeok State being the designated site. The decision as to whether the new capital (Palau National Capital Construction Phase I Project) will consist of a complex of buildings to house only the administrative functions of the three branches of the national government and not the necessary support facilities such as residential housing for government officials has not yet been determined. The financial capability of the Government will be a deciding factor in this decision. In any event, additional funds are needed to supplement the presently available CIP funds for the first phase of the development of the capital complex at the designated site at Melekeok State.

(e) *Palau National Gymnasium*

There is a lack of sports facilities for the population. The proposal for a Palau National Gymnasium and Sports Facilities Project is important for recreational and sport opportunities, and is critical for hosting the 1998 Micronesian Games. This national multi-sports and recreation facility will also be fully utilized to host community functions such as meetings, graduation ceremonies, etc. In addition to construction of the new gymnasium, existing sport facilities including tennis courts, swimming pools, track fields, etc. should be improved.

(f) *Prison Facilities*

The existing jail is located in the center of downtown Koror. This location is inappropriate for the detention of long-term prisoners. The existing jail facility has been renovated recently, but it will not be able to service the projected prison population in the near future. The existing jail would still serve many important needs including, but not limited to, incarceration of high security prisoners; short-term prisoners; prisoners who need to be segregated from the general prison population; and prisoners who need to be in close proximity to the Courts or health facilities. Many of the inmate population should be relocated to a new facility in southern Babeldaob. This new facility would be of ample size and design to meet the requirements set forth in the Palauan Constitution, which includes preservation of basic human rights, as well as separation of the various inmate populations. The facility could incorporate areas of agricultural production and animal husbandry.

(g) *Senior Citizens Center*

There is a need for a senior citizens center for which an allocation of \$1.5 million has been made in the EDP, although there is no start date or funding source identified. This would be a project that the Koror community should support and raise funds through its own actions. The Government could perhaps provide a matching grant.

6.25 STRATEGY AND PROGRAM OUTPUTS: PUBLIC BUILDINGS AND FACILITIES

6.25.1 STRATEGY: PUBLIC BUILDINGS AND FACILITIES

Provide sufficient resources for adequate maintenance of existing buildings; allocate sufficient funds for the improvement of educational, health, administrative and sports facilities which have been identified as high priority; formulate a uniform building code; and resolve National-State legal ownership disputes.

6.25.2 PROGRAM OUTPUTS: PUBLIC BUILDINGS AND FACILITIES

6.25.2.1 Capital Relocation Evaluated and Clarified

As mandated in the Constitution and laws of the Republic, the Palau national capital must relocate to Babeldaob Island. Presently, some \$2.60 million CIP funds are available for the capital relocation project. To supplement these available funds, an additional \$2.4 million is targeted in the EDP from Compact fund sources to allow the construction of the first phase of the project. The capital relocation project could cost between \$45-\$55 million for a basic facility including buildings to house the three branches of the government, site preparation and development of water, sewer, power and telecommunications, road system, parking areas, and the cost for preparation of the construction contract documents. It will be necessary to develop the capital's own water and sewer systems complete with water and sewage treatment plants and a standby power generation plant. The planned second phase (EDP unprioritized project) is estimated to cost \$12.5 million. Funding for phase II has not been identified. Commencement of the project should await construction of the national highway (Compact road) and should not commence before full funding has been secured.

6.25.2.2 Maintenance Funds Appropriated

Adequate funds should be allocated from the Government operations account to improve existing operations and maintenance program. The estimated cost is \$300,000 per year, to be funded by general appropriations. The proposed Ministry of Public Works should seek to contract out as much maintenance work as is feasible.

6.25.2.3 Palau National Gymnasium and Sports Facilities Constructed

Funds should be allocated for the construction of a new multi-sports and recreation facility complex and improvement of existing sports facilities which are needed for recreational and sport requirements and also for hosting the 1998 Micronesian Games. The estimated cost is \$3,500,000 to be funded from Compact funds. This is a prioritized EDP project. An alternative funding source for this project may be through the Chinese Government which has funded similar complexes in other South Pacific countries (for example, Papua New Guinea).

6.25.2.4 Palau National Education Facilities Renovated, Constructed and Equipment Replaced

Funds have been targeted in the EDP for the renovation of existing buildings and construction of new educational and support facilities. The educational facility improvement program entails the following: major renovations of facilities at both the Palau Community College (PCC) and at the Palau High School (PHS), construction of a new dormitory building; improvement of parking and other facilities at both schools; renovation of the Ministry of Education office; construction of new classroom buildings at various States throughout Palau; improvement of sports facilities at certain elementary schools throughout Palau; and replacement of existing old furnishings at various schools and educational facilities throughout Palau. The estimated cost of the program is \$19.95 million, to be funded by \$6 million from Compact funds and \$14 million from sources yet to be identified. This is a prioritized EDP program. A more detailed analysis of the education sector is shown in Chapter 14.

6.25.2.5 National Health Facilities Improved

Funds have been targeted in the EDP for the construction of an apartment facility at the Belau National Hospital site for the purpose of housing visiting medical specialists. Certain necessary improvements to be carried out at the Belau National Hospital include expansion/remodelling of the hemodialysis, physical therapy and mental health areas and the repair of the existing old jetty and pier behind the hospital for receiving patients coming to the hospital by boat. Part of the allocated funds will be used for the construction of a new central Babeldaob clinic and the renovation of existing dispensaries throughout Palau. The estimated cost is \$3,500,000 funded from Compact funds. This is a prioritized EDP program. An alternative to the apartment facility would be to lease private sector accommodation. This latter option is preferred by the NMDP. A more detailed analysis of the health sector is shown in Chapter 15.

6.25.2.6 New Prison Facility

Funds should be allocated for the construction of a new prison facility in southern Babeldaob. The estimated cost is \$2,500,000, to be funded by possible private investment on a build-operate-transfer arrangement. Alternatively, a donor grant should be sought.

6.25.2.7 Uniform Building and Zoning Code Developed

A uniform building and zoning code should be developed for the control of the construction industry. The estimated cost is \$50,000, to be funded through general appropriations.

The estimated cost, source of funds and timing of the above programs/projects are shown in table 6.29.

Table 6.29: Government Facilities - (\$ millions)

Program/ Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Funding Source
Capital Relocation Development					2.5(P)	2.5(P)	3.0(U)	3.0(U)	3.0(U)	3.5(U)	Compact/ donor Commercial Loan
Maintenance		0.16	0.48	0.7	0.7	0.7	0.7	0.7	0.7	0.8	Budget
Existing Building Maintenance	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	Budget
Gymnasium	0.5(P)	1.5(P)	1.5(P)								Compact/ Donor
Maintenance		0.25	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.15	Budget
Education Facilities	2.0(P)	2.0(P)	2.0(P)	2.0(U)	Compact/ Donors/ Budget						
Maintenance		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Budget
Health Facilities	1.5(P)	1.5(P)	0.50(P)								Compact
Maintenance		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Budget
New Prison		1.0(U)	1.5(U)								Private Investor
Building Code		0.05									Budget
TOTAL	4.3	7.4	6.1	3.2	5.8	5.8	6.3	6.3	6.3	7.0	

NOTE: P denotes a prioritized EDP project; U denotes an unprioritized EDP Project.

6.26 CONCLUSION

Apart from the CIP projects and prioritized EDP projects which have a confirmed funding source in Compact monies, other proposed projects are unfunded. Table 6.30 below shows the break-up of funding required.

Table 6.30: Required Funding for all Identified Infrastructure Projects - (\$ millions)

Program/Project	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
Ongoing CIP Funded	9.6	5.0									14.6
Prioritized EDP Projects Compact Funded	15.6	12.3	19.0	0	2.5	2.5					51.9
Unprioritized EDP Projects Unfunded	4.0	15.6	14.9	10.3	4.5	2.0	5.0	5.0	5.0	5.0	71.8
PNCC Projects funded REA Loan	16.1	9.8	5.6	3.8	4.7						39.0
Other Projects Unfunded	8.3	16.3	31.1	34.3	14.2	6.6	4.0	1.5			117.3
Additional Maintenance	3.2	3.5	4.8	6.0	6.7	6.6	7.6	8.1	9.4	9.0	64.9
TOTAL	56.8	6.25	75.4	54.4	32.6	17.7	16.6	14.6	14.4	14.0	389.5

Table 6.1A CAPITAL IMPROVEMENTS PROGRAM (CIP) 1994 - 2000

Project title & number	Funds available \$m	Addi-tional funds re-quired \$m	FY 94 expend. \$m	FY 95 expend. \$m	FY 96 expend. \$m	FY 97 expend. \$m	FY 98 expend. \$m	FY 99 expend. \$m	FY 2000 expend. \$m	Show Com \$m
A. on going Proj. Rural Water T.209	3.374	0	3.374	0	0	0	0	0	0	0
Koror Sewage Plant T.232	3	3.8	3	0	0	0	0	0	0	3
Koror Waste Water Improvement T.224										
i. Satellite Sewer Extension	1.3	0	0	.7	.6	0	0	0	0	0
ii. Ngesaol Sewer System	1.2	0	0	.6	.6	0	0	0	0	0
Koror Wastewater Deficiencies T.225										
K-B Bridge Repair T.226	.517	.517	0	0	0	0	0	0	0	0
Koror - Airai Water T.231	2.030	0	2.030	0	0	0	0	0	0	0
Koror Wastewater Pump Upgrade T.333	.5	.5	0	0	0	0	0	0	0	0
Koror Electric Improvement T.230										
Babeldaob & Outer Island School Rehabilitation Center T.246	.483	.483	0	0	0	0	0	0	0	0
not specified by EDP	1.452	1.452	0	0	0	0	0	0	0	0
0										
Koror Jail Renovation T.228	.655	.655	0	0	0	0	0	0	0	0
Palau Classroom Project T.229	.2	0	.2	0	0	0	0	0	0	0
Koror School Roofing										
Palau Airport Repair 90% Funded by FAA T.229	.1	0	.1	0	0	0	0	0	0	0
Malakal & M- Dock Sewer	.87	.87	0	0	0	0	0	0	0	0
Total Available	\$14.631m									

Table 6.1B CAPITAL IMPROVEMENTS PROGRAM (CIP) 1994 - 2000

B. Prioritised Projects	Funds available \$m	Additional funds required \$m	FY 94 expend. \$m	FY 95 expend. \$m	FY 96 expend. \$m	FY 97 expend. \$m	FY 98 expend. \$m	FY 99 expend. \$m	FY 2000 expend. \$m	Shortfall/Comment \$m
1. Koror Sewage Improvement	0	2.5	0	1.25	1.25	0	0	0	0	See 6.2.1 (ii)
2. Palau National Water Improvement	0	5	0	1.6	1.6	1.6	0	0	0	See 6.2.1 (ii)
3. National Road Project	0	7.885	0	2.628	2.628	0	0	0	0	see comments 6.2.1 (ii)
4. Palau Power Plants Rehabilitation	0	8.5	0	4.25	4.25	0	0	0	0	see comments 6.2.1 (ii)
5. Palau Gymnasium & Sports Facility	0	3.5	0	1.75	1.75	0	0	0	0	see comments 6.2.1 (ii)
6. New Airport Terminal	0	6.0	0	3.0	3.0	0	0	0	0	see comments 6.2.1 (ii)
7. Palau National Education Facilities	0	6.0	0	2.0	2.0	0	0	0	0	see comments 6.2.1 (ii)
8. National Health Facilities	0	3.5	0	1.16	1.16	1.16	0	0	0	see comments 6.2.1 (ii)
9. State Projects	0	4.0	0	2.0	2.0	0	0	0	0	See comments 6.3
10. Palau National Capital Construction	5.0	0	0	1.0	1.0	2.0	2.0			see comments 6.2.1 (ii)
TOTAL										

Table 6.1C CAPITAL IMPROVEMENTS PROGRAM (CIP) 1994 - 2000

C. Unprioritised Projects	Funds available \$m	Addtional funds required \$m	FY 94 expend. \$m	FY 95 expend. \$m	FY 96 expend. \$m	FY 97 expend. \$m	FY 98 expend. \$m	FY 99 expend. \$m	FY 2000 expend. \$m	Shortt numer
1. School Rehabilitation & Construction	0	1.45	0	0	(ESD)	0	0	0	0	0
2. Intra-Babeldaob Roads Project	0	7.7	0	0	0	3.85	3.85	0	0	0
3. Outer Island Electric Power	0	3.6	0	0	1.8 (ESD)	1.8	0	0	0	0
4. Koror-Airai Water Systems	0	3.75	0	0	0	1.875 (ESD)	1.875	0	0	0
5. Babeldaob Electric Power Project	0	9.95	0	0	3.31 (ESD)	3.31	3.31	0	0	0
6. Palau National Capital Phase II	0	12.5	0	0	0	0	4.16	4.16	4.16	comm 6.2.1
7. Palau Museum & Library	0	2.7	0	0	1.35 (ESD)	1.35	0	0	0	0
8. N.W Palau Prison	0	2.5	0	0	0	0	1.25 (ESD)	1.25	0	comm 6.2.1
9. Supreme Court	0	1.4	0	0	0	0	0	.7 (ESD)	.7	
10. Lubeddaob & Outer Islands Police Substations	0	.9	0	0	0	0.45 (ESD)	0.45	0	0	
11. Ship Purchase	0	1.5			0	0	0	0	0	comm 6.2.1
12. New Palau High Sch.	0	12.5	0	0	0	0	4.166 (ESD)	4.166	4.166	
13. Palau Senior Citizen Center	0	1.5	0	0	0	0	0	0	0	comm 6.2.1
14. Ministry of Administration Cent.	0	2.5	0	0	0	1.25 (ESD)	1.25	0	0	comm 6.2.1
15. Relocation & Agriculture Station	0	.6	0	0	0	0	3 (ESD)	3	0	comm 6.2.1
16. New Office for Bureau of Natural Resources	0	.2	0	0	0	0	.1 (ESD)	.1	0	comm 6.2.1
TOTAL	62.25m									
Total (Prioritized & Unprioritized Projects	117.135 million									

TABLE 6.2 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, In 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
I. KOROR STATE																											
1. Ko'oi Road Maintenance	6,385																										6,385
2. Asphalt Secondary Road Maintenance	3,667																										3,667
3. Storm Drain Maintenance	0.120																										0.120
4. Side Walk Maintenance	0.400																										0.400
5. Malakal Seaport Maintenance	20.00																										20.000
6. Marina Facilities Maintenance	30.00																										30.000
7. Buoys Maintenance	0.100																										0.100
8. Dump Site/Improvement Maintenance		0.002																									0.002
9. Sports Complex Maintenance		0.385																									0.385
10. Cultural Center Maintenance		0.334																									0.334
11. Preserve Historical Site Maintenance		0.500																									0.500
12. T-Dock Maintenance		0.010																									0.010
SUBTOTAL KOROR	10,882	0.000	20.00	30.01	1,239	0.018	0.30	0.033	0.080	0.083	63,727																
Capital	0.000	0.000	20.00	30.00	1,219	0.000	62,101																				
Maintenance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1,626			

TABLE 6.3 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, In 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
II. NGERCHELONG STATE																											
1. Access Road Maintenance	3.000		0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010		
2. Power System Maintenance	0.035		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
3. Health Dispensary Maintenance	0.030		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
4. Waste Disposal System Maintenance		0.200																									
5. Water System Maintenance	3.000		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	
6. Marina Facilities Maintenance	0.150				0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	
7. Public Transportation Maintenance	0.500		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	
8. Sea Port Maintenance	5.000		0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	
9. Farming Maintenance	0.100																										
10. Fishing Maintenance	0.100		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
11. Historical Site Maintenance	0.075		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
12. Preservation Maintenance	0.030																										
SUBTOTAL NGERCHELONG	3.335	0.040	3.200	0.170	0.502	5.040	0.017	0.040	0.017	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	
Capital Maintenance	3.335	0.035	3.200	0.150	0.500	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Maintenance	0.000	0.005	0.000	0.020	0.017	0.040	0.017	0.040	0.017	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	0.027	0.040	

TABLE 6.4 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL	
III. NGARAARD STATE																												
1. Road Maintenance	1,500				0.010		0.010				0.010																1,50	
2. Rock Crusher Maintenance	0.300				0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.30	
3. Water System Maintenance	*				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.06	
4. Power System Maintenance	*				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.13	
5. Sewer/Sepic Maintenance	0.010				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.00	
6. Agriculture Maintenance					0.250																							0.25
7. Marine Resources Maintenance					0.030																							0.00
8. Dock Facilities Maintenance																												0.00
9. Tourism Maintenance																												0.00
10. Channel Improvements Maintenance																												0.00
11. Specialized Instruction Maintenance																												0.00
12. General Commerce Maintenance																												0.00
13. Industry Maintenance																												0.00
14. Public Facilities Maintenance																												0.00
15. Solid Waste Management Maintenance																												0.00
SUBTOTAL NGARAARD	1.82	0.05	0.50	0.29	0.36	1.51	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.10		
Capital Maintenance	1.80	0.05	0.47	0.28	0.32	1.50	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.29		
Total Maintenance	6.02	0.00	0.03	0.01	0.03	0.01	0.04	0.01	0.05	0.05	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.87		

* On Going Project

TABLE 6.5 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
(Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1989	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
IV. NGARDMAU STATE																											
1. Water System Maintenance	1,500																										
2. Sewer/Septic System Maintenance	0,800																										
3. Dispensary Maintenance						0,001		0,001																			
4. State Road Maintenance																											
5. Power Maintenance																											
6. Old Age Center Maintenance																											
7. Farming Equipment Maintenance																											
8. State Park Maintenance																											
9. Ball Park Maintenance																											
10. Youth Center Maintenance																											
11. Hilltop Cottages Maintenance																											
12. Government Complex Maintenance																											
SUBTOTAL NGARDMAU	1,50	0.88	3,00	0.06	0.07	1.66	0.03	0.04	0.005																		
Capital	1,50	0.88	3,00	0.06	0.07	1.66	0.03	0.04	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	
Maintenance	0,00	0,00	3,00	0,06	0,06	1,65	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

* POWER: National Government is responsible to spread EPSICO Power throughout Babedach State.

TABLE 6.6 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
(Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			
V. MELEKEOK STATE																													
1. Capital of Palau Maintenance																													
2. State Master Plan Maintenance																													
3. Wastewater System Maintenance	2,500																												
4. Water Treatment Facility Maintenance	0,050																												
5. Market Building Maintenance	0,050																												
SUBTOTAL MELEKEOK	2,600	0.000	0.000	0.004	0.010	0.004	0.002	0.002																					
Capital	2,600	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,002	0,002	
Maintenance	0,000	0,000	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,010	0,004	0,002	0,002

* Melekeok State Master Plan, prepared by Kawasho Corporation. Most State Infrastructure Projects are in the Melekeok State Master Plan.

TABLE 6.7 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1985	1986	1987	1988	1989	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
VI. NGATPANG STATE																											
1. New Airport Maintenance	102.00																										102,000
2. Hotel Development Maintenance						0.200	0.200				0.200		0.200										0.200		0.200		2,000
3. Water/Power System Maintenance	2,500																										2,500
4. Connecting Road Maintenance	3,000																										3,000
5. Telephone System Maintenance																											0.110
6. Road System Maintenance	2,500																										2,500
7. Sea Port Maintenance																											0.110
SUBTOTAL NGATPANG	110.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	112,330		
Capital Maintenance	110.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	110,000		
VI. NGATPANG STATE	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2,330		

TABLE 6.8 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1985	1986	1987	1988	1989	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
XII. AIRAI STATE																											
1. Sports Complex Maintenance	3,200						0.020				0.020			0.020													3,200
2. Road Maintenance	1,500							0.010			0.010			0.010													1,500
3. Power Line Pole Maintenance																											0.120
4. Water System Maintenance	1,500																										0.200
5. Sewer System Maintenance	5,000																										5,000
6. Solid Waste Maintenance	3,500																										3,500
SUBTOTAL AIRAI	6,400	8,500	0.000	0.042	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	15,624		
Capital Maintenance	6,400	8,500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14,900		
XII. AIRAI STATE	0.000	0.000	0.000	0.042	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.010	0.052	0.0724		

TABLE 6.9 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
XII. PELELIU STATE																										
1. Sewage System	3,670																									
Maintenance																										
2. Airport Water Reservoir	2,500																									
Maintenance																										
3. Power System	0,700																									
Maintenance																										
4. Road Maintenance	1,500																									
Maintenance																										
SubTOTAL PELELIU	3,670	4,700	0,000	0,000	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	
Capital	3,670	4,700	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
Maintenance	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	

TABLE 6.10 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
X. ANGAUR STATE																										
1. Power System	0,200																									
Maintenance																										
2. Fuel Storage Tank	0,010																									
Maintenance																										
3. Road/Solid Waste Plant	0,200																									
Maintenance																										
4. Transportation (Runway Markets)	0,020																									
Maintenance																										
5. Slipway Improvements	0,050																									
Maintenance																										
6. Dock Cranes	0,010																									
Maintenance																										
7. Agriculture	0,075																									
Maintenance																										
8. Building	0,050																									
Maintenance																										
9. Harbour Development Study	0,050																									
Maintenance																										
10. Harbour Improvement	2,000																									
Maintenance																										
SubTOTAL ANGAUR	0,585	2,100	0,039	0,022	0,018	0,022	0,022	0,022	0,022	0,022	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	0,010	
Capital	0,565	2,100	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
Maintenance	0,000	0,000	0,006	0,022	0,018	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,022	0,028	0,028	0,028	0,028	0,028	0,028	0,028	0,028	

TABLE 6.11 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1990 prices)

• On Going Project

TABLE 6.12 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, In 1994 prices)

TABLE 6.13 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
(Million Dollars, In 1994 prices)

PROJECT	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
XII. NGAREMILENGU STATE																										
1. Road Maintenance	3,000					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010
2. Historical Site Maintenance	0.500					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010
3. Water Maintenance	2,000					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010
4. Hydroelectricity Maintenance	2,000					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010
5. Sports Arena Maintenance	5,500					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010
6. Colleges						0.500		0.030		0.030		0.030		0.030		0.030		0.030		0.030		0.030		0.030		0.030
SUBTOTAL NGAREMILENGU	13,000	0.000	0.000	0.000	0.000	0.520	0.050	0.020	0.050	0.020	0.060															
Capital	13,000	0.000	0.000	0.000	0.000	0.500	0.050	0.020	0.050	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	
Maintenance	0.000	0.000	0.000	0.000	0.000	0.020	0.050	0.020	0.050	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	0.020	0.060	

TABLE 6.14 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
(Million Dollars, In 1994 prices)

PROJECT	1985	1986	1987	1988	1989	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
XIII. NGCHEESAR STATE																											
1. Road Maintenance	2,500					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010	
2. Power Maintenance																											
3. Water System Maintenance	1,000					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010	
4. Commercial Dock Maintenance	1,500					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010	
5. Bay/Typhoon Shelter Maintenance	0.200					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010	
6. Rock Quarry Maintenance	0.150					0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010	
7. Health Facilities Maintenance	0.030					0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001		0.001	
8. School Facilities Maintenance	0.100					0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005	
9. Public Facilities Maintenance	0.075					0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005	
10. Cold Storage Maintenance	0.030					0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002	
SUBTOTAL NGCHEESAR	3,855	1,730	0.001	0.030	0.023	0.040																					
Capital	3,855	1,730	0.000	0.030	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040			
Maintenance	0.000	0.000	0.001	0.030	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040	0.023	0.040			

TABLE 6.15 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL	
XIV. AIMELIK STATE																												
1. Water System (Elechu)	0.500				0.010		0.010				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.500	
Maintenance																												0.120
2. Road (Inail - Ngacerat)	0.200				0.010		0.010				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.200	
Maintenance																												0.120
3. Water System (Centralized)	1.500				0.010		0.010				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		1.500	
Maintenance																												0.110
4. Road (Electul - Ngachamlangai)	1.000				0.010		0.010				0.010		0.010		0.010		0.010		0.010		0.010		0.010		0.010		1.000	
Maintenance																												0.110
5. Agriculture/Agriculture	0.075				0.005		0.005				0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.005		0.075	
Maintenance																												0.060
6. Environment/Conservation	0.050				0.002		0.002				0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.050	
Maintenance																												0.024
7. Tourism Development		0.030																										0.030
Maintenance																												0.022
8. Fishing Port/Small Commercial						1.500																					1.500	
Maintenance																												0.100
9. Land Use		0.050																										0.050
Maintenance																												0.060
SUBTOTAL AIMELIK	0.875	2.500	0.030	1.532	0.010	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	5.631		
Capital	0.875	2.500	0.030	1.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.905		
Maintenance		0.000	0.000	0.032	0.010	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.044	0.020	0.726		

TABLE 8.16 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, in 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
XV. SONSOROL STATE																											
1. Dock Maintenance	2.500																										
2. Power Maintenance	0.230					0.010		0.010			0.010																
3. Water Maintenance	0.100					0.005		0.005			0.005																
4. Swamp Maintenance	0.075					0.002		0.002			0.002																
5. Sewer/Sewic Maintenance	0.100					0.005		0.005			0.005																
6. Education Facilities Maintenance	0.030					0.002		0.002			0.002																
7. Dispensory Facilities Maintenance	0.030					0.002		0.002			0.002																
8. Communication Maintenance	0.050					0.002		0.002			0.002																
9. Solid Waste Maintenance	0.020					0.002		0.002			0.002																
10. Government Facilities Maintenance	0.030					0.002		0.002			0.002																
11. Multi-Purpose Building Maintenance	0.030					0.002		0.002			0.002																
12. Road Maintenance						0.002		0.002			0.002																
13. Wildlife Preservation Maintenance						0.005		0.005			0.005																
14. Eco-Tourism Maintenance						0.002		0.002			0.002																
15. Airport Maintenance						0.050		0.005			0.005																
SUBTOTAL SONSOROL	2.970	0.205	0.032	1.506	0.023	0.075	0.028	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	0.033	0.025	
Capital Maintenance	2.970	0.205	0.030	1.575	0.020	0.050	0.020	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	0.030	0.020	

TABLE 6.17 SUMMARY OF INFRASTRUCTURE PROJECT & PROGRAMS PROPOSED BY STATES
 (Million Dollars, In 1994 prices)

PROJECT	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
XVI. KAYANGEL STATE																											
1. Water System Maintenance	0.075																										0.075
2. Sewer System Maintenance	0.075																										0.075
3. Power System Maintenance	0.075																										0.075
4. Dispensary Maintenance	0.030																										0.030
5. Educational Facilities Maintenance	0.075																										0.024
6. State Office Complex Maintenance	0.050																										0.060
7. State Dock Expansion Maintenance	0.500																										0.500
8. Channel Marker Maintenance	1.500																										1.500
9. Small Airport Maintenance	2.000																										0.100
10. State Boat Maintenance																											2.000
11. Road Maintenance	0.500																										0.100
12. Causeway Maintenance																											3.500
13. Agriculture Farm Maintenance	0.050																										0.070
14. Marine Resource Maintenance	0.020																										0.020
15. Tourism Maintenance																											0.024
SUBTOTAL KAYANGEL Capital	0.345	0.625	1.516	0.016	0.326	0.036	3.546	0.036	0.046	0.036	0.056	0.036	0.056	0.036	0.056	0.036	0.056	0.036	0.056	0.036	0.056	0.036	0.056	0.036	0.056	0.036	9.709
Maintenance	0.345	0.625	1.500	0.000	0.300	0.000	3.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.70
	0.000	0.000	0.001	0.016	0.016	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.939

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 6.3.1 Infrastructure Institutions <i>Provide on a sustainable basis, the required infrastructure funding and services in an economically efficient manner and of a high standard throughout Palau to improve equitable access and underpin the expansion of economic activity</i>						
OUTPUTS 6.3.2.1 Bureau of Public Works strengthened	Additional resources to assist with contract management providing services to support CIP	Budget appropriations	Sufficient capital works responsibilities exist in Palau to warrant additional resources.	recurrent		
6.3.2.2 Regional grants process established	Capital and recurrent grants disbursed to States through agreed formulae for grants and loans where applicable	Budget documents.	Funding model as outlined in PNMDP approved by leadership	recurrent		
STRATEGY 6.5.1 Infrastructure Performance <i>Improve the performance of the Government's corporatized and service entities by creating a more commercial and competitive environment, formalizing the relationship with Government, clarifying objectives, improving pricing structures and performance measurement, and establishing a prices regulation function</i>						
6.5.2.1 Corporatized criteria established and legislation amended	Corporatized entities formed with contract between the Government and Board of the entity, including performance targets, funding arrangements, capital contributions, dividend policy, market structure and reporting requirements.	Contracts for corporatized entities		recurrent	self funding	
6.5.2.2 Price regulation established and legislation implemented	Ministry of Administration monitoring and regulating pricing structures under legislation, reporting to the OEK	Legislation.		recurrent		
6.5.2.3 Palau National Communications Corporation (PNCC) structural arrangements improved	PNCC paying all Government taxes and charges, operating without preferential treatment because of Government ownership. Performance monitored and evaluated using financial performance indicators and industry benchmarks	PNCC annual report. Monitoring records		recurrent		
6.5.2.4 Public Utilities Corporation (PUC) structural arrangements improved	PUC paying all Government taxes and charges, operating without preferential treatment because of Government ownership. Performance monitored and evaluated using financial performance indicators and industry benchmarks	PUC annual report. Monitoring records				

CHAPTER 6: INFRASTRUCTURE LOGFRAME

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 6.7.1 Public Sector Investment Program <i>Enhance the performance of public sector investment programs and projects by improved evaluation, prioritization, and monitoring techniques incorporated in a comprehensive public sector investment program process</i>						
OUTPUT 6.7.2.1 Public Sector Investment Program process established	Ministry of Administration operating a rigorous PSIP with established systems and procedures meeting international standards	PSIP		recurrent		
STRATEGY 6.9.1 Road Transportation <i>Provide a fully coordinated effort to ensure the planning, design and construction of the Compact primary road on Babeldaob progresses urgently and maximizes the economic and social benefits to Palau; repair the existing paved roads and streets in the Koror-Aklai area; improve other access roads on Babeldaob, Peleliu and Anguar; and improve the management technical capability and resources of the Bureau of Public Works</i>						
OUTPUTS 6.9.2.1 Compact Road planning coordinated and maintenance funded				recurrent	recurrent maintenance fund	
6.9.2.2 National road building and maintenance program established				10	7,900 Compact	
6.9.2.3 Access roads constructed				6	18,000	
6.9.2.4 Bureau of Public Works strengthened			Ministry is established as recommended	recurrent	500	
STRATEGY 6.11.1 Sea Transportation <i>Establish, maintain and manage adequate port and marine facilities to meet the requirements for international shipping, internal transport, tourism and development of marine resources</i>						
OUTPUTS 6.11.2.1 Malakal Harbor		Master Plan (\$250,000) Port development (\$20 million)		1997 4	250 20,000	concessional loans
6.11.2.2 Gamiangie Bay facilities improved for commercial bulk		Development Study (\$150,000) Port development (\$15 million) Maintenance		1998 2 recurrent	150 15,000 150	
6.11.2.3 Ibedu's Pier (T Dock) redeveloped		Pier redevelopment (\$10 million)	Private investors can be found to fund the redevelopment. Local revenues can be raised to partially fund redevelopment			
6.11.2.5 Dry dock feasibility study conducted		Study (\$15,000) Dock construction (\$3.5 million)		15 3,500		Japanese funding possible
6.11.2.5 Docking facilities, harbor and channel dredging at Peleliu upgraded		Harbor upgrade		2	7,000	Japanese funding possible
6.11.2.6 Harbor at Anguar repaired		Harbor repairs	Private sector takes up maintenance responsibility	1996	1,200	Possible FEMA matching funds

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
6.11.2.7 Ship to shore transport system at Sonsoral and Hatohobel established		Ramps, shelters, vessels	EDP unprioritized funds allocated	1998	2,500	
6.11.2.8 Small boat navigational aids upgraded and expanded		Channel markers as per survey maps		1996	150	
6.11.2.9 Inter-island vessel service established for Southwest Islands		Vessel & contract for operation	Contract for operation can be undertaken by private sector. EDP unprioritized funds allocated	1999	1,500	
6.11.2.10 Division of Transport and Communication strengthened	Legislation	Government nominates port and marine facilities for which it will assume national responsibility		recurrent	400	
STRATEGY						
6.13.2 Air Transportation <i>Provide an internationally acceptable and economically efficient airport infrastructure system to cope with existing and projected demands...and enhance competition by encouraging other carriers to establish direct air services to Palau.</i>						
Palau. OUTPUTS						
6.13.2.1 Palau International Airport upgraded				3	recurrent (see page 6-48 &)	
6.13.2.2 Domestic airport terminals constructed				1	recurrent (see page 6-48 &)	
6.13.2.3 Feasibility study for international airport conducted					recurrent (see page 6-48 &)	
6.13.2.4 Civil aviation code drafted						40
6.13.2.5 Ownership of Palau International Airport confirmed						
6.13.2.6 Division of Transport and Communication strengthened				recurrent	25	
STRATEGY						
6.15.1 Electric Power <i>Provide electrical power to all communities in Palau to an adequate standard and at efficient prices which will entail allocation of additional revenues to overhaul existing units and expand capacity ; improve management arrangements for PUC to enhance its economic efficiency</i>						
OUTPUTS						
6.15.2.2 Almetlik Power Station upgraded				10	recurrent & CIP	
6.15.2.3 Malakal Power Station upgraded				10	CIP, Internal revenues	Donor
6.15.2.4 Koror-Airai Power Grid upgraded				1		5,300
6.15.2.5 Power grid on Bebeidaob expanded				10		9,950
6.15.2.6 Electricity consumption meters installed				2	120	
6.15.2.7 Outer island systems upgraded				2	2,800	

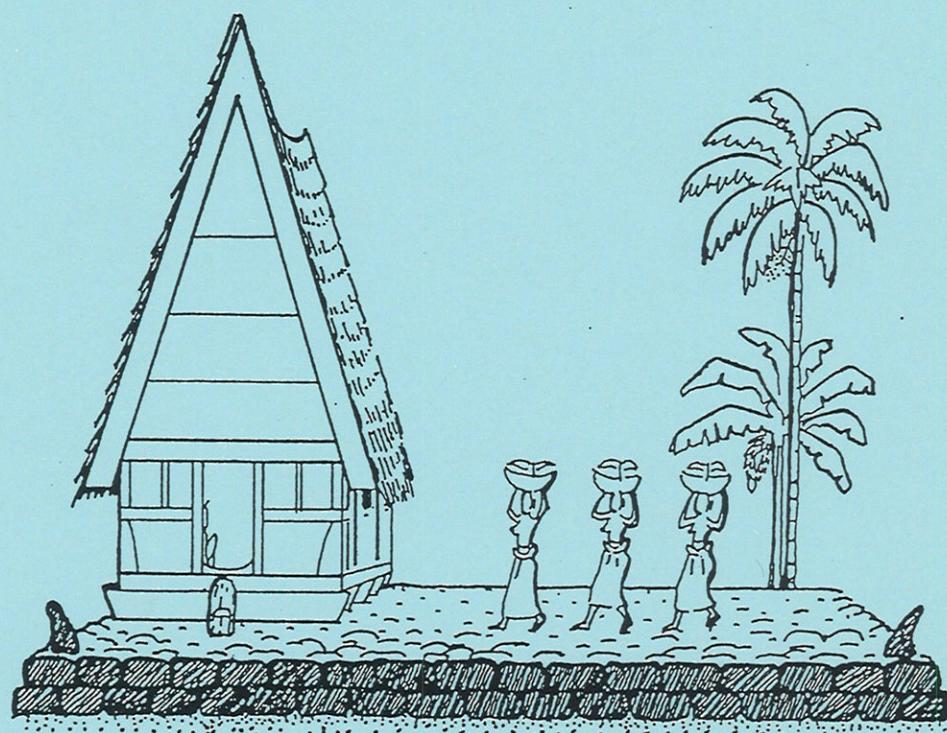
CHAPTER 8: INFRASTRUCTURE LOGFRAME

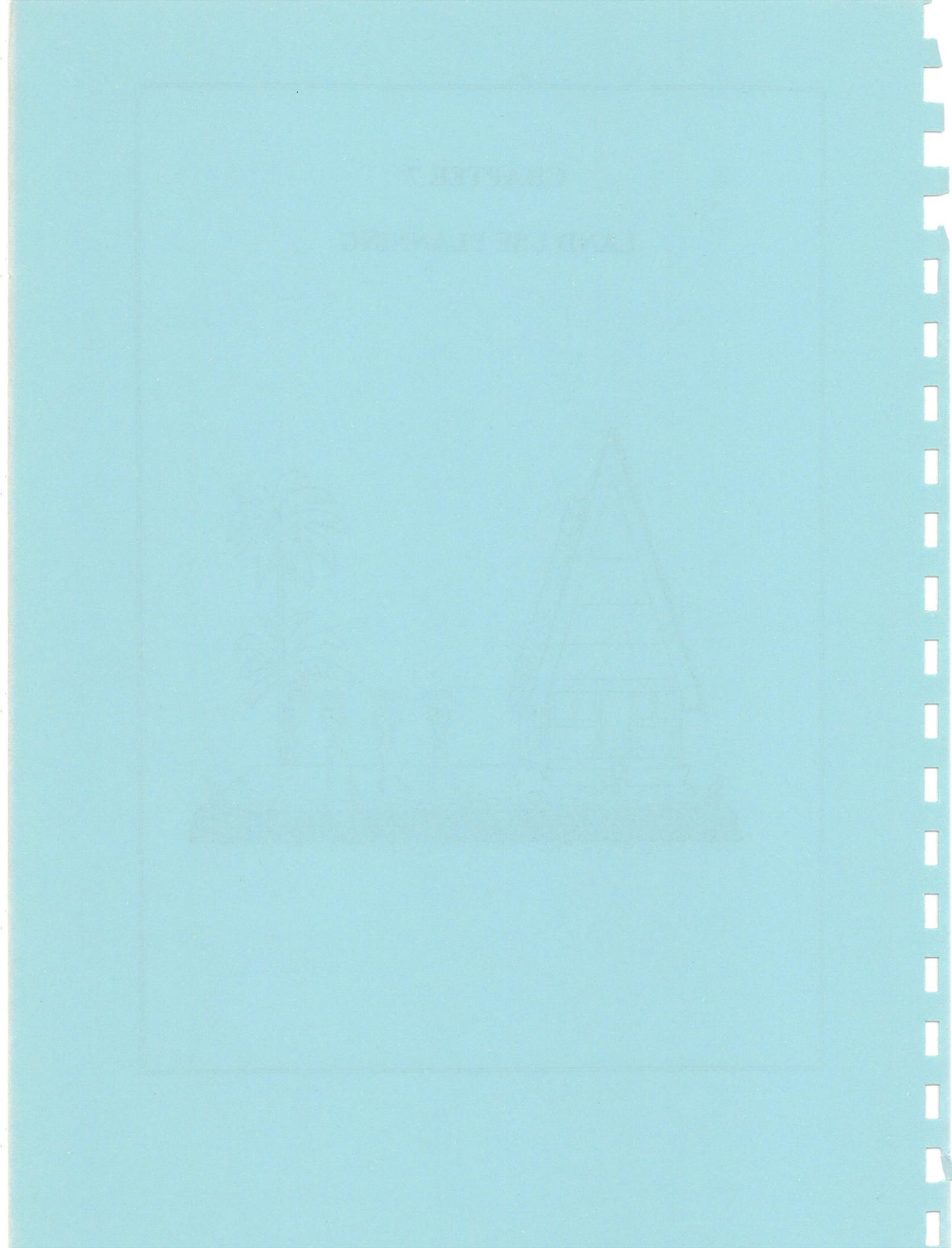
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 6.17.1 Water Supply <i>Provide a reliable safe water system to the vast majority of the country in a cost effective manner, and recover sufficient revenues to assist in demand management and generally meet funding requirements on a sustained basis</i>						
OUTPUTS 6.17.2.1 Hydraulic analysis and leak detection survey undertaken				1	75	
6.17.2.2 Water meters installed				1	65	
6.17.2.3 Public water systems improved				4	5,000 CIP	3,750
6.17.2.4 Additional operational funds appropriated				recurrent	350 internal revenue	
6.17.2.5 Additional water source for Koror-Airai identified		Design (\$250,000) Construction (\$15million)		3	250	15,000
STRATEGY 6.19.1 Wastewater <i>Expand the existing Koror centralized wastewater collection system to cover unsewered areas, improve quality of discharged water, extend rural sanitation program, improve management & pricing structures to ensure efficiency in service delivery and consumer demands</i>						
OUTPUTS 6.19.2.1 Koror sewer collection system expanded				2	2700 CIP	3,850
6.19.2.2 Workshop established				1	250	
6.19.2.3 Sewage pump stations upgraded				5	150 per year	
6.19.2.4 Rural sanitation program expanded				5	150 per year	
STRATEGY 6.21.1 Solid Waste <i>Provide adequate facilities for the disposal of solid waste, improve the management and operation of facilities, increase community involvement and awareness, and increase the commercialization aspects of waste management including introduction of user fees</i>						
OUTPUTS 6.21.2.1 New public dump site established and collection equipment purchased				2		1,500
6.21.2.2 Feasibility study of utilizing private contractors conducted				1	300	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 6.23.1 Telecommunications Provide a high quality telecommunications network throughout Palau in a cost effective manner that provides an adequate return to Government and that is competitively priced and oriented towards full customer service						
OUTPUTS 6.23.2.1 Central office equipment installed			REA Loan and retained earnings fund installation	5		7,218
6.23.2.2 Electronic equipment installed			REA Loan and retained earnings fund installation	5		9,146
6.23.2.3 Outside plant installed			REA Loan and retained earnings fund installation	5		11.67
6.23.2.4 Station equipment installed			REA Loan and retained earnings fund installation	5		1,237
6.23.2.5 Land secured and buildings developed			REA Loan and retained earnings fund installation	3		4,608
6.23.2.6 Support systems established and equipment purchased			REA Loan and retained earnings fund installation	5		1,427
6.23.2.7 Engineering funds allocated			REA Loan and retained earnings fund installation	5		6,153
STRATEGY 6.25.1 Public Buildings and Facilities Provide sufficient resources for adequate maintenance of existing buildings, allocation sufficient funds for the improvement of facilities which have been identified as a high priority, formulate a uniform building code, and resolve National-State legal ownership disputes						
OUTPUTS 6.25.2.1 Capital relocation evaluated and clarified				8		12,500
6.25.2.2 Maintenance funds appropriated				recurrent	30	
6.25.2.3 Palau National Gymnasium and sport facilities				3	3,500	
6.25.2.4 Palau National education facilities renovated, constructed and equipment replaced				10	8,000	14,000
6.25.2.5 National health facilities improved				3	3,500	
6.25.2.6 New prison facility constructed				2		2,500
6.25.2.7 Uniform building and zoning code developed				1	50	

CHAPTER 7

LAND USE PLANNING





CHAPTER 7

LAND USE PLANNING

Clear property rights are a fundamental requirement for a modern capitalist economy. If Palau seeks to pursue a path towards such an economy, issues related to land tenure and effective land use planning will need to be resolved as expeditiously as possible. This chapter examines a number of essential tasks that need to be implemented by the relevant Palauan authorities to facilitate and hasten the resolution of these land-related issues.

7.1 INTRODUCTION

"Today only some 25 of the 185 nations of the world have made the jump to a developed market economy. I predict that in the next 150 years the countries in Latin America and elsewhere joining these 25 will be those that spend their energies ensuring that property rights are widespread and protected by law, rather than those that continue to focus on macro economic policy... Modern market economies generate growth because widespread, formal property rights permit massive, low cost exchange, thus fostering specialization and greater productivity. Without formal property rights, a modern market economy cannot exist... When people have formalized titles they feel that their property is under their own legal control and they therefore have the incentive to invest their intelligence and work in improving it... When poor people have confidence that land is formally theirs, their respect for other people's land increases too... In the United States up to 70 per cent of the credit that new business receive comes from using formal titles as collateral for mortgages." (de Soto, Economist, 1993)

A major constraint on economic development in Palau is the uncertainty over property rights and, particularly, over title and rights to land. This uncertainty is a serious barrier to investment in all sectors of the economy. It is a barrier to indigenous Palauan investment as well as foreign investment. There is also some evidence to suggest that it contributes to the reasons for Palauans seeking offshore employment and business opportunities. The lack of property rights over land is also likely to result in higher levels of environmental degradation, given current demands. The combination of large difficulties and costs in acquiring land for business operations and concentration of land approvals in the hands of a relatively small number of influential Palauans increases the scope for inappropriate use of resources and the attraction of less desirable foreign business interests. An increased certainty of land ownership under law by individuals and/or clans will tend to disperse influence and contribute to orderly private sector growth.

The importance of land reform to economic growth should not be underestimated. Economic development has extreme difficulty in proceeding without a clear and enforceable land tenure law. Clear land title and a formal market in land trading provides a number of important underpinning's for the functioning of a dynamic market economy. This is so because:

- land is a primary factor of production;
- land is the predominant form of individual wealth in all market economies that have developed economically;
- land provides most of the security for credit extension;
- land provides a powerful incentive to accumulate wealth - the cornerstone of productivity and investment;
- land provides security over future consumption (wealth accumulation) and reduces the dependency on cultural mores which are likely to encourage current consumption;
- land ownership encourages respect for other people's private property rights; and
- land ownership binds the owners into a 'social contract' with a government in a way that serves communal needs.

There is no doubt, however that the assignment and development of individual private property rights, particularly land rights, will erode Palauan village culture permanently. But it is also true that few countries have developed economically without the clear assignment of individual property rights. The socialist countries of Eastern Europe have now learnt this lesson. Capitalist economic development mobilizes all factors of production, and dissolves those cultures which depend on rigidity of authority, communal land ownership and inherited status.

There are many problems with the land tenure system in Palau which must be addressed as an urgent priority if economic growth and the consequent increase in living standards are to be a realistic objective of Palau.

7.2 SITUATION ASSESSMENT

7.2.1 LAND OWNERSHIP

The land tenure system in Palau is complex and deeply rooted in the social structure. About 70 percent of the land area has been declared as 'public land'. Current policy seeks to return those public lands which were taken by force, coercion, fraud or without adequate compensation, to their rightful owners. Remaining public land is being transferred to State Public Land Authorities.

The Palau Lands Registration Act (Title 35) introduced a systematic process for determining ownership and registration of all land in Palau. Because of the number of opportunities for litigation arising from the range of customary laws and more recent statutes that impact on the resolution of land ownership disputes, progress has been slow. This presents difficulties for assembling land parcels suitable for development, particularly as tracts of land under individual ownership tend to be small (as little as 0.049 acres). A formal land registration process has been commenced in Palau and should be completed within 5-10 years.

Currently the National Government through the National Public Land Authority (PLA) is in the process of transferring all public land to State PLAs, usually after disputes have been settled. There have been cases where public lands have been transferred without title disputes having been settled. For example, public lands in Koror State have been transferred from PPLA to KSPLA and 6 states have received public lands through quit claims deeds. Palau is in the process of having its land surveyed and, once disputes are

settled, titles are granted in the form of individual, group or clan, home steading or State public land titles. Disputes are common and protracted. The Land Claims Hearing Office adjudicates disputes. In early 1994, only 10-15 per cent of claims had been settled and titles granted. It is estimated that the process will take another 10 years to complete under current policies and funding allocations.

Even after clan title is granted there are still individual-to-clan disputes and it is not clear what the State governments can do with public lands because there are vague public purpose criteria. That is, it is not clear whether the land can be used for economic purposes.

A home steading title allows the title holder to utilize the land for various purposes and there is the possibility that the title holder could be granted an individual title if the conditions are satisfied. To date nobody has been granted individual titles and few, if any, are satisfying the use conditions. No more home steading titles are being issued.

Private land can have a clan or individual title. It is uncommon for clans to assign individual ownership to someone from another clan. Individuals are constrained from selling land to outsiders because of the need to have clan approval for easements etc. The size of private holdings is small - both in number and plot size. In this sense, it would be prudent to seek clan approval before development of individual land. However, for this to occur, all senior members must approve the development.

7.2.2 STEPS IN OBTAINING TITLE

There are 7 steps in gaining a title to land:

- i) The piece of land has to be identified and a preliminary survey undertaken.
- ii) There is a preliminary inquiry at the State office.
- iii) A notice of a formal hearing is made.
- iv) The formal hearing takes place and evidence is given.
- v) The Land Claims Hearing Office (LCHO) makes a determination.
- vi) There is an appeal procedure through the Supreme Court.
- vii) Determination is altered or confirmed/rejected, in which case the Bureau of Lands and Survey does a formal survey and a cadastral plot and the LCHO issues a certificate of title.

Map 26 provides an example of indicative land ownership in the State of Ngiwal.

As of February 1994, 54 per cent of all land had reached step 1, but only 9 per cent had received a certificate of title. Consequently, there is considerable difficulty in acquiring access to land where title is clear and use unrestricted, even for Palauans in their own village.

Only citizens of Palau and corporations wholly owned by citizens of Palau may acquire title to land; however non-Palauans can lease land for up to 50 years. Under the Constitution, no taxes can be

imposed on land. National and State Governments are empowered to acquire property for public purposes, but only as a final resort and upon payment of due compensation. 'Eminent domain' has been used only once, for Airai International Airport, and the process was not completed.

7.2.3 FOREIGN ACCESS TO LAND

For foreigners, acquiring access to land with some certainty of conditions for business purposes is extremely difficult, costly and time consuming. Steps that need to be taken include:

- i) As foreigners cannot own land, contractual arrangements must be entered into with the title holders. If the land is individually owned and titled (which is only a small proportion), the investor can deal with the individual but this is not likely to be prudent as the land is likely to require access through clan land and, therefore, all senior members of the clan must agree. If the land is not titled, then the investor will have to await the seven step process outlined in 7.2.2. If the property is unregistered and its development is urgent, an option is to file a quiet title action in the court.
- ii) The investor will require separate business licenses from the Foreign Investment Board and State government.
- iii) The investor can enter into lease arrangements for 50 years, although there is the possibility for an extension to be gained for an additional 49 years.
- iv) For State owned land, an investor can deal directly with the State to acquire a lease. But this can only occur if the land has already been adjudicated. There is still much land that has not been adjudicated and, as such, has not been transferred to the States. A long-term lease agreement can proceed without legal problems if the site for development is not located on a public parcel under claim (that is, not all public lands are claimed for return to the so called original owners. State and National PLAs have legal authority for compulsory acquisition (eminent domain) but only as a final resort and upon payment of due compensation.

The Palauan investor would have to go through all the same processes with the only difference being that of ownership as opposed to a lease agreement.

The previously mentioned processes need to be reformed if the necessary level of private sector investment is to be realized and to allow efficient public sector investment. The difficulties that government authorities have had in acquiring the necessary easements, for instance to lay and maintain electricity and telecommunications lines, have resulted in the implementation of a general policy that prevents new services being provided until an easement statement is obtained.

7.2.4 LAND SUITABILITY

A simple assessment of land suitability - based on soils, physical features, vegetation, watershed delineation, and the distribution of historical sites - was undertaken in 1992. Most land in Palau is characterized by moderate to severe physical limitations that both affect land suitability for different uses, and require careful land management practices if sustainable development is to be achieved. Land suitability assessment applied to Babeldaob indicates a scattering of relatively small areas classified as

being for potential high intensity use. Map 25 provides an example of a land suitability map for Melekeok State.

7.2.5 LAND USE PLANNING

Power to regulate the use of land and the quality and type of structures placed on the land is contained in Title 31 of the Palau National Code. Palau and nine of the sixteen States are enabled to establish planning commissions. Divisions 3 and 4 of Title 31 enact Zoning and Subdivision Laws for Koror but reluctance to apply such legislation has resulted in the haphazard distribution of land use activity, amply illustrated in Malakal (see Map 14). Melekeok is the only State to have prepared a Master Plan in recent years, and that was motivated more by the prospect of relocating the national capital to that State than by the intent and purpose of Title 31 (see Map 24). The long term success of land use planning in other Pacific island jurisdictions has not been good. Some plans fail to be adopted after completion. Other plans are circumvented, ignored, or otherwise rendered impotent after adoption. This historic lack of success has often resulted from the rigidity of initial zoning decisions which were embraced for political, social, emotional, or personal reasons, and which ignore the dynamics of existing and potential future economic forces. As time passed, changing economic forces provided the political stimulus for disruptive "spot zoning". Therefore, the NMDP purposely makes no specific land use zoning suggestions for Palau, other than for the more urban states of Airai and Koror. It is the philosophy of this document that, at least during the initial stages of development, economic forces (as constrained by proper environmental laws, land suitability, building codes, infrastructure availability, and social concerns) should drive land use zoning, not the other way around.

7.3 LAND ISSUES

7.3.1 LAND AVAILABILITY

The process of adjudicating, determining and registering the ownership of all land parcels - whether public or private - has commenced. Progress has been slow, particularly in the case of returning portions of the public domain back to the rightful owners. This has been largely due to the number of opportunities for litigation arising from different interpretations of, or conflicts between, the range of customary laws and more recent statutes that impact on land ownership.

At the present rate of progress it seems unlikely that an effective land information system, based on registered land titles, could be in place before about 2005. This has obvious implications for land assembly for development and infrastructure projects, but it could be considered a necessary reflection of the importance Palauans attach to land tenure and inseparable questions of social structure.

However, there is an important difference between demure land title and de-facto land use opportunity. The productive use of borrowed land is a long-standing practice that still occurs today, the user having no rights or expectations in respect of land ownership or the outcomes of a land title dispute. While this form of use is normally applied to agricultural practices in rural Palau, it is not a practice which should be relied upon to support or stimulate long term investment, foreign or domestic.

The acquisition of land or property by the National or State Governments for ‘public use’ via eminent domain and the land acquisition procedures set out in Chapters 3 and 4 of Title 35 (Public Lands) can only be used as a last resort: “In acquiring real property the government will, to the greatest extent practicable, make every reasonable effort to acquire real property expeditiously through negotiation ____” (S 403). In practice, eminent domain has only been exercised on one occasion, in connection with Airai airport. On that occasion, the process was not completed and compensation payments remain held in trust until the list of recipients and their respective allocations are finalized. Even the granting of access rights to appropriate authorities for purposes of infrastructure development and repair must be negotiated with the rightful landowners, causing inconvenience to those affected by delays in infrastructure provision and/or maintenance.

Compensation is payable by Government to clan landowners when the power of eminent domain is executed. In such cases, compensation is based on land valuation. However, the last extensive valuation exercise in Palau was conducted in 1984 by Hawaii based valuers contracted by the Bureau of Lands and Surveys.

From the broader perspective of ‘national well-being’, therefore, issues of land ownership and public domain in Palau present major obstacles in moving towards economic development, and the construction and maintenance of public works infrastructure.

7.3.2 LAND USE MANAGEMENT

(a) Urban

As far as urban land use planning is concerned, Palau has evidently had some previous experience of the type of planning and regulation common to many parts of the inhabited world. That the legislation and its zoning provisions were effectively short-lived and not enforced are regrettable, as the inevitable outcome is the assortment of haphazard and often conflicting land uses prevailing on and around Malakal Island.

The underlying issue is related to land tenure. The difficulty of assembling land parcels suitable for development is compounded by a reluctance to impose restrictions on the location, bulk, height, plot ratio etc. of any development that might eventually arise. At the smaller scale, an individual landowner intent on developing a single family home site will not readily forego the opportunity because of non-residential zoning or be restricted in floor space or design by setback and other regulations.

(b) Rural

The principal issues in respect of rural Palau, and particularly in areas of natural and historical significance or environmental fragility, are somewhat different.

The various ecosystems in Palau are closely interrelated. The marine environment is particularly fragile and very sensitive to land use disturbances. Agriculture, as a land use activity, has an important role to play in maintaining not only the soil and other resources upon which it depends, but also in preserving waterways, mangroves and marine areas. Agricultural activities, if not carefully planned, may involve the cultivation of steep lands, land clearing, and soil erosion and run-off. With limited agricultural resources and an economy and society critically dependent upon marine and other natural assets, every effort must be made in Palau to prevent this happening.

A related issue is that at present no laws exist to control burning of lands in Palau. Burning to clear land for agriculture has been practiced for a long time. However, agricultural burning without adequate firebreaks, and burning for no apparent reason have left a substantial amount of land vulnerable to erosion.

Similarly, watershed management is a critical element of forest management in Palau. Watershed management is the utilization of techniques that keep the soil and nutrients on the hillsides where they sustain productive forests, and out of the streams, estuaries and reefs where excessive soil or sedimentation can become a damaging or killing element.

Ongoing and proposed construction and industrial activities, including buildings, hotels, other structures, roads, and industrial construction, may pose long-term threats to the environment of Palau if they are not well planned. Even small-scale developments have the potential to degrade or destroy the fragile environment that may well have been the motivation for such development in the first place. Cleared campsites/picnic grounds, diving spots, trails and the like, need to be carefully planned and managed to minimize adverse impacts.

Unfortunately, the level of sophistication presently applied to land use planning and management in Palau is seriously inadequate in terms of pro-active policy; only EQPB, with its 'reactive' capacity to require environmental impact assessments, deny earth moving permits, conduct water quality tests, and the like, is currently able to exert a *post hoc* influence on the nature, form and location of development activity.

7.3.3 CONTROLS ON DEVELOPMENT

The issue of development control emanates from, but is additional to, issues of land ownership and land use management. The imposition of 'western values' in respect of development controls does not rest comfortably with 'traditional values' associated with land ownership and use.

While there is, perhaps, a growing awareness amongst Palauans that intensification of a given activity (for example commercial fishing or tourist diving operations) will necessitate some degree of control over that activity in order to protect the viability of the resource in the longer term, the concept remains more notional than mandatory at this time.

This situation gives rise to five groups of interrelated problems:

a) *Legislative*

For many aspects of land use/development control, appropriate legislation and regulation have either not been enacted, or have been enacted and subsequently amended or repealed, or have been enacted but inadequately coordinated or enforced. There is no uniform building code applicable in Palau (although United States funded projects adhere to the US Building Code); the Koror Zoning and Subdivision laws are no longer effectively in force; penalties for violation of environmental laws have been dismissed on appeal due to inadequate delegation of power from National to State levels of government.

b) Enforcement

The issue of enforcement is a complex one, encompassing relationships between traditional cultural and present legislative and administrative responsibilities for ensuring appropriate conduct, as well as the more mundane problems of inadequate manpower and equipment for monitoring and surveillance purposes.

c) Capability of Resource Managers

The States of Palau represent an important ‘agent’ for resource management, notably due to ‘local knowledge’ and through their ownership of public lands. Unfortunately, most States lack the capacity and expertise to implement land use planning, resource management and building control procedures. Improved capability, through institutional strengthening and technical assistance, would be necessary before State administrations could effectively contribute to this process;

d) Community Awareness and Knowledge

The overall lack of awareness of ecological processes and of the limits to sustainable development is a problem at all levels in Palau. Consequently, unsustainable development is often pursued out of ignorance rather than unscrupulous attitudes. An allied problem is the relative lack of knowledge about natural resources and the status of those resources in Palau: additional baseline research, for example into land suitability analysis, will be required as an integral component of proper land use planning and resource management.

e) Community Attitudes

The relative lack of baseline knowledge is necessarily reflected in the *laissez faire* attitude of many towards environmental issues, including bushfires, the extraction of coral for road maintenance, the location of dump sites, over exploitation of marine resources, and so on. A long-term education program will be required to increase people’s awareness of, and cooperation towards, the need for sustainable development at all scales of human activity.

7.4 POLICY FRAMEWORK

7.4.1 SPATIAL DEVELOPMENT STRATEGY

Nearly 70 percent of Palau’s population live in Koror, together with 4,000 contracted foreign workers. Koror is also the dominant focus of Palau’s commercial, tourism, manufacturing and public sector enterprises.

A spatial development strategy for Palau based on principles of equity and efficiency would progressively seek to generate opportunities in Babeldaob and the smaller island States (see Map 13). One example is the plan to relocate the national legislature, judiciary and executive to Melekeok. This strategy will be greatly enhanced by the Compact funded national highway on Babeldaob. Similarly, private sector

tourism development proposals further afield would both disperse economic growth potential and alleviate pressure on existing environmentally sensitive visitor attractions.

Such a strategy would, however need to reflect the different aspirations of Palau's sixteen States, some of which are seeking improvements to basic infrastructure rather than the full realization of their economic development potential.

7.4.2 SUSTAINABLE DEVELOPMENT

The concept of 'sustainable development' refers to the development of activities which meet the needs of the present, but in a way which does not compromise the ability of future generations to meet their needs. Accordingly, development proposals should be screened, and amended as necessary, in relation to a range of important environmental considerations. This does not mean undue restriction on development, but a determination to foster 'appropriate' development. The investment approval process should include environmental and land use criteria and requirements.

7.5 IMPLICATIONS FOR LAND USE PLANNING

7.5.1 NATIONAL AND STATE RESPONSIBILITIES

There are essentially three options available to planning authorities in the determination of the type of development that may be permitted, based on zoning, land suitability, and the more extreme principle of 'conservation first'. A combination of all three options is recommended.

Clear distinction should be made between National and State Government responsibilities for land use planning:

National Government should:

- approve projects of national significance;
- prepare guidelines for land use planning and project evaluation to be undertaken by State Governments; and
- in the short-medium term, be responsible for land use planning and project evaluation at the State scale (except for Koror) to allow time for institutional strengthening and related technical capacity to be developed in State Governments.

State Governments should:

- be responsible for land use planning and project evaluation at the State level, in accordance within the guidelines issued by the National Government.

7.5.2 LEGISLATION

In terms of legislative requirements, it is recommended that, in the short term, Title 31 be reinstated in amended form, rather than attempting to introduce the more sophisticated (and more complicated) procedures adopted in Guam and Saipan. Appropriate amendments to Title 31 could include identification of the National Planning Commission as the 'umbrella' authority, with interim responsibility for State level planning (apart from Koror and possibly Airai) until institutional strengthening and technical assistance programs enable the States to function effectively in this regard.

Regardless of the organizational structure and detailed policy actually adopted, it will be important to ensure that, once a development application has been approved, the prospective investor's rights are protected. It would be inappropriate, for example, to allow objections to be raised after due process has been exercised.

7.5.3 LAND BANKING FOR DEVELOPMENT

In the interest of helping foreign investors feel more secure in respect of land tenure issues, State Public Land Authorities (PLA) could become pro-active in identifying, demarcating and marketing suitable public land parcels to prospective overseas investors, via Land Development Corporations. Groups of clan/individual landowners could adopt a similar process.

Private sector joint ventures with foreign investors will be facilitated by completion of the on-going LCHO land registration process and the prospect of liberalizing current leasehold restrictions as they apply to non-Palauans.

7.5.4 DEVELOPMENT/CONSERVATION OPPORTUNITIES

Land suitability assessment, amongst other criteria, has enabled a number of possible development opportunities to be identified, mainly in connection with tourism development on Babeldaob and the island States (refer Maps 11 and 23). Similar opportunity areas have been identified for conservation purposes (refer Map 5). Identified opportunity areas should be saved from indiscriminate use until firm proposals are formulated and evaluated.

However, while formal zoning procedures may be applicable in Koror and the developed portion of Airai, management plans, project screening criteria, and performance standard requirements would be more appropriate in Palau's less developed but still environmentally sensitive areas. Project screening should encompass land suitability, environmental impact, social impact, demands on public infrastructure and community acceptance.

The introduction of a uniform building code is also recommended, subject to technical assistance and institutional strengthening being provided.

7.6 STRATEGY AND PROGRAM OUTPUTS: LAND USE PLANNING

7.6.1 STRATEGY: LAND USE PLANNING

Increase land ownership and the availability of suitable land for development through improved processes and institutional building relating to land use management, legislation, National-State responsibilities, environmental controls and baseline knowledge. (Strategy 3.4.2.11)

7.6.2 PROGRAM OUTPUTS: LAND USE PLANNING - LAND INFORMATION SYSTEM

7.6.2.1 Title 35, Chapter II Amended to Extend Time Limitations

The BLS/LCHO/PPLA process of determining land ownership and issuing certificates of title is a necessary and appropriate, although relatively slow, means of resolving land tenure disputes. Given that completion of this process by 1995 is unlikely, consideration should be given to amending Title 35, Chapter II to allow for an extended period, and thereby avoid the potential for future litigation based on the time restrictions imposed by the present legislation.

7.6.2.2 Future Legal Ownership of Homestead Lands Clarified

Clarify the future legal ownership of homestead lands in the interest of increasing the level of certainty for those affected and minimizing the potential for legal dispute.

7.6.3 PROGRAM OUTPUTS: LAND USE PLANNING - DEVELOPMENT STRATEGIES

7.6.3.1 A Public Sector Investment Plan Implemented to Influence the Future Pattern of Development in Palau.

Refer Chapter 6

7.6.3.2 Policies Introduced Which Guide Private Sector Development Initiatives

Such policies may be expected to include:

- i) a regional development strategy that acknowledges the dominance of Koror but, in the interest of equity and efficiency, progressively seeks to extend development opportunities through Babeldaob and to the island States;
- ii) a determination to ensure that future development is sustainable, so that development which meets the needs of the present does not compromise the ability of future generations to meet their needs: development should be 'appropriate' in that it takes full account of the environmental consequences and conflicts with other legitimate land use activity;
- iii) the re-introduction of modified Title 31 land use planning legislation, to provide a formal structure for both proposing and approving development activity: the National Planning Commission would preferably retain

- overall responsibility, with the States progressively acquiring responsibilities commensurate with their institutional and technical capabilities, commencing with Koror and Airai;
- iv) examination of the potential for State Public Land Authorities, and private/clan landowners, to engage in land banking and marketing appropriate development opportunities to prospective investors; and
 - v) liberalization of leasehold limitations for foreign investors, including joint ventures with Palauan land owners.

7.6.4 PROGRAM OUTPUTS: LAND USE PLANNING - GUIDELINES

7.6.4.1 A Series of Guidelines Formulated to Provide both the Context and the Parameters within which Public and Private Developers must Operate

Including:

- i) guidelines for screening development proposals in terms of land suitability, environmental impact, social impact, demands on public infrastructure and services, and community acceptance;
- ii) site specific performance standards to ensure acceptable built form characteristics and adequate attention to on-site utilities, parking and other requirements (refer to Division 3 and 4 of Title 31).
- iii) introduction of a uniform building code to ensure that all future building construction is of an acceptable standard, in the interests of cost-effective maintenance and public safety;
- iv) appropriate land management practices for agro-forestry and other activity that would involve soil disturbance on steep slopes, to minimize the adverse impacts of erosion and soil loss: similar restrictions should also be imposed in the vicinity of natural watercourses;
- v) management plans and associated regulations to minimize user/resource conflicts in popular but environmentally sensitive locations such as marine reserves, wildlife reserves and significant historic sites; and
- vi) guidelines for the prospective foreign investor, to facilitate understanding of the steps to be taken - including land leasing and other land-related matters - to realize an investment proposal in Palau.

7.6.5 PROGRAM OUTPUTS: LAND USE PLANNING -INSTITUTIONAL STRENGTHENING

7.6.5.1 Up to 20 Palauans Trained in Land use Planning by 2001

The principal need for effective land use planning in Palau is a substantial increase in both the level of commitment and the capability of the public sector to comply with the legislation (specifically Title 31) that has previously been enacted. Subsidiary requirements are in connection with land banking concepts and the implications of introducing a uniform building code.

The enhancement of capability in both national and state governments will be a lengthy process and will require an extensive program of technical assistance. A combination of overseas training and supervised in-country practical experience would be beneficial. The emphasis should be on generating a 'workable' model for Palau and not simply

the adoption of more sophisticated developed country experience. Relevant overseas course work is available in several centers and attendance may be funded through bilateral or multilateral aid programs.

7.6.5.2 Land Use Planning Model Developed for Palau by 2001

In-country planning advice may be funded by multilateral and bilateral aid programs, the fundamental requirement being that the adviser should have credibility in similar Pacific environments and possess inter-personal skills of a high caliber.

A minimum of five years is envisaged to undertake a rolling program of overseas and in-country technical assistance for up to 20 Palauans to each receive two years of part-time practical training: estimated cost US\$1.5 million spread over five years.

7.6.6 PROGRAM OUTPUTS: LAND USE PLANNING - EDUCATION AND AWARENESS

7.6.6.1 Community Awareness and Education Programs Focusing on Land Issues Delivered

It is evident that concepts such as spatial planning, conservation, land management and development control have remained embedded in Palau's traditional culture and have not been 'translated' into effective modern practices. Now that pressures for development and other forms of exploitation might endanger the limited and mostly fragile nature of Palau's land and marine resources, it is important to raise the community's level of awareness of these dangers, and of the actions that are necessary to avoid them.

Community based education awareness programs are an effective, although medium to long-term, mechanism appropriate for this purpose. The clan-based State structure, the importance attached to advice given by the traditional chiefs, and the wide distribution of elementary schools, serve to facilitate the process. Non-government organizations with experience in community programs of this type may beneficially assist in the preparation of suitable materials to aid the learning process. Funding of the order of US\$250,000 may be sufficient to initiate such a program and should be sought from bilateral and multilateral aid agencies.

7.6.7 PROGRAM OUTPUTS: LAND USE PLANNING - ADDITIONAL STUDIES

7.6.7.1 Land Suitability Assessment Updated and Extended to Cover all of Palau

A land suitability assessment, based on soils, physical features, vegetation, and watershed delineation, needs to be updated, further detailed, and extended to include the whole of Palau. (At present, the assessment is limited to Babeldaob, is based in part on old aerial photographs and partial lists of historic sites, and contains some inconsistency between map sheets). Thorough air photo interpretation, augmented by ground truthing, will be required.

7.6.7.2 Koror Zoning Plan Updated and Extended to Include the Southern Area of Airai

The zoning plan for Koror needs to be updated (the prevailing plan originates from studies undertaken in 1968) and an equivalent plan prepared for the southern portion of Airai without delay. The Koror Plan should include reference to the potential use of government buildings if the national capital is relocated to Melekeok.

7.6.7.3 Land and Property Valuations Undertaken

Such valuations should be undertaken to provide the basis for compensation calculations for purposes of land acquisition and lease rentals.

7.6.7.4 Geographical Information System Developed for Palau

The now proven capability of BLS to generate quality maps on the Autocad system form the basis of an extended capacity to develop a Geographical Information System (GIS) for Palau and the constituent States.

Each of these study programs would require overseas technical assistance at an indicative cost estimate of US\$250,000 per program. Funds should be sought from bi-lateral and multi-lateral aid agencies.

7.6.8 PROGRAM OUTPUTS: LAND USE PLANNING - REDUCING THE TIME LAG

These outputs will help to identify, demarcate, zone and plan land use which will assist greatly in clarifying land available for development and removing uncertainty for investors. However, the most significant problem at present facing investors is the time lags involved in the process, the substantial amount of lengthy litigation involved and the uncertainty of acquisition throughout the process. This problem not only has held up existing developments but has almost certainly caused the withdrawal of many viable projects. As an example, the negotiations to establish the Palau Pacific Resort took 8 years to resolve.

Foreign and domestic investors, in most cases, will seek alternative uses for their investment funds rather than endure such lengthy periods of uncertainty. Investors who are willing to endure such lengthy risks are either those investors who have few alternatives or those investors who have the luxury of investing for reasons other than profit. The likelihood of attracting foreign investors in this latter category is extremely small.

7.6.8.1 Guidelines and Systems for Disputes Resolution Implemented for Significant Public and Private Sector Projects

Additional resources should be made available to speed up the resolution of outstanding disputes. Current expectations of at least 10 years to complete the process are much too long. In the interim, a prioritization process should be implemented for either significant development areas or for investments that can demonstrate significant economic benefits to Palau or for investments above say US\$1 million. This would include public infrastructure projects. The Bureau of Economic Policy should provide advice on guidelines for prioritization.

7.6.8.2 Eminent Domain Powers Implemented

Both the National and State Governments should give more emphasis to compulsory acquisition as a means of facilitating developments that are confronted with intractable bottlenecks. However, the rationale and imperative for such action should be explained carefully to affected Palauans and guidelines need to be produced on how land is to be valued.

7.6.8.3 Guidelines for Leasing Arrangements of at Least 99 years Developed and Implemented

If the Constitution cannot be changed to allow even limited ownership, then formal leasing arrangements that are strictly enforceable and have periods up to at least 99 years should be readily available. There is some uncertainty with regard current leasing arrangements and the maximum lease period available is 50 years, although some leases have been extended for an additional 49 years. The inability of non-Palauans to own land is a constraint on private investment. Ownership is valuable to an investor, particularly if developments require large sunk capital costs.

7.6.8.4 A state enterprise zone model developed and implemented

Because of the difficulties in regard to land ownership, leasing, certainty over title, access to infrastructure, long delays in acquiring formal title and ongoing disputation, States should consider extending the land banking proposal to the establishment of enterprise zones - not as a taxation shelter for foreign investment as zones are in a number of Pacific island countries, but as a mechanism that would facilitate speedy access to land with essential infrastructure services.

The development of such zones would be at the discretion of individual States which would have to assemble the required land, gain clear title through the Land Claims Hearing Office and approval from senior members of the clan. States could then charge a development levy as well as lease payments. Firms should also be charged efficient user charges on infrastructure services. Lease holders would be free to trade leases.

The National Government should activate the National Planning Commission to assist State Governments in the development of guidelines for the creation of enterprise zones, including site selection and planning, infrastructure demands and efficiencies, legal advice on land title issues, levy parameters, lease arrangements etc. The National Government could also assist in the prioritization of the title applications through the Land Claims Hearing Office. States should have the discretion to set the development levy and receive the proceeds. The construction of the Compact road will assist in the development of enterprise zones. This will bring some competition in State administration of the zones. Those States not wishing to proceed with the zones would have discretion not to, although the revenue benefits would be foregone. Importantly, the concentration of industry in a specified zone would also enable improved environmental management.

7.6.8.5 Homestead Levy System Developed and Implemented

To encourage the efficient utilization of land with homestead title, a resources user fee should be charged based on an assessment of the site's economic potential. While tax on land is not allowed under the Constitution, it would appear possible to levy user fees or charge a leasing-type fee. The objective of the levy would not be revenue generation but demand management. At present occupants of the homestead lands are not fulfilling the conditions (PNC Title 35 Public Lands) required of homestead titles and, as such, are generating little productivity.

A levy would provide an incentive to increase development. In addition, the legislation should be amended to allow for the sale and transfer of homestead title, thereby facilitating its most productive use (in economic terms, opportunity cost). The funds should be collected by the respective State government which should also have discretion over the levy amount. Levies on land are normal revenue for State governments throughout the world. If land levies are not implemented, then enforcement of the productive use of the land as stated in the Code (PNC Title 35 Chapter 8) should be undertaken.

7.6.8.6 Use of State Land for Economic Purposes Clarified

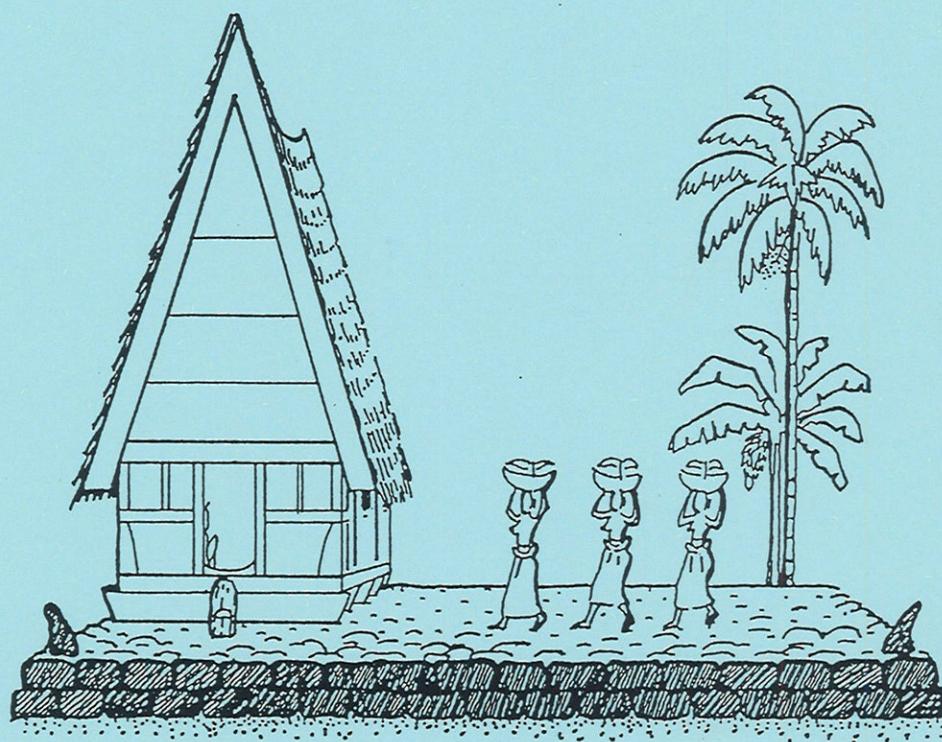
There should be clarification through legislation if necessary that State land can be used for economic purposes.

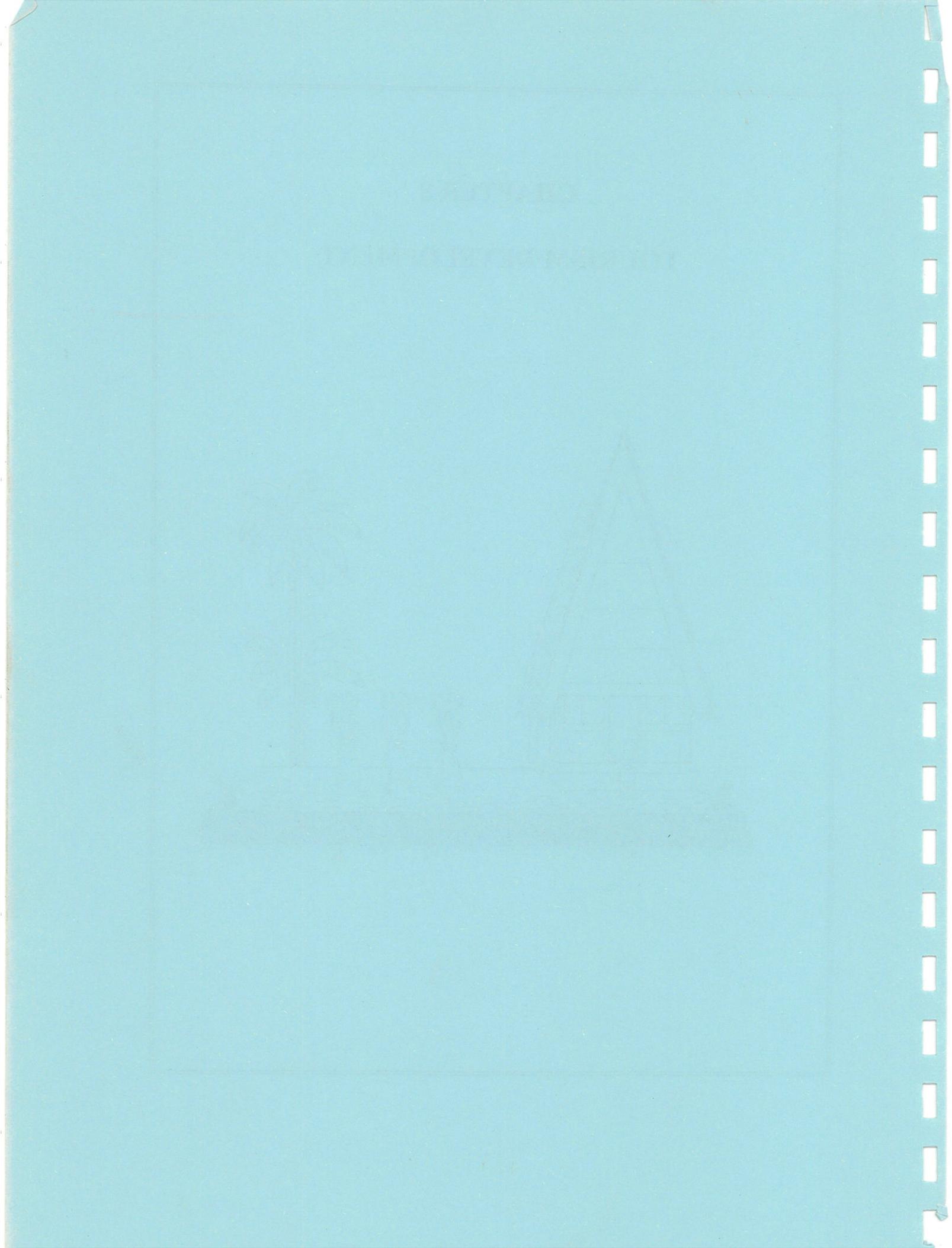
CHAPTER 7: LAND USE PLANNING LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YEARS	FUNDING SOURCE	
					GOVT	ODA
STRATEGY						
7.6.1 Increase land ownership and the availability of suitable land for development through improved processes and institutional building relating to land use management, legislation, National-State responsibilities, environmental controls and baseline knowledge.						
OUTPUTS						
7.6.2.1 Title 35 Chapter II amended to extend time limitations	Time extension enabling land titling to proceed	Palau National Code	Understanding by the OEK of the need for & benefits of extension of time			
7.6.2.2 Future legal ownership of homestead lands clarified						
7.6.3.1 A Public Sector Investment Plan implemented to influence the future pattern of development in Palau	PSIP Procedures drafted by. PSIP prepared in an acceptable format to meet budget requirements.	PSIP	PSIP process is accepted at all levels of Govt & staff available to participate in the drafting of procedures			
7.6.3.2 Policies introduced which guide private sector development initiatives						
7.6.4.1 A series of guidelines formulated to provide both the context and the parameters within which public and private developers must operate	Guidelines prepared by yr X, Guidelines approved by relevant agency	Guidelines, site specific performance standards, uniform building code, land management guidelines, environmental management plans, foreign investment guidelines	Need to manage the development process is recognized by the leadership			
7.6.5.1 Up to 20 Palauans trained in land use planning by 2001	Land use planning methods operational and meeting performance criteria by 2001	Departmental training records	Sufficient candidates available to be released to attend training	5		1500
7.6.5.2 Land use planning model developed for Palau by 2001	Land use planning model developed to meet standards of those in similar countries and operational by 2001	Land Use Planning Model	Appropriately qualified technical assistance can be attracted to Palau	5		1000
7.6.6.1 Community awareness and education programs focusing on land issues delivered.				2		250
7.6.7.1 Land suitability updated and extended to cover all of Palau	Land suitability assessments utilized for development purposes by private and public sector	Updated land suitability assessment documentation		1		250
7.6.7.2 Koror zoning plan updated and extended to include the southern area of Alai	Koror and southern Alai zoning plan used by Government in the planning approval process	Koror and Southern Alai Zoning Plan	The zoning plan will be utilized in the process of planning approvals	1		250
7.6.7.3. Land and property valuations undertaken	Valuations updated regularly and used as basis for compensation calculations for land acquisitions and lease rentals	Valuation Records		1		250
7.6.7.4 Geographical Information System developed for Palau	GIS used for planning and resource management purposes	GIS system and outputs	Data available to incorporate into GIS	1		250
7.6.8.1 Guidelines and systems for disputes resolution implemented for significant public and private sector projects	Outstanding disputes prioritized according to a set of guidelines, prioritized disputes resolved within 1 year	Court records				
7.6.8.2 Eminent Domain powers implemented	Eminent Domain guidelines utilized for land acquisition without disputes	Land acquisition records	Eminent Domain powers are a politically acceptable method of acquiring land			
7.6.8.3 Guidelines for leasing arrangements of at least 99 years developed and implemented	99-year leases are available, the conditions understood, and utilized by foreign investors	Lease records	Ownership of land by non-Palauans not permitted under the Constitution			

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YEARS	FUNDING SOURCE	
					GOVT	ODA
7.6.8.4 State enterprise zone model developed and implemented	State enterprise zones operational and utilized by foreign investors and benefiting the recipient States	Lease records	Leadership of individual states and clans agree that land can be used for State Enterprise Zones			
7.6.8.5 Homesteads levy system developed and implemented	Land under homestead title fulfilling productivity requirements under PNC Title 35 Public Lands	State Govt levy records, homestead title records	States willing to collect levies and have the resources to do so			

CHAPTER 8

TOURISM DEVELOPMENT





CHAPTER 8

TOURISM DEVELOPMENT

Palau has few resources to offer to the rest of the world in order to support its desired lifestyle and enhance its culture and environment. However, those which it has - a unique and fascinating array of reefs, water and islands - are in diminishing supply, and are located adjacent to the world's fastest growing areas of demand. Necessity and proximity now combine to possibly threaten the fragile culture and ecosystem of Palau. The challenge to decision makers is to open up good quality tourism facilities to an increasing number of investors and visitors without causing intolerable damage to the attractions and Palau social system. This chapter will assess the current situation and trends, the main issues, strategies and outputs for assisting the growth of the sector.

8.1 INTRODUCTION

The aim of Government policy is to promote and encourage the development of a visitor industry in Palau and to make it a responsibility of all visitor-oriented government and quasi-government agencies to assist and participate in the achievement of this policy. Tourism is regarded as the lead sector to support economic growth. However, there is much uncertainty about the desired growth of tourism and its style. The "Saipan" model is regarded by many Palauans as overwhelming. The low-in-number high quality-high cost establishments, in many ways, seem more suited to the ecosystem, but serving that market will require a much higher participation rate by Palauans and may not, because of imports and the need for foreign skills, create the flow-on effects expected.

8.2 SITUATION AND ISSUES

8.2.1 ECONOMIC CONTRIBUTION OF THE SECTOR

A survey of businesses in 1986 provided the following estimates:

- expenditure in 1985 in the tourism sector was \$6 million from 13,300 visitors, of which around 53 percent was spent in hotels;
- the tourism income multiplier was 0.51, indicating that tourism spending generated \$3.1 million in wages, salaries and profits;

- the government revenue multiplier was 0.36, indicating that revenue derived from tourism was \$2.1 million; and
- the net retention of cash resulting from every \$1,000 spent by tourists was \$173.

National Accounts (1992) does not show a separate tourism sector. However, data showed that "Hotels and Restaurants" contributed \$8.7 million (9.7 percent) to GDP based on the relative numbers employed (700 in hotels and restaurants, 250 in others). Other tourism services contributed around \$3 million.

In the absence of any accurate and up-to-date data, it is not possible to establish the total value of tourism to the national economy of Palau. Estimates show that the contribution to GDP could be as high as \$12 million, around 11 percent of GDP. The contribution of tourism to GDP could be increased if the domestic economy were able to replace some of the imported goods and services.

Government revenue from the sector was just over \$2 million in 1993, around 10 percent of total domestic revenue. At this rate, and holding Government services supporting tourism constant, tourists would have to increase from 40,000 to 400,000 per year to substitute fully for United States operational grants. Clearly, there is a need to raise the yield from each visitor as well as increase tourist numbers.

Recent taxation legislation has lifted the burden on the tourism sector on the assumptions that it is profitable and demand is inelastic. In addition, the gross revenue tax impacts most on capital intensive industries, such that resorts would pay proportionately greater amounts than labor-intensive business. Foreign worker taxes impact adversely on foreign-owned businesses, although use of front operations can result in avoidance of such fees. The lack of available land with clear title has inhibited tourism development. The foreign investment approval process and restrictions on foreign investment activities also have adversely affected potential investors. There is a need, then, to clarify economic policies and bring more certainty to the operating environment, so that the leading sector can expand and generate additional economic benefits for the rest of the economy.

Lack of understanding on the part of many Palauans of the realities of international tourism markets is resulting in unrealistic expectations about potential financial and economic benefits available from tourism. This lack of information and perspective often results in poor domestic investment decisions.

Legislation attached to the 1994 Budget restricts foreign ownership in retail and wholesale activities; land transportation including car rental; tour guides, fishing guides, diving guides and any other form of water transportation services; travel and tour agencies; and most commercial fishing businesses. By seeking to selectively restrict foreign investors' access to certain business opportunities, Palauans are effectively being denied the opportunity of learning best practices in both entrepreneurship and tourism and hospitality skills. The restrictions reflect an inward-looking protectionist approach which will increase costs, reduce competition and encourage inefficient domestic activities. Such restrictions do not facilitate the required expansion and specialization needed to compete in an internationally competitive tourism industry.

To support the country's material aspirations, tourism will have to drive much of the economic growth over next coming years. Unless Palauans can increase their participation rate, level of skills and productivity, the gains of such growth could be captured mainly by foreign interests and a few wealthier Palauans who are able to organize land parcels for tourism developments. In the long run, Palauan participation rates, skill levels and productivity cannot be improved through restrictive legislation. Only the rigors of competition can accomplish the task.

8.2.2 THE ENVIRONMENT AND THE PRODUCT

Palau has an attractive and generally unspoiled marine environment. Tourism has evolved largely for divers, in particular young Japanese and growing numbers from other parts of the world (see map 4). Although some 60 dive sites have been identified in the waters around Palau, the vast majority of diving activity is conducted at a mere 5 sites which are already subjected to severe congestion. The 5 most popular dive sites are Blue Corner, The Blue Holes, Big Drop Off, New Drop Off, and German Channel - all of which are located on Ngermelis Reef. They feature prominently in articles and media reports on diving in Palau owing to their spectacular accumulation of large marine animals and coral formations.

Divers coming to Palau want to dive these sites and operators have difficulty in explaining that there are other equally interesting sites. This is compounded by the short duration of visits to Palau (average 4.5 days) and the safety requirements of no diving on the day before flying out. Weather and sea conditions often preclude dives at some of the more popular sites which results in further congestion at the other sites. Reports of as many as 20 dive boats each with up to 12 divers converging on one site at the same time are common.

The congestion and the inexperience of many of the divers is resulting in damage to the reefs eco-systems from both anchors and divers colliding with the corals. Live-aboard dive boats have also been responsible for damaging the reef through inappropriate moorings, though it is understood they have modified their practices recently to avoid their vessels having contact with the living corals. Environmental damage is also occurring at the more popular snorkeling sites as visitors are rarely advised not to touch delicate corals or remove clams and other marine organisms.

The practice of spear fishing at popular dive sites poses an unacceptable risk to divers and may over the longer term lead to the depletion of fish at these sites, thereby reducing their attraction. The reefs and the Rock Islands are also suffering from pollution resulting from drifting debris and garbage originating from the Koror land fill, as well as from run-off associated with soil erosion on Babeldaob.

A number of the more popular dive sites are considered by professional dive masters as being difficult and suitable only for very experienced divers. Despite this, some dive operators allow recently qualified or inexperienced divers to visit these sites. Dive site ratings are shown in table 8.1

Table 8.1 Dive Site Ratings

Sites	Snorkeled	Novice with Instructor	Advanced	Master
Dropoffs				
1 Blue Corner			X	X
2 The Blue Holes	X		X	X
3 New Drop-off			X	X
4 Big Drop-off/Ngemelis Wall	X	X	X	X
5 Turtle Cove	X	X	X	X
6 Sweetlips Reef	X	X	X	X
7 German Channel	X	X	X	X
8 Releliu Tip			X	X
9 Angaur			X	X
10 Siases Tunnel	X		X	X
11 Ngerumekaol/Ulong Channel	X	X	X	X
12 Ngeremlengui Pass			X	X
13 Kayangel Atoll	X		X	X
14 Northern Wrecks	X	X	X	X
15 Short Dropoff	X	X	X	X
16 Tims' Reef	X	X	X	X
Rock Islands				
1 Wonder Channel	X	X	X	X
2 Jellyfish Lake	X	X	X	X
3 Soft Coral Arch	X	X	X	X
4 Coral Gardens	X	X	X	X
5 Chandelier Cave			X	X
6 The MMDC	X	X	X	X

Source: Diving and Snorkeling Guide to Palau, 1994

The Rock Islands are a unique world class attraction. Government should adopt appropriate protective legislation to protect this national treasure (refer Chapter 12). World Heritage listing may be sought in the future when the country has the capacity to implement and enforce the required regulations.

There is a lack of secondary tourist attractions on offer. However, there are a number of historical and archaeological sites of interest scattered throughout the country (see maps 8 and 21). The Ministry of Cultural Affairs is undertaking a survey of historic sites including stone monoliths, prehistoric terracing, cave paintings, stone money caves, burial caves, stone pathways and historical settlements. However, access to these sites is impeded by the lack of adequate roads especially on Babeldaob and the high cost of using marine transport (average \$300 per day for small open boat). The almost complete lack of interpretation facilities at these sites, the absence of signposting and maps as well as descriptive and informative literature also deter tourists from visiting such potential tourist attractions. Although these sites may not be significant enough to be primary tourist attractions on their own, they could be appealing additions to special interest tours of Micronesia based upon themes of culture, history and archaeology.

There appears to be significant potential to develop other marine-based tourism attractions and activities including sports and deep sea fishing, yacht chartering and dingy sailing, kayaking and snorkeling tours, and glass bottom boat and submarine tours of the reef and the Rock Islands.

There are also opportunities to develop 'soft adventure' attractions on the large island of Babeldaob through hiking and mountain bike tours, camping trips and canoeing through the mangroves. These would appeal to a variety of special interest groups.

The Division of Marine Resources has sponsored a project entitled 'Sustainable Small-Scale Sports Fishery and Eco-tourism Development in Palau' which has received funding from The Nature Conservancy. Initial reports indicate that there is considerable potential to develop sports fishing and other soft adventure activities as secondary tourism attractions which could assist in extending the average length of stay in visitors and increase their expenditures in Palau. Further research is needed in order to establish whether sports fishing could become a major attraction over the longer term.

Product development in the form of tourist accommodation, and dive and tour operations has evolved in and around the commercial center of Koror. Hotels are predominantly located in Koror where there is little formal zoning of activities. As a result, tourism operators and developers compete for scarce land and water based resources with other often incompatible economic activities. These conditions are contrary to the desired image of a world class tourist destination.

There is a strong movement for environmental protection in Palau, but there remain contradictions between the desired care of the environment and people's treatment of it. There is evidence that attitudes and practices have improved over the last decade, although an attitude change is clearly required in regard to littering, especially the common practice of discarding beer cans and rubbish in park areas.

Cruise ships do not call in Palau on a regular schedule. However, it is understood that Club Med's vessel currently based in Guam has a proposal to make a number of calls. This would be a challenge to Palauan operators to provide attractive facilities and the necessary services.

Palauans and resident foreigners show a strong interest in fishing. As this activity increases with tourist numbers, and as tourists demand more table fish and invertebrates, the social, ecological and economic pressures will intensify - hence the need to diversify activities and locations for tourists, as well as to improve environmental controls.

8.2.3 MARKETS FOR TOURISM

Visitor arrivals have increased at a rate of 16 percent per year from a base of 5,640 in 1980 to 40,497 in 1993. Preliminary data indicates that arrivals have continued to increase in 1994 and 1995. In 1993, Japan accounted for 46 percent, USA 19 percent, Taiwan 10 percent, and Philippines 9 percent of tourists. Tourist and Business arrivals were recorded at 34,041 (84 percent of total visitor arrivals). The remainder arrived for employment or other purposes. Table 8.2 shows visitor arrivals by country of origin, 1993.

Table 8.2: Visitor Arrivals by Country of Origin, 1993

COUNTRY	ARRIVAL
Japan	18,554
USA	7,861
Taiwan	4,171
Europe	1,722
Korea	888
Philippines	3,622
Aust/NZ	558
Other	3,121
TOTAL:	40,497

Source: Palau Visitors Authority

Little reliable data about visitors exists, but it has been estimated that the average stay is 4 to 5 days and non-air travel spending is around \$100 to \$150 per day. The seasonal peak of December-February is about 20 percent above the annual monthly average, or 50 percent above the low months of June and October. There is a second, lower peak in July, due to Japanese holiday travel.

The lack of accurate and up-to-date market research inhibits sectoral planning, product development and marketing. However, it seems that the markets currently utilizing Palau's tourism products are too narrow. Palau is overly dependent on the dive market, and within that market just one segment. Moreover, the segment attracted is very price sensitive, and virtually every Pacific island destination is competing for that segment. The Philippines and Indonesia also have well established and less expensive dive tourism operations.

With the exception of the divers and the dwindling numbers of both Japanese and American war veterans, Palau remains relatively unknown and has no clear image in the tourism market place. It is not evident that Palau is utilizing its resources in the most effective manner by attracting those tourists who are willing to pay to experience a unique environment. There is not yet the confidence in investment and quality of services to encourage the development of this more discerning, market segment.

8.2.4 INSTITUTIONS AND FUNCTIONS

(a) *Institutions*

Tourism is within the portfolio of the Minister of Commerce and Trade (MCT) which is responsible for the promotion of economic and commercial development programs and projects, including but not limited to, the implementation of development proposals, tourism promotion and regulations. However, no individual within the Ministry is charged with promoting tourism or regulating activities.

The Tourism Reorganization Act of 1982 established the Palau Visitors Authority (PVA) to carry out government policy and promote orderly development. The PVA budget is derived from departure taxes and amounted to some \$400,000 in FY 1993. Apart from basic data collection and dissemination, PVA functions as a promotions and public relations outlet rather than the country's principal marketing agency.

There is a host of organizations and associations impacting on the tourism industry in a very uncoordinated and fragmented manner. These should be rationalized into fewer, more efficient and proactive institutions. The issue of foreign ownership has intensified in recent years as has the issue of employment of foreigners. A number of Palauans feel they are not being enabled to compete fairly within the tourism sector.

Overall it is necessary, given Palauan income aspirations, to greatly enlarge the tourism sector to create the needed opportunities for Palauan employment. The Master Plan's general development strategy is to reduce the role of the public sector and shift the challenge to the private sector. Such a strategy would involve the private tourism sector taking more responsibility for promoting tourism in Palau.

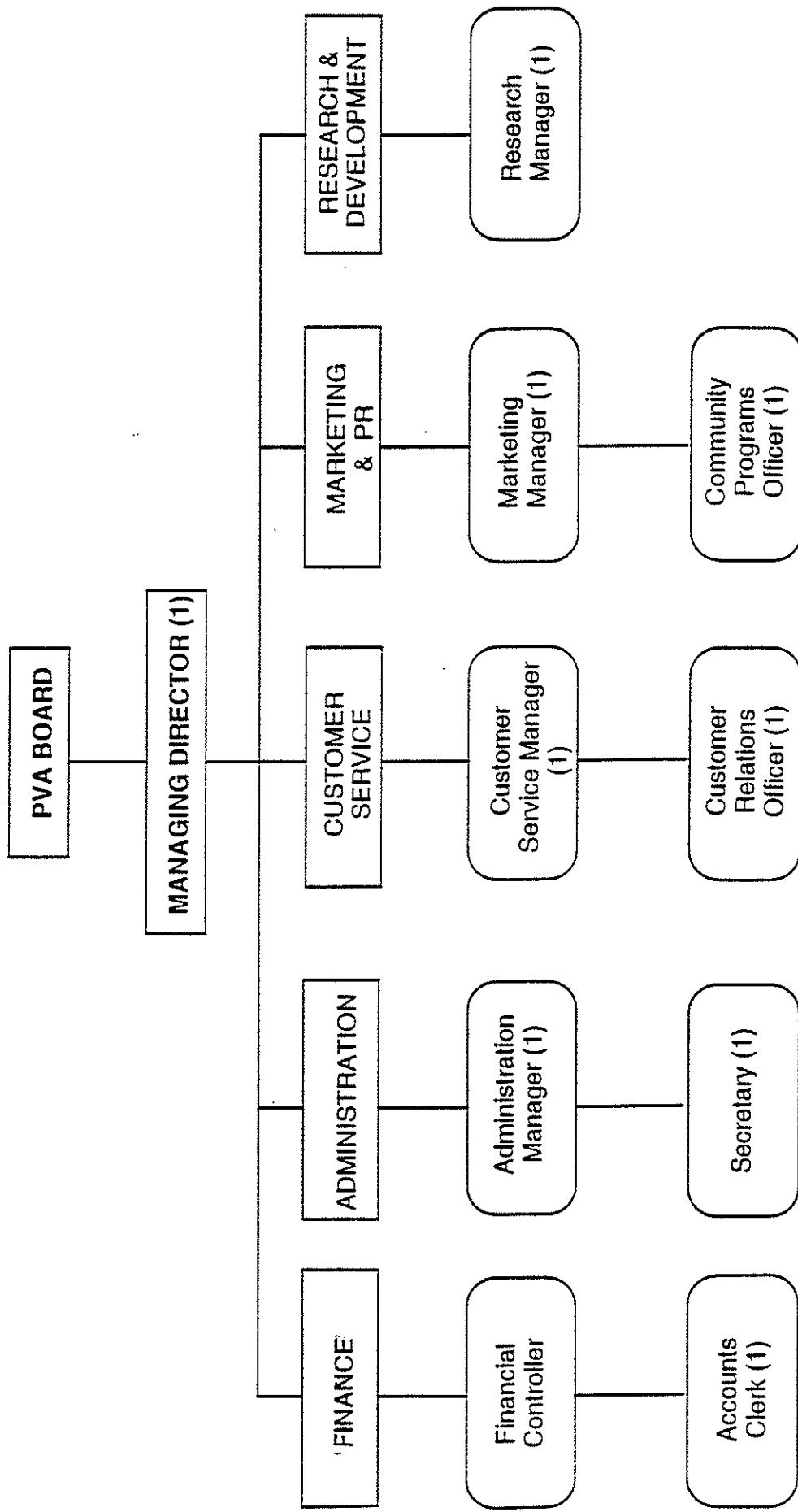
The current activities of PVA are constrained by limited financial and personnel resources. The present staff of eight are unable to undertake all the activities normally expected of a national tourism organization. The management of PVA has determined that in order to better carry out its duties and responsibilities as specified in the Tourism Reorganization Act of 1992, it should be reorganized along the lines indicated in Figure 8.1. This would serve as an interim measure until an institutional strengthening program is implemented.

To achieve this, it will be necessary to increase the finances made available to PVA in order to enhance its capabilities as a fully functional national tourism organization. However, before any increased funding is allocated, the role of a revitalized PVA should be clearly determined and future objectives set. The ongoing funding of PVA should be linked to the achievement of agreed performance targets related to the value of tourism to Palau and not merely to the volume.

Given the small size of the nation and the current financial constraints facing the National Government, serious consideration needs to be given to expanding joint marketing campaigns with other national tourism organizations in Micronesia and in association with private sector operators and airlines serving the region. In addition, rather than increased funding from the Government, an industry levy would seem more appropriate, based on the user-fee principles outlined in Chapter 5. Such a levy would create the right incentives for industry involvement and establish improved discipline on PVA performance.

Figure 8.1

**PALAU VISITORS AUTHORITY
PROPOSED ORGANIZATIONAL CHART (STAFFING)**



Source: Palau Visitors Authority

There currently appears to be a lack of consultation and liaison between those Government agencies whose activities affect the tourism sector and the various enterprises that comprise the private sector components of tourism. This is resulting in a duplication of marketing and promotional efforts and the emergence of products which are not necessarily compatible with the markets that the country is seeking to attract.

Although there are a number of special interest groups or associations, there has been no one forum where all parties and individuals active in Palau's tourism sector can communicate freely, collectively or regularly. The country cannot afford to squander scarce resources through lack of effective communication between the various components of its tourism sector. The Palau Visitors Authority should actively encourage and support the industry to form a peak body comprising all sub-sectors to assist in developing Palau's tourism potential. In addition, a specialist tourism policy position should be created in the Ministry of Commerce and Trade to facilitate policy analysis and coordination within the Government.

(b) *Statistics and Research*

The creation of a reliable, comprehensive, up-to-date data base providing profiles of trends and developments is a prerequisite for effective sectoral planning. Accurate data are not only required to guide government agencies in planning and administration but are also vital to the private sector as a basis for sound management and investment decisions. A series of UNDP/WTO reports between 1984 to 1988 pointed to the deficiencies in Palau's tourism data base and identified three fundamental requirements for the creation of a national tourism data base:

- "the expansion and refinement of arrivals statistics to enable the measurement of changes in tourism demand i.e., as indicated in part by changes in the number and characteristics of visitors entering the country. These changes have to be measured in sufficient detail to enable specific market segments to be identified for marketing/promotion program development and needs assessment purposes,
- the establishment of a system for measuring trends in the supply of tourism infrastructure, in particular, the accommodation sector which requires constant monitoring because these facilities are more specifically geared to tourism; and
- the measurement of the impact of tourism on the national economy - this requires data on tourist expenditure and how this expenditure is distributed through the economy so that the direct and indirect income and employment generating effects can be ascertained."

The Division of Immigration Entry/Department cards still do not conform to internationally recognized standard definitions of arrivals. The cards should be modified to clearly specify the purpose of visit. The tabulations and cross tabulations required for a comprehensive analysis of arrivals are illustrated in Table 8.3.

Table 8.3 Recommended Tabulations for Arrivals Statistics

Tabulations		
Countries of residence		(numbers of persons X month)
Purpose of visit		(numbers of persons X month)
Age of Visitors		(numbers of persons X month)
Length of stay		(numbers of persons X month)
Mode of transport		(numbers of persons X month)
Cross Tabulations		
Country of residence	X	Age
	X	Sex
	X	Purpose of trip
	X	Length of stay
Purpose of visit	X	Age
	X	Sex
	X	Length of stay
	X	Mode of transport
Age of visitor	X	Length of stay
	X	Mode of transport
Length of stay	X	Mode of transport

Source: Review of Tourism Statistics, Republic of Palau.

United Nations Development Program & World Tourism Organization, 1986

The key data items required for monitoring the performance of the tourist accommodation industry are:

- accommodation capacity, as indicated by the total number of rooms and/or units and/or suites available to paying guests and the total number of bed spaces available for accommodating paying guests;
- levels of utilization, as indicated by the total number of rooms occupied over a specific period (i.e., room nights) and the total number of beds occupied over a corresponding period (i.e. guest nights).

When they are combined to produce occupancy ratios, these figures become standardized indices of utilization rates and excess capacity. They thus provide a basis for assessing the adequacy of accommodation facilities.

In order to measure tourist expenditure in Palau and ascertain its contribution to national income, employment creation and government revenues, two types of surveys are required:

- survey of tourist expenditure; and
- survey of inputs into tourist related goods and services.

Only then will it be possible to measure the real economic impact of tourism and to allocate resources to the sector which reflect the value of tourism to the national economy.

(c) *Marketing and Promotion*

The Board of PVA has adopted the following vision statement for the future of tourism in Palau:

"Tourism will be developed to be a key sector and as a stimulus for other economic activities in Palau provided that development ensures the well-being of the people; the maintenance of our way of life; the protection of the environment and equitable distribution of the benefits among the Palauan people. The nature, size, quality and rate of development will depend on the capacity of Palau to absorb growth and the acceptance/tolerance of the Palauan people of that growth."

The marketing and promotion objectives have been specified as to:

- attract additional higher spending visitors to maximize the net economic benefits of tourism in Palau;
- develop greater awareness of Palau's attractions in selected target markets; and
- establish Palau as a safe, attractive and enjoyable destination for a wide range of potential visitors.

To avoid overdependence on individual markets, PVA's marketing strategies are to be based on promotion across a broad range of markets. Priority will be given to those markets offering the greatest potential especially in terms of increased economic yield. Marketing activities will focus on consumer advertising, consumer promotions, direct mail, public relations and consumer servicing. PVA will seek to motivate the international travel trade to sell Palau through a range of activities including trade shows and travel marts, joint advertising, information and product development support, staff training and trade advertising.

In view of difficulties related to forecasting, the approach adopted by the PVA's marketing strategy is that of setting targets for tourist arrivals and average length of stay (ALOS) in Palau to 1996. The targets selected take account of WTO and the Economist Intelligence Unit's (EIU) projections for global and Pacific region growth. The targets are also in part based on an assessment of the probable expansion of accommodation supply and airline seat capacities by 1996. Consideration has also been given to Government priorities for the sector and the ability of Palau to absorb further expansion.

In the five years to 1993, growth in recorded visitor arrivals averaged approximately 12.5 per cent per annum. WTO and EIU forecasts for the decade to the year 2000 project Asia-Pacific regional growth to average between 4 to 6 per cent per annum. This represents a strong achievement. These relatively high growth rates are not sustainable over the long term and PVA has set a growth target of an average of 9 per cent per annum during the three year period of the Marketing Strategy. Given the market mix targets set for 1996, the rate of growth in tourist arrivals is shown in table 8.4.

Table 8.4 ‘Tourist & Business’ Arrivals - Targets 1996

	1993 Actual Percentage	1996 Target Percentage	1996 Target Arrivals
USA	20.8	23	10,000
Japan	53.2	45	20,000
Australia	1.5	2	900
Philippines	3.2	5	2,200
Europe	4.9	6	2,600
Taiwan	10.0	1	5,000
Korea	2.4	5	2,200
Others	4.0	3	1,100
	100.0	100	44,000

Source: PVA Marketing Strategy, 1994 - 1996

Within the period of the Strategy, PVA also seeks to extend the average length of stay from the current 4.5 nights to 5.5 nights by 1996 through the development and promotion of secondary tourism activities in Palau. These targets would appear to be realistic, desirable and achievable during the period of the 3 year Marketing Strategy.

(d) Employment

PVA has coordinated employment data for tourism and related industries, which in 1992 included 66 businesses. Thirteen hotels employed 493 persons, and 24 restaurants and nightclubs employed 227 staff. Total sector employment was 931 people, of whom 51 percent were female and 53 percent foreign.

One of the principal arguments for encouraging the expansion of tourism is that it creates employment opportunities, particularly for low and semi-skilled workers. The sector is often viewed by governments as a means of absorbing the unemployed, and less educated labor, or as a conduit for excess workers from other sectors. Such a rationale has not applied in Palau, where the rate of development of tourism has been greater than the labor capacity to respond to the opportunities. Much of the growth has been achieved by the use of foreign workers. However, as Compact funds decline and public sector employment opportunities for Palauans are reduced, the private sector and particularly tourism will be required to absorb an increasing number of Palauan workers. Yet no tourism related courses have been offered by Palau Community College (PCC) for the last three years, there is a shortage of qualified dive instructors, and there is no dive instructor training program available in Palau. Given that resort hotels in Palau currently employ some 2-2.5 personnel per available room, the expected increases in room supply (refer section 8.2.6) could create a demand for an additional 800 - 1,000 employees over the next five years.

Employment opportunities for Palauans in the tourism sector will remain limited until both labor market incentives are reoriented towards private sector employment, and the education and training institutions respond to the needs of the lead sectors in the economy rather than the pursuit of traditional vocational skills (Palau High School), or the preparation of students for further academic studies (PCC). While this situation continues, employers will continue to recruit foreign workers.

8.2.5 INFRASTRUCTURE AND TRANSPORT

(a) Utilities

The capacity of basic services of electricity, water, and sewerage are approaching critical levels with service failures now common, which adversely affect visitors and potential investors. There are large capital commitments in the Capital Improvement Program (CIP) and EDP to redress deficiencies in Koror and Airai, and to extend services to other States. These should alleviate some of the problems, although given past experience, an upgraded maintenance and management structure will need to be established if the problems are not to reappear in a few years. Of particular importance in this respect will be the establishment of appropriate pricing policies, developer fees and demand management techniques (refer Chapter 6).

(b) Roads

Since most tourists enjoy marine attractions, they are not greatly inconvenienced by road congestion in Koror. However, the volume of traffic may double within the next five years, with increasing negative impressions and business costs. The sealed road network is largely confined to the States of Koror and Airai, and is due for significant repair. A good dry season road extends to Melekeok and Ngaremlengui in mid-Babeldaob. Four States on Babeldaob have small stretches of sealed road which were funded through Japanese loans. Tourism product development outside Koror is hampered by an almost complete lack of road transportation and other infrastructure. State Governments and some national agencies have inboard vessels for passengers and small cargoes. However, operating costs are high and schedules cannot be guaranteed. Most people travel by privately owned and operated small boats powered by large outboard motors. The construction of the national highway due to commence in FY 1997 should alleviate access problems on Babeldaob, and will underpin substantial growth in the industry in subsequent years.

(c) Air Transportation

Currently, only Continental Air Micronesia serves Palau with 17 Flights a week to Guam, Yap, Manila and Taipei, using Boeing 727 and 737 aircraft. Inconvenient timing of connections in Guam affects travel from Japan. Relatively high prices act as a deterrent to travel to Palau. Cost reductions and efficiency would come from more competition, direct routing and convenient schedules. A second airline should be invited to take up the routes, although market conduct rules may need to be established to prevent collusion. With the Hilton and Outrigger hotel projects real possibilities, potential hotel capacity may be sufficient to back discussions. For domestic travel, Paradise Air operates a fleet of 3 light aircraft to Angaur and Peleliu. One aircraft fitted with floats occasionally visits Kayangel. The aircraft are available for charter flights and sightseeing tours. Paradise Air is negotiating the introduction of a sea plane service to the South West Islands, in conjunction with a Government surveillance contract, necessary to make the route a commercial proposition.

The international airport is classified as a transport airport and functions as Palau's primary air transportation center. The airport has a 7,200 ft asphalt runway in fair condition. The runway and taxiway have medium intensity lights. Navigational aids include a non-directional beacon, distance measuring equipment and visual approach slope indicators. The airport can accommodate medium range narrow body aircraft such as B-707, DC-8 and B-727-200. Terminal facilities include an airlines apron area, passenger terminal building and car parking area. The airport is surrounded by perimeter security fencing. The ability of the airport facilities to cope with long-range, wide-body aircraft is presently

constrained by its inability to handle large numbers of flights and increased aircraft weight. The existing terminal building has been declared structurally unsound and unsafe in a number of consultants reports prepared since 1988. The continued use of the building poses an unacceptable public safety hazard especially in a region noted for destructive storms and earth tremors. Apart from the international airport in Airai there are currently only two domestic air strips in operation - Angaur and Peleliu. Two other strips on Babeldaob have ceased to function as operational airports. The crushed coral strips at Angaur and Peleliu are 7,000 ft and 6,000 ft long respectively and were constructed by the US Military. Neither has a terminal or any form passenger or aircraft handling facilities.

Chapter 6.12.2 details the problems and issues which confront Palau's air transportation both in terms of international and domestic services. The ability of Palau to be able to attract direct flights with a range of carriers from outside Micronesia will be heavily dependent on the adequacy of airport infrastructure and services.

(d) *Sea Transportation*

Harbor facilities throughout the country are basic where they have survived the attention of US bombers in World War II and the occasional typhoon. A few have been rebuilt or repaired through Japanese grant aid and US Military Civic Action Team (CAT) programs. The US Coast Guard visits annually to repair damaged channel navigation markers. The cruise ship handling facilities at Malakal Harbor are very limited and the harbor is often congested with tuna fishing boats. Without improvements to the harbor facilities and the relocation of the tuna fishing fleets, cruise tourism is unlikely to develop significantly in Palau. No attempt is made to enforce boating safety regulations. Carrying capacities are regularly exceeded, and life jackets, flotation devices and even handrails are a rarity. Speed limits are not enforced. The use of small open boats to ferry passengers to communities on islands outside the barrier reef poses a serious public safety hazard.

8.2.6 ACCOMMODATION

In 1994, there were 655 rooms available, of which 502 were situated in Koror State. The supply was 388 rooms in 1990, and has risen in line with total visitors. Currently only one establishment, Palau Pacific Resort (PPR), is an international standard resort hotel. The Resort opened an additional 60 rooms in late 1994. Table 8.5 shows the composition of available accommodation in Palau and the growth rate over the 1990-94 period.

Table 8.5 Hotels, Motels and Guestrooms in Palau, 1990 - 1994

Hotels in Koror	1990	1991	1992	1993	1994*
D.W. Motel	17	17	17	17	17
Malakal Central Hotel	18	18	18	18	18
Hotel Nikko Palau	51	51	51	51	51
Ongdibel (K.K. Motel)	N/A	N/A	6	9	9
King's Apartments	N/A	N/A	15	15	16
Lee Brothers Motel	4	4	4	4	4
Marina Hotel	28	28	28	28	28
New Koror Hotel	26	26	25	25	24
Palau Hotel	38	38	38	38	35
Palau Pacific Resort	100	100	100	100	160
Sunrise Villa	N/A	N/A	N/A	21	28
The Penthouse	N/A	N/A	12	12	12
TNO Motel	5	5	5	5	5
West Plaza Hotel By The Sea	9	9	36	34	34
West Plaza Hotel Topside	11	11	13	12	12
West Plaza Hotel Downtown	22	22	22	22	22
West Plaza Hotel Desekel	N/A	N/A	N/A	15	15
VIP Hotel	12	12	12	12	12
<i>Sub-Total of Rooms</i>	341	341	402	438	502
Hotels & Guesthouses Outside of Koror					
Airai View Hotel			35	87	105
Carp Island Resort	23	23	22	25	25
Ngarraad Traditional Resort	4	4	4	3	3
Guestrooms in Angaur	10	10	10	10	10
Guestrooms in Peleliu	10	10	10	10	10
<i>Sub-Total of Rooms</i>	47	47	91	135	153
TOTAL ROOMS	388	388	483	573	655

Source: Palau Visitors Authority

There are a number of projects either planned or proposed which should expand the tourist accommodation supply over the next 5 years. However, in the absence of formal investment procedures, it is impossible to predict with any degree of certainty the probable increase in accommodation supply. Table 8.6 indicates a number of current proposals.

Table 8.6 Known Proposed Additions to Palau's Hotel Supply

Project	Proposed Rooms	Projected Opening
Palau Hilton Resort	205 rooms 30 condo units	Mid 1997 January 1997
Outrigger Koror Hotel	135 rooms & condo units	Mid 1997
Koror Center Point	100 rooms 25 condo units	Early 1997
UMDA Group (Hyatt)	300 rooms (Maybe)	Mid 1999 Earliest
Palau Resort Development (KB Bridge Site)	300 rooms (up to)	
Nikko Hotel	Refurbishment (no additions)	Commencing 1996

Source: PVA, FIB and State Government Offices

NB: There are other proposed projects including a 100 room resort in Ngatpang, a golf resort in Airai, two designated resort sites in Melekeok, a 6 hotel and 4 golf course FIB approved development in Ngardmau and an integrated resort in Peleliu. However, for one reason or another, these and a number of other proposals appear to be dormant.

Several investors have chosen to provide live-aboard boats in Palau, partly in reaction to the investment risk associated with fixed assets like hotels. Their "room" cost is around \$200,000, which is double the capital cost of a typical hotel room, but avoids the risks, difficulties and delays of investment on land, and provides the flexibility to run diving operations from these vessels.

In terms of availability of finance, the National Development Bank of Palau (NDB) offers loans to citizens of Palau seeking to establish their own business. Interest rates vary according to the priority the National Government attaches to the sector in which the investment is made. The 1994 interest rates were:

- agriculture: 6 per cent
- fisheries: 8 per cent
- tourism: 10 per cent
- other sectors: 12 per cent

The maximum loan amount available from the National Development Bank is \$150,000 and is normally repayable over a 5 year term. In 1992, there were 23 tourism sector loans, of which 18 were for purchase of boats and the remainder for apartments. Tourism related loans account for nearly a quarter of the NDB's portfolio.

However, lending for tourism projects by the commercial banks is restricted by interest rate ceilings and inability to obtain secured title over land (refer chapters 5 and 7) which are major reasons for low domestic investment rates in this sector.

8.2.7 SERVICES

There are 23 licensed and 8 non-licensed tour operators offering diving, snorkeling, marine and occasionally land-based tours. There is no public transport system. There are 8 car rental companies operating in Palau, none of which is affiliated to an international company, and 7 taxi companies with published tariffs for the principal destinations in and around Koror. There are also 7 private bus operators servicing the tour market. Drivers and tour guides are sometimes uninformed about places of interest to tourists, and the quality of vehicles is variable.

There are 30 restaurants including those in hotels and 11 gift shops. The range and quality of goods on offer is limited and in some instances items for sale contravene the Convention on International Trade in Endangered Species (CITES). In part, services are constrained, because of the specialized market of divers and the organization through Japan-based package tours. Palauan leaders have responded by protecting and reserving businesses, in effect constraining the competitive and innovative management and investment required to expand, diversify and upgrade services. Many partnerships have been established between Palauans and foreigners using informal and irregular channels and procedures.

A significant lift in volume of investors and quality of services is needed as soon as possible to enable Palau to meet its economic aspirations as Compact funding declines. A few large resorts (200-250 rooms) are required to lead the market, raise Palau's image in the region, and thus reduce the average marketing costs. The lift in volume will stimulate competition and provide opportunities for new Palauan businesses linked to the larger developments.

8.2.8 AWARENESS AND CULTURE

Tourism is imposing itself on Palauan life and business. Many Palauans have studied and worked in the tourist areas of Guam, CNMI, Hawaii and California, and cope well with cosmopolitan situations. More and more are interacting with Asian businesses, workers and customers. The incursions of tourists have stimulated some revivals of interest in Palau customs and culture, and some positive extensions of culture to the tourists' interests. The economic dependency on foreign visitors, investors and workers will have an impact on cultural aspects and may lead to social disturbances. What should be possible is to use selected aspects of culture to the advantage of tourism development in the same way as Hawaii (flower leis) and Thailand (land of smiles), at the same time as utilizing the skills of foreign workers and co-existing with them during their tenure.

The success of dynamic tourism activities is possible when they do not conflict with the host community's social and cultural values. Tourism, if properly controlled and responsibly developed, can be a force for preserving and/or reviving social and cultural heritage. Given that tourism development has been concentrated in the urban and sub-urban areas of Koror and Airai, and that tourists spend most of their daytime out on the water, their impact has been quite localized. However, if arrivals increase at a rapid rate and spread to more rural areas, opportunities to use cultural aspects in tourism activities will increase.

The Palau Visitors Authority took the initiative to instigate a series of tourism awareness workshops in the wake of the success of November 1993's 'Tourism Awareness Week'. The main objective of the workshops was to identify ways in which Palauans who interact with tourists may provide a better degree of service and enhance the tourist's experience and appreciation of the country. However, there remains a great deal of misunderstanding about tourism and its component industries throughout the community. This is fueling a mistrust of the sector, which shows in fears expressed against foreign investors and expatriate employees.

8.3 STRATEGY AND PROGRAM OUTPUTS: TOURISM

The vision statement adopted by the PVA is consistent with the goals of the Master Plan and, therefore, would seem appropriate for Palau.

Concerns over the type of tourism development and the effects on culture and the natural environment are widespread. However, to this end, proposals from a number of groups to directly control tourist numbers would seem inefficient.

For instance, if there are concerns about the effect of increased tourist numbers on the environment, these should be addressed through environmental controls and establishment of user-charging mechanisms which, at the margin, will tend to restrict numbers and force substitution to alternative sites with less potential for damage. The revenue gained should be earmarked to the site and used to maintain or improve the quality of the attraction. Further, if tourism construction is offensive, it would be more efficient to enact improved zoning laws or establish aesthetic requirements in a building code. If cultural concerns exist, tourism operators should be encouraged to develop more sensitive approaches, together with a system of access fees to cultural sites.

Like most quantity controls, control over numbers would be a blunt way of achieving social and environmental safeguards. It would prevent the Government from collecting the economic rent from Palau's resources. Such user-pays policies are not discriminatory and will lead to an improved allocation. Similarly, all infrastructure services should have an economically efficient charging system, including product prices and developer fees. There are also solid economic arguments for the establishment of standards which can overcome consumer uncertainty and lack of information, such as an appropriate building code, boating safety laws, hotel quality ratings, restaurant sanitary ratings, etc.

Given an appropriate set of controls and charging system, the strategy of tourism policy should be to maximize the *value added* of tourism. As noted, the development of program outputs to achieve this strategy will depend on substantial research. The PVA will require additional resources to achieve this task. The PVA's marketing strategy would appear to be appropriate. Given the resource constraints facing Palau, improved coordination of tourism efforts and greater involvement of the private sector would seem essential.

The Palau Visitors Authority has estimated a target of 9 per cent growth per annum in tourism numbers over the 1994-96 period. This represents 44,000 visitors in 1996 with an increased length of stay from 4.5 to 5.5 nights. This growth rate is conservative and compares with growth rates of 12.5 percent per annum in the five years to 1993, and is about half of the growth rate of CNMI between 1980 and 1992. To support a 9 per cent per annum growth rate in visitor numbers to 2020, the supply of rooms will need to rise from 570 in 1993 to around 1,300 in 2005 and 2,300 in year 2020. These growth rates would appear achievable for Palau. Critical factors will be the supply of accommodation, facilities and air services. While the PVA has some influence on these factors, many of the determinants lie in the range of Government policies that affect all investments. On current trends, employment in the sector during these years will need to increase from 1,250 currently to 3,250 and 5,750 persons in 2005 and 2020, respectively. These growth rates will underscore the continuing demand for foreign workers.

8.3.1 STRATEGY: TOURISM

Maximize the contribution of the tourism sector to the Palauan economy by developing a private sector framework conducive to tourism growth, promoting and monitoring tourism developments, and ensuring the necessary controls and charging systems are established to protect the natural environment and cultural interests. (Strategy 3.4.2.12).

To achieve the strategy, it is recommended that the following policy directions be taken:

- i) Accelerate the supply of secure land for suitable investment sites in areas of potential and promote such investments.
- ii) Reform the laws and processes for investment including taxation, labor and wages, so as to lower investor risk and improve returns to attract investment in the sector, as well as improve Government revenues.
- iii) Develop adequate infrastructure services for tourism development and establish economically efficient price structures (including efficient developer fees).
- iv) Encourage minimum standards (including aesthetic requirements) for tourist accommodation, facilities and services, through an appropriate building code.
- v) Coordinate promotion through private sector organizations and international agencies. Promotion can be a costly and uncertain activity for a small country, hence the need to tie it to the discipline of the tourism business.
- vi) Maximize the safety and satisfaction of each visitor as an effective advertising strategy, particularly important with respect to building and diving safety.
- vii) Improve airline competition and services, and operators' motivation to promote Palau, with negotiations for a second international airline commenced with some priority.
- viii) Support the role of industry groups and encourage training schemes for tourism. Skill levels of Palauans must be upgraded and employment of foreign workers made less attractive.

- ix) Promote public awareness and advocacy of tourism development and tourists' welfare.
- x) Implement and enforce legislation for protection of the natural environment, including appropriate charging policies, to sustain the industry for tourism and maintain the high quality of life for Palauans.
- xi) Increase resources available for tourism support through maintenance of Government budget support (share of the departure tax receipts) and levy on private sector operators.
- xii) Reorient policies to distribute tourism activity more widely outside Koror through the expedition of land claims, provision of infrastructure services, promotion of opportunities through government agencies, and attention to training needs.
- xiii) Encourage tourism operators and participants to develop a cultural strategy to increase the acceptance of tourism development with traditional leaders and enhance cultural appreciation.
- (xiv) Create a reliable, up-to-date and comprehensive database to facilitate tourism research and planning.
- (xv) Accelerate the completion of a new national airport facility which conforms to international standards including runway improvements and appropriate flight safety technology and accommodates the possibility of international flights to and from large metropolitan areas.

8.3.2 PROGRAM OUTPUTS: TOURISM - TOURISM DEVELOPMENT AREAS

8.3.2.1 Areas with Tourism Potential Reviewed

Based upon a review of land-use suitability and environmental impact, the following areas are considered to have potential for tourism development:

- i) *Southern Angaur:* potential for small scale environmentally sensitive development focusing on small scale accommodation, bicycle and walking tours of the islands.
- ii) *Southern Peleliu:* potential for medium scale integrated resort development around the WWII harbor and along adjacent beaches focusing on diving and sports fishing.
- iii) *Koror and Southern Airai:* currently the center for tourism related development, there are still opportunities for further development in more diverse and higher quality services, including holiday and retirement homes, and a central marina to service live-aboard dive boat operations.
- iv) *Ngaraard Coast:* potential to develop beach front resorts following the completion of the Babeldaob road project.
- v) *Ngarchelong:* potential for small scale island resorts focusing on secluded relaxation, watersports, sports fishing and diving. Potential for golf resort development on degraded land overlooking the coast, and close to archaeological sites.

- vi) *Kayangel*: although possessing the potential for a small scale, expensive resort development, the State Plan specifies that such development is not desired and the preferred option, for cultural reasons, is to develop a 'homestay' program.
- vii) *Ngaremlengui*: potential for historical-environmental small scale tourism, using Ngeremeduu Bay catchment and access to reefs.

Initial tourism development should be confined to these areas. A review of tourism development areas should be undertaken following the completion of the Babeldaob Road to ascertain if additional potential tourism development areas exist on the island. With the exception of occasional visits by live-aboard dive boats and small cruiseships, no significant tourism development in Sonsorol and Tobi is envisaged during the foreseeable future. Permanent structures for overnight accommodation should not be allowed in the Rock Islands. Adequate facilities and disposal services should be provided at popular day visit sites.

8.3.3 PROGRAM OUTPUTS: TOURISM - INSTITUTIONS AND RESPONSIBILITIES

8.3.3.1 Tourism Policy Responsibility in the Ministry of Commerce and Trade

The Ministry of Commerce and Trade's Bureau of Commercial Development should have specific responsibility for the long-term objectives for tourism development and monitoring the expansion of the sector. The Bureau should maintain a register of all tourism-related development projects which have been submitted for various approvals, permits or licenses with details of the proposed site, the scale of development (number of rooms, etc.) and component facilities, the expected commencement of construction, projected opening date and the current status of the project. This register should be made freely available to any potential investor in Palau's tourism sector and be circulated to PVA. Regular quarterly reviews of the register should be undertaken to evaluate each project's current status. The Bureau of Commercial Development should also liaise with other Government agencies on matters of tourism policy, particularly in those areas that require coordination with other Government policies and/or have budget implications. The collection of relevant statistics should be improved substantially. In particular, data on arrivals, accommodation capacity, utilization rates, tourist expenditures, and inputs into tourist goods and services need to be established or upgraded as shown in the Master Plan.

8.3.3.2 National Tourism Association Created

The Palau Visitors Authority should act as a catalyst for the private sector to form a national association which would be the peak body in Palau for tourism promotion. Representation should include representatives from operators, investors, workers, and Government. To assist in meeting funding needs, a levy on members could be introduced.

Such an organization should work together with the PVA to effectively promote Palau as a unique international tourism destination. Together they should:

- i) facilitate the coordinated development of international marketing activities to aid the efficient allocation of national, state and industry resources;
- ii) undertake measures to ensure that its participation in international expositions and travel marts maximize the opportunities for promoting Palau's tourism products to the most appropriate markets;
- iii) continue to disseminate information on Palau's tourism industry and its products to all interested parties and provide assistance to visiting travel writers, journalists and travel agents;

- iv) coordinate with industry operators in the creation and publication of an official guide book for Palau which should be available at all tourist accommodation and retail outlets;
- v) produce an accurate and convenient sized tourist map for both the country as a whole and for Koror which identifies possible tours and sites of historical, cultural, recreational and ecological interest;
- vi) maintain an information desk at the airport with an officer on duty on the meet all flight arrivals. The same should apply when cruiseships arrive at Malakal Harbor;
- vii) ensure that adequate sign posts are installed and regularly maintained which would guide tourists to sites of interest; and
- viii) provide tour guides with training on a regular basis to upgrade their knowledge of Palau's tourism products and to impart skills on handling tour groups including language skills.

8.3.3.3 Development Guidelines Formulated

Development guidelines should be formulated which ensure that future development conforms with internationally accepted standards and enhances the unique products of Palau. Pacific Asia Travel Association's Micronesia Chapter Code for Environmentally Responsible Tourism (refer Tourism Sector Report, NMDP) is an example. These guidelines should be distributed to potential investors through the Bureau of Commercial Development and FIB.

8.3.3.4 Legislation Reviewed and Rationalized

A review of all tourism related legislation and regulations should be undertaken. The objective would be to identify and revoke those which are unenforceable and impede the sustainable development of the sector. The review should also specify the enforcement responsibilities of various government agencies and private organizations.

8.3.3.5 Uniform Building Code Developed

Uniform building code regulations covering at least electrical wiring, sanitary facilities, structural design and aesthetic requirements should be adopted and strictly enforced for all structures in which tourism related activities are conducted. Both the PVA and industry representatives should have an input into the drafting of the aesthetic requirements.

8.3.3.6 A Register of Hotels and Tourism-Related Businesses Developed and Maintained

The PVA should maintain a register of all tourism related businesses and categorize hotels in accordance with internationally recognized standards.

8.3.3.7 Boat Safety Regulations Enforced

The revised boat safety regulations should be strictly enforced and repeat offenders should have their operational licenses withdrawn.

8.3.3.8 Dive Site Management Plan Developed

A dive site management plan should be drawn up by the dive operators which would designate dive sites and regulate usage of the most popular dive sites, as well as restrict access to the more difficult sites to those who are certified as advanced divers with documented dive histories. Spear fishing should be banned at designated dive sites. In the event that the dive operators are unable to agree upon a dive site management plan within a two year time frame, the Government should request technical assistance from the World Wide Fund for Nature (WWF), The Nature Conservancy or other similar organization.

8.3.3.9 Tourist Sites Identified and Developed by States

The PVA and the industry should continue to work closely with individual state governments to identify and develop hiking and cycle routes, as well as improving and maintaining access to sites of tourist interest.

8.3.3.10 Capability of Public and Private Sectors to Manage the Tourism Sector Improved

The Government should approach the UNDP for technical assistance for institutional development in tourism which could be implemented by the World Tourism Organization, and which would target information, supply and processing, policy development and private organizations' roles and capability.

8.3.3.11 Foreign Investment Process for Tourism Projects Clarified and Streamlined

Investment guidelines should be clarified and a more focused, non-discriminatory approach to domestic and foreign investment established, which streamlines the approval process for business licenses and environmental permits as recommended in Chapters 4, 5 and 12. Guidelines should be produced by the FIB detailing the necessary process and requirements.

8.3.3.12 Venture Capital Fund for Tourism Projects Established

A venture capital fund should be established in the Palau National Development Bank to assist Palauan entrepreneurs to participate in the tourism sector. Funding terms should reflect industry risks.

8.3.4 PROGRAM OUTPUTS: TOURISM - LABOR

8.3.4.1 Labor Contracts and Conditions in the Tourism Sector Enforced

Standard labor contracts and conditions should be enforced so as to raise workers' welfare, productivity, commitment and presentation, particularly in the customer service business of tourism, and to induce tour businesses to become internationally competitive.

8.3.4.2 Palauans Trained in Specific Tourism-Related Skills

Training, guided by the PVA and industry and the Education Advisory Committee (refer Chapter 14) should concentrate on those areas of management, supervision, boating, fishing, and guiding wherein Palauans have interests and skills. Recognizing the reality of the job market, training should be seen as a necessary investment in Palauans.

8.3.5 PROGRAM OUTPUTS: TOURISM - INFRASTRUCTURE

8.3.5.1 International Airport Facilities Upgraded

Funding should be made available to upgrade the facilities at the international airport so that they conform to international standards, including runway improvements and appropriate flight safety technology which will accommodate the possibility of international flights to and from large metropolitan areas. Management options for the improved facilities should also be considered in this study (refer Chapter 6).

8.3.5.2 Procedures for Handling of Commercial and Private Passenger Vessels Reviewed

A review of the current procedures for handling visiting cruiseships and yachts should be undertaken, including notification of arrival, docking procedures, customs and immigration clearance and fees chargeable. Adequate facilities should be made available for mooring, waste disposal, water and electricity connection for live-aboard dive boats and visiting yachts.

8.3.5.3 Criteria for User and Developer Fees Established

An efficient system of developer fees and infrastructure service charges should be established based on the principles outlined in Chapter 5. These principles should be developed into a transparent framework which should be available to developers and which should form the basis of submission and negotiations. Any user fees levied on attractions should be related to costs incurred in maintaining or improving the resource, as well as any demand management goals. Funds collected should be generally earmarked to cover these costs.

8.3.6 PROGRAM OUTPUTS: TOURISM - AWARENESS AND CULTURE

8.3.6.1 Tourism Awareness Increased within Palau

The PVA should follow up on the success of the 1993 Tourism Awareness Week by making it an annual event, with some Government as well as industry contribution. The PVA should provide regular reports on tourism for national television, radio, and newspapers. The schools should introduce tourism awareness courses into their curricula enabling visits to the classroom by tourism operators and class visits to tourism-related businesses. School counselors should be aware of the job opportunities in the tourism industry and pass this information on to school leaders. Residents in identified potential tourism development areas should be encouraged by States to provide tourism support services in addition to being made aware of employment and investment opportunities in tourism. The Palau Community Action Agency and the Small Business Resource Center can assist in this role.

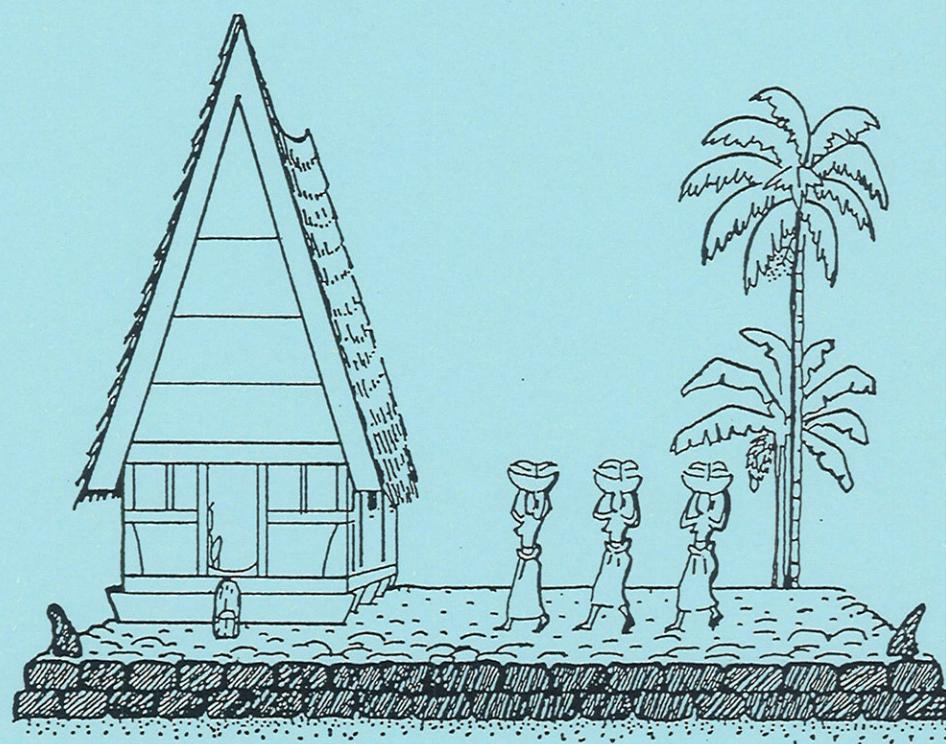
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY						
8.3.1 Maximize the contribution of the tourism sector to the Palauan economy by developing a private sector framework conducive to tourism growth, promoting and monitoring tourism developments, and ensuring the necessary controls and charging systems are established to protect the natural environment and cultural interests.						
OUTPUTS						
8.3.2.1 Areas with tourism potential reviewed	7 major areas already identified are accorded priority in the planning and approval processes, in line with the desires of the States. Babelaab Road enabling easier access to identified sites.		Process of approval for projects can accommodate prioritization			
8.3.3.1 Tourism policy position created in the Ministry of Commerce and Trade	Tourism policies developed and implemented by 1997. Ministry liaison with key organizations integrates administrative and legislative requirements.	Civil Service Board staffing information - appointment of policy adviser in Ministry of Commerce & Trade	Suitable qualified person can be recruited to the policy position. Need for liaison and cooperation is understood by all stakeholders	recurrent	50	
8.3.3.2 National tourism association created	PVA and industry cooperating to promote tourism in Palau to target markets (PVA Premises \$70,000). Strategic 3-yr marketing plan operational and meeting targets (Plan \$300,000 Annual business plan operational and meeting targets)	PVA premises, Strategic Plan, Business Plan, Staff records, industry levy collections	Industry recognizes need to support ongoing PVA programs by providing funding for staff	1	105	
8.3.3.3 Development guidelines formulated	Guidelines which meet PATA standards prepared, operational, and distributed to foreign investors by 1996.	Guidelines	PVA & FIB have technical and financial capability to develop guidelines	1	10	
8.3.3.4 Legislation reviewed and rationalized	Legislation relating to tourism identified by PVA, and operating effectively by 1997	Review report, revised legislation	PVA & Office of Attorney General willing to provide expertise to review legislation	0.5		25
8.3.3.5 Uniform Building Code developed and enforced	Refer Chapter 7		Willingness of the drafters of the Code to involve PVA in drafting guidelines	n/a		
8.3.3.6 A register of hotels and tourism-related business developed and maintained	Hotel classification system completed and publicized by BTA by 1996 (\$5,000), tourist accommodation survey completed by 1996 (\$10,000) and repeated every 2 years for incorporation into Official tourist guidebook & tourist map	Register, Tourist Guidebook & Map		1	40	
8.3.3.7 Boat safety regulations enforced	Boating-related accidents reduced	Court records of convictions/fines, Accident and Dive Site Management Plan	Bureau of Public Safety has resources to enforce regulations	recurrent		
8.3.3.8 Dive site management plan developed	Management Plan completed and operational by 1996	Dive Site Management Plan	Safe Water Sports Assoc. of Palau willing to provide expertise to prepare plan	1	50	
8.3.3.9 Tourist sites identified and developed by States and PVA	New and existing tourist sites developed within the States attracting more visitors and returning expected benefits	Official Guidebook & Tourist Map, 1998 & 1999 Visitor Expenditure & Motivation Survey (\$15,000 /survey x 2 conducted by PVA), Ngemelis Reef EIA (\$30,000 possible funding from Nature Conservancy)	States and PVA can agree on types of sites to promote and develop	3	30	
8.3.3.10 Capability of public and private sectors to manage the tourism sector improved	Tourism sector meeting expected returns on financial and other performance targets. Data gathering and processing supports policy development and performance measurement	PVA business & strategic marketing plans, business surveys. Upgraded data processing capability (\$30,000 WTO) Tourism employment survey (\$5,000 annually MCT & PVA)		recurrent	5	30
8.3.3.11 Foreign investment process for tourism projects clarified and streamlined	Refer Chapter 4					
8.3.3.12 Venture capital fund for tourism projects established	Palau Venture Fund established and operational by 1996	PNDB records	Legislative requirements necessary to establish a fund can be met	5	2000	
8.3.4.1 Labor contracts and conditions in the tourism sector enforced	Refer Chapter 14					

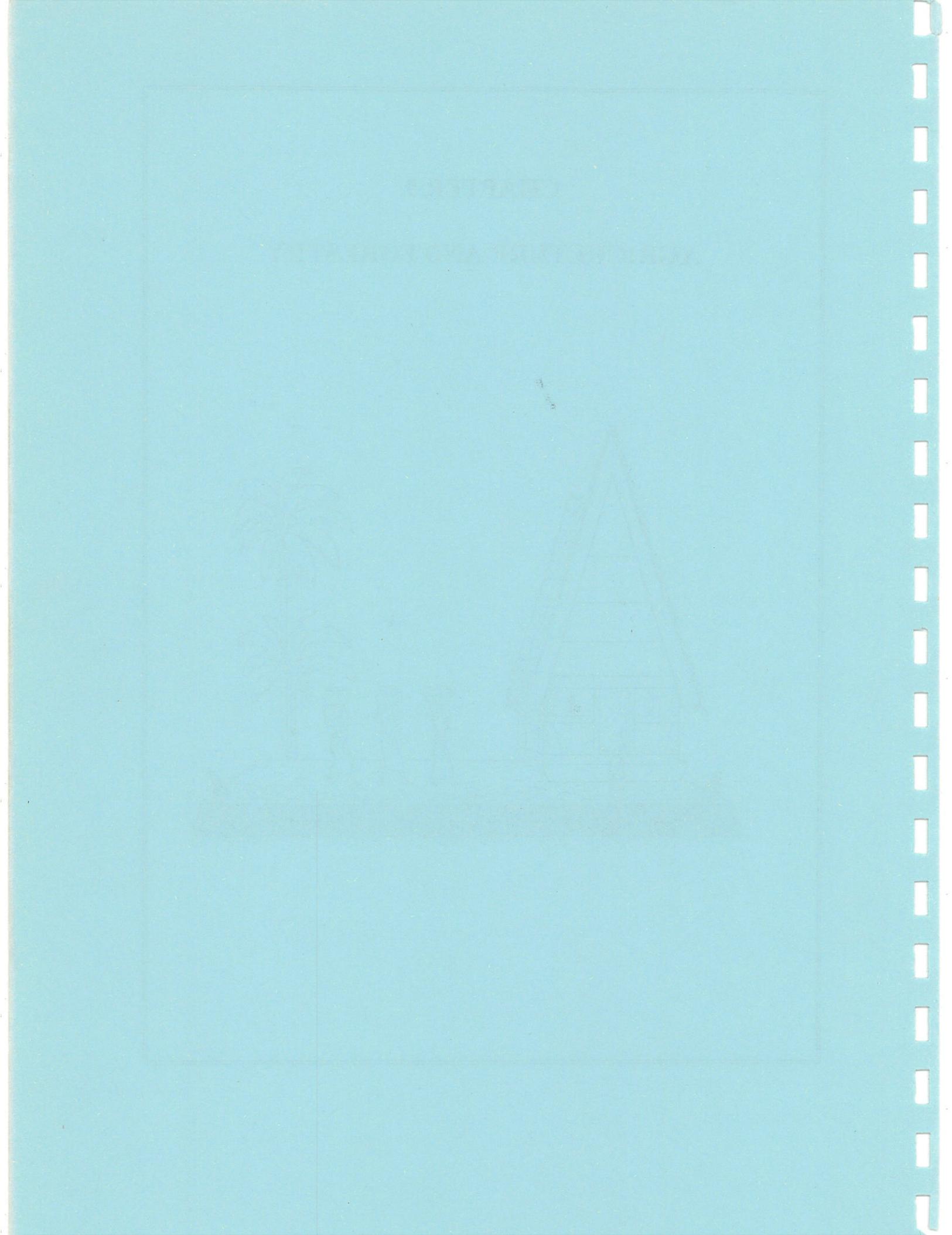
CHAPTER 8: TOURISM LOGFRAME

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
8.3.4.2 Palauans trained in specific tourism-related skills	(Refer also 8.3.3.10.)Tourist activities implemented by appropriately trained and qualified Palauans and activities meet standards set by Government, industry and professional organization	Register of qualified Palauan dive instructors, & divemasters (2 Instructor Programs /yr \$15,000), Tourism Education & Training Needs Evaluation (\$50,000/WTO) Tourism studies program graduate tracking from PCC (\$25,000/yr for scholarships)	SWAP members continue to encourage new entrants into the industry, and support maintenance of professional standards in operations	5	75	175
8.3.5.1 International airport facilities upgraded	Refer Chapter 8					
8.3.5.2 Procedures for handling of commercial and private passenger vessels reviewed	Refer Chapter 13					
8.3.5.3 Criteria for user and developer fees established	Refer Chapter 5.3.3					
8.3.6.1 Tourism awareness increased within Palau	Tourism policies, goals and importance to Palau economy understood by a significant number of residents by the end of 1996	Survey (every 2 yrs) of resident attitudes towards tourism (\$10,000 PVA & Ministry of Community & Cultural Affairs), Tourism Awareness Week attendance(\$25,000/yr PVA), Tourism Business Opportunities Workshops evaluations (\$1000/workshop x 2 each year)	Palauans and other residents willing to respond to surveys	recurrent	37	

CHAPTER 9

AGRICULTURE AND FORESTRY





CHAPTER 9

AGRICULTURE AND FORESTRY

Agriculture and forestry development has grown modestly over the past decade, but it has declined significantly relative to other sectors. Strong growth in domestic demand for food and forestry products has been met via imports. Motivation for involvement in the sector is generally low and the range of agricultural products produced is very narrow, despite relatively high domestic prices. Typified by low returns, official and public interest has not been sufficient to force a significant increase in the resources and effectiveness of education and training in this sector. However, despite a number of constraints, the sector has substantial potential to expand. This chapter proposes a number of recommendations to enhance production.

9.1 INTRODUCTION

Agriculture and forestry are usually lead sectors in the small economies of the Pacific islands. While it is stated that these two sectors are important to the development of Palau, increased emphasis will need to be placed on them if they are to play a meaningful role in that development. The national highway when constructed should provide substantial opportunities for people to grow and sell more produce both in Koror and, in the future, in the new capital at Melekeok. The constraints associated with existing foreign investment laws, land access and suitability, attitudes, utilization of foreign labor, infrastructure limitations, transportation costs, and the availability and price of imported substitutes all affect the potential for development of agriculture and forestry. Map 7 shows the agricultural areas of Babeldaob and is presented in Annex 3.

The Government's Economic Development Plan (EDP) has stated that the following goals for agricultural development are to:

- reduce dependence on imported foodstuffs, thereby increasing self-sufficiency;
- ensure household food security throughout Palau and promote locally produced commodities in the diet;
- improve productivity in the dualistic farming system and, at the same time, improve domestic marketing systems;
- improve subsistence farmers' incomes;
- seek to take advantage of import markets; and
- seek further opportunities in the medium to long-term for new, high volume export crops.

The goals for the forestry sector in the EDP are to:

- increase efforts on forestry activities related to watershed management and the rehabilitation of degraded land because of the extremely high value Palau places on its reefs and marine ecosystems;
- develop and implement management plans for key components of forest resources, particularly mangroves;
- build and improve human and institutional capacity if the land resources sectors are to be developed; and
- focus efforts initially on commodities in which Palau has or can develop a comparative advantage, and which are already accepted and understood by Palauans.

The goals in the EDP are appropriate for Palau. However, while agriculture and forestry offer some potential for development, a re-alignment of strategies and programs for the sector will be required.

Agriculture is important to the maintenance of culture, and contributes to economic activity and the welfare of the poorer, less educated and less mobile people. It can result in adverse impacts on the natural environment. There is both the need and the opportunity to gain more from agriculture and forestry, while influencing wise usage towards the enhancement and protection of land and marine ecosystems.

9.2 SITUATION ANALYSIS

Analysis of the situation and trends in agriculture and forestry is constrained presently by a relatively weak statistical database. Limited data is available on imports, but there are insufficient time series to allow meaningful analysis of trends. There are no series such as a producers' price index of agricultural products or of input costs. An Agricultural Census has been prepared and enumerators trained, although completion is constrained by a funding shortfall. Similarly, the Palau Resources Institute is planning a 'Food Production and Exchange Survey' which is also held up by the non-availability of funds. The completion of these activities will add considerably to the understanding of the agricultural sector in Palau.

9.2.1 AGRICULTURAL OUTPUT

Traditional agriculture in Palau has included agroforestry systems such as shifting agriculture or bush fallow, and multi-story plantings of trees and root crops. This latter system is more common in Palau. Importantly, the Division of Agriculture, in cooperation with various non-government and other organizations, has begun promoting agroforestry systems. It is estimated that 2,741 acres (2.7 percent of the total land area of Palau) is used for agroforestry. Cultivated land without tree cover, or interspersed with some secondary vegetation, is estimated to cover 1,006 acres, or one percent, of the nation's land area. This figure includes urban cropland. Traditional crops in Palau have included species such as true taro, giant taro, cassava, sweet potato, true yam, bitter yam, papaya, betel nut, banana and coconut. Bread fruit is also significant in some parts of the country. Recent introductions to Palauan agriculture include species of cabbage, egg plant, squash and water melon. Previous attempts to develop crops such as cocoa have failed.

At the present time agriculture does not constitute a large portion of the commercial market economy. While the value of agricultural production has increased modestly over the past decade, it has declined significantly relative to the economy overall. Other sectors of the economy have grown more rapidly than agriculture. The contribution of agriculture to gross domestic product (GDP) declined from 9.8 percent in 1983 to only 2.9 percent in 1992, a value of \$2.6 million. Agriculture in Palau at present is mainly for subsistence and customary purposes, although sales of products such as vegetables, root crops, fruits and betel nuts are common. Farm labor is provided by women with the most commonly produced commodities being taro, sweet potato, cassava and some fruits. There is an element of 'extended dualism', with some women employing foreign labor to assist production of taro which is an important crop culturally and economically, as well as for subsistence purposes. Some foreign laborers are employed also by Palauan owners of commercial farming operations.

Pigs and poultry are the main livestock to be found in Palau. The Division of Agriculture has conducted breeding programs for cattle and goats, although the numbers of these animals have fallen to very low levels. Some funding is available presently to import more goats and the Division has indicated its intention to purchase and import more stock. The Division of Agriculture runs a pig breeding unit of 10 sows with a stated intention of improving the quality of local pigs. Members of the public purchase piglets from the Division and use them in local production. There is also limited commercial pig production and local slaughtering.

Chickens are produced in a 50 hen unit run by the Division of Agriculture, with chicks sold to local producers. Domestic egg production met more than 70 percent of local consumption needs in 1990-91, with three commercial egg producers involved in local production. However, in the following two years domestic production has met only around 50 per cent, of local demand. There is a clear consumer preference for local eggs even though they are slightly more expensive than the imported product; but the ability of local producers to meet demand has, apparently, declined in recent years. While chicken meat is popular, there is no commercial broiler production in Palau principally because of the high cost of imported feed. A lack of suitable expertise may also be hindering the development of a local broiler industry.

There have been some limited exports of agriculture produce from Palau in recent times. These exports have been mainly from one commercial farm, although there are also as yet unmeasured private exports to family members living in Guam and Saipan. In general, however agricultural production in excess of subsistence and social needs is limited to domestic sales. Similarly, the produce from local commercial farms is sold almost exclusively on the domestic market.

The Division of Agriculture collects information on the quantities and values of agricultural commodities which are marketed locally. The data collected by the Division are summarized in Table 9.1. Reference to the table shows that around \$600,000 of local commodities have been marketed per annum in recent years. Vegetables and eggs are shown to be particularly important, with more than 150,000 dozen eggs produced and sold locally in the FY 1993. In the vegetables category, the most important items are Chinese cabbage, cucumber and watermelon; while for fruits, banana and papaya are most important.

Reference to the first National Development Plan for Palau (NDP 1987) shows that food imports (excluding beverages) totaled \$1.9 million in 1983 and \$2.4 million in 1984 (on an f.o.b. basis). By 1994 the value of food imports had risen to \$6.6 million, (refer Table 9.2). While these figures are in nominal (unadjusted) dollar terms it is very likely that food imports have increased. Given population and tourist growth trends, and activity related to Compact spending, it is likely that demand for agricultural output and imports will continue to expand over the medium term.

Table 9.1 Quantity and Value of Domestic Products Sold

Item	FY 1991		FY 1992		FY 1993	
	Ibs	\$	Ibs	\$	Ibs	\$
Veg.	108,188	65,510	12,2575	78,329	204,854	126,325
Fruits	58,997	29,567	80,073	44,476	99,566	49,785
Staples	61,499	129,684	73,016	50,458	84,351	43,719
Tet ⁽¹⁾	30,470	38,088	69,887	87,284	48,201	60,376
Kebur ⁽²⁾	7,061	7,061	17,985	17,985	10,672	10,672
Eggs ⁽³⁾	130,970	329,198	144,183	252,320	150,115	262,701
Pork	29,094	39,246	17,985	60,400	35,712	53,568
Total	638,354		591,252		607,146	

Source: Division of Agriculture and Minerals, Palau

- Notes:
1. Packet of betel nut (each)
 2. Pepper leaf for betel nut (\$1 each)
 3. Eggs (doz)

Table 9.2 Value of Commodity Imports 1994

Commodity	Value \$'000 (f.o.b.)
Lumber/Plywood/Wood Manufacturers	1074
Furniture	178
Rice	701
Flour	315
Canned fish	141
Other Seafood	533
Meat & Meat Preparations	993
Canned Meat	694
Dairy Products & Eggs	581
Vegetables	384
Other food stuffs	2305
Soft Drinks & Juices	1152
Total	9,051

Source: Ministry of Commerce and Trade

9.2.2 FORESTRY OUTPUT

Seventy-five percent of Palau is covered with native forest, with upland, swamp, and mangrove forests predominating. Most of the grassland/savanna areas could again support forest vegetation with long-term, committed, rehabilitation and management. Commercial timber resources are quite limited, with sales of around \$100,000 per year. Most building products are imported.

Most of the upland forest areas are situated on highly erosive and/or very steep areas, with implications for swamp and mangrove forests, and for the condition of near-shore, lagoon and coral reef areas in the marine environment. The Division of Agriculture and Mineral Resources (DAMR) emphasizes watershed management as the highest priority in their planning.

There is general interest in tree planting, nurseries and distribution by the DAMR and private organizations. Also, the Division is trialing different tree species, and contributing to the rehabilitation of degraded lands through companion planting of acacia and mahogany.

In 1983 the imports of 'wooden products for furniture', 'wood manufactures' and 'furniture' totaled \$0.8 million. In 1984 that figure had risen to almost \$1.7m. The statistics reported for 1990 refer to 'lumber/plywood' and 'furniture', with imports of these items totaling \$0.7million. In 1994, statistics on imports of wood manufactures and furniture showed imported value at \$1.3 million (refer table 9.2). While the figures are not directly comparable, it is evident that there are significant timber imports each year. Consideration of likely future activities indicates that imports of timber and timber products could be expected to increase significantly over the medium-term reflecting Compact spending, particularly construction spending, and continued expansion in the tourism industry.

There is scope for some substitution from local sources. There is very limited milling capability within the country, with one private operator milling logs on a contract basis and another milling logs and manufacturing small quantities of furniture. There are several species of millable timber in Palau, and the resource could provide, on a 35 year rotation, about 500 cubic meters per year, worth about \$750,000 (fob).

An additional resource may be coconut palms. Although milling is technically difficult, requiring specialized equipment and skills, and is typified by low recovery rates of around 10-15 percent, it has been found in other island nations, for example, Tonga, to be competitive with imports.

The foregoing discussion is focused on the direct use of forest resources. However, forests also support biological diversity and at least 14 other uses, including food and medicine, customary ceremonies, firewood and fish poison, the value of which has not been quantified. In view of Palau's uncertain opportunities, small size, tourism potential, and ecological and cultural needs, it is probable that long term economic benefits of Palau's forest resources would be maximized by a very judicious and sparing immediate term direct use of forest resources.

9.2.3 EMPLOYMENT

The 1990 census indicated 359 people employed in the farming, forestry and fishing sectors, compared with a total of 65 reported in 1980. Aggregation of agriculture, forestry and fishing data makes analysis of components difficult. A large part of the increase in employment in this sector has been due to an increase in inshore fishing from a steady increase in catch rates (refer Chapter 11). Of the remaining increase, foreign workers are likely to have comprised a large part.

9.2.4 INSTITUTIONAL ARRANGEMENTS

(a) Division of Agriculture and Mineral Resources (DAMR)

Imports of food and timber will increase significantly over the next decade, due to expected growth in population and tourist numbers. For example, imports of chicken and rice may well double between 1994 and 2004, and double again between 2005 and 2020. It is clear there is potential for import substitution and greater self-sufficiency, notably for chickens, eggs, and vegetables.

The sector is supported by the DAMR which has 26 employees comprising eight extension officers, four forestry specialists, six quarantine inspectors, four animal technicians and three support staff. The Division operates an environmental station, pig and poultry breeding units, an agri-store supplying farm equipment at cost plus 10 percent, a plowing service and a forestry field station. There are no agricultural research staff. With a budget of almost \$300,000 and a staff salary component of \$271,300, there is little for operating funds to carry out extension and training work. No funds are budgeted for travel or equipment. Given the potential of the sector, a review of the structure and operation of the Division should be undertaken.

(b) Non-Government Organizations (NGOs) and Other Agencies

There are a number of non-government organizations assisting in the development of agriculture:

- i) The PCAA runs the Family Food and Nutrition Project, and a small revolving fund for production of chickens and pigs.
- ii) OISCA International operates a training farm for young Palauans in which 12 months of on-farm training is followed by 15 months in Japan.
- iii) The Palau Resource Institute (PRI) assists traditional aspects and women's roles in the sector.
- iv) The Republic of China runs a demonstration farm at Nekkeng, the products of which are donated to the Division for local sale.
- v) A number of United States federal programs are in operation, such as the Land Grant Program based in Pohnpei. This program may remain eligible for funding after Compact implementation, but needs to shift its base to Palau to be more effective.

- vi) The National Development Bank of Palau has credit available for agricultural pursuits at an interest rate of 6 percent. However, there are only (in 1993) nine outstanding loans for agriculture and two for forestry, due to a decline in applications.
- vii) The Environmental Quality Protection Board and the Division of Conservation and Entomology provide advice and assistance in farming and forestry activities.

Despite the institutional assistance available to the sector, the number of cultivators engaged in the sector does not appear to be increasing and this would lend support to the need for a review of the role of NGOs in this sector.

(c) *Education*

The Ministry of Education has recently recommended that agriculture be a required subject for all school children and has applied to the government for additional funding to expand the agriculture curriculum.

Palau Community College (PCC) offers a two-year Associate of Science degree in Agricultural Science, as well as a Certificate of Achievement and shorter term Certificates of Completion for specific skills development. The program was closed in 1993 due to a lack of enrollments, but reopened in 1994 with eight students. Additionally, students enrolled in other courses take some credits in Tropical Agriculture which is offered in the agriculture program. The program is constrained by inadequate land resources and by having only one full-time staff member. Students are unlikely to be attracted to agricultural studies unless wages and income opportunities improve in the sector. Improved opportunities in agriculture will depend greatly on foreign labor regulations, the structure of taxes and import duties, and labor productivity as affected by capital intensity and scale economies. There may need to be some encouragement to undertake study, perhaps through the provision of scholarships for some PCC graduates to continue their agriculture studies in the United States. Also, there may be a need for more directed, on-farm training of selected persons who are committed to commercial establishments. The initiatives to be taken by the Ministry of Education and PCC will need to be evaluated at the same time as the evaluation mentioned previously.

(d) *Legislation*

Title 9 of the Palau National Code is the only legislation which is specific to agriculture. The key part of that legislation was the creation of an Agricultural Commission which has since been repealed.

The only other part of Title 9 is that establishing the Agricultural Revolving Fund. The purpose of the fund, which is still operational, is stated as "purchasing seeds, fertilizers, insecticides, hog and chicken feed, and small hand tools, and then selling such items to farmers in the Republic at CIF prices plus a small mark-up of not more than 10 percent". The Division of Agriculture also provides a plowing service at cost to smallholder farmers, and undertakes repairs on small equipment.

The operation of the Agricultural Revolving Fund through the Division's agri-store in Koror provides a useful service to those farmers who have access to it. The turnover of the store is around \$100,000 per annum and it operates successfully within the confines of the revolving fund. It is not clear that the full range of services provided by the store would be picked up by the private sector if the store were to cease operations. It is also not clear what the impact might be on farm input costs, but it is expected that most would be higher. Additionally, the store provides an important outlet for the sales of improved plant and

animal varieties. While the revolving fund and the agri-store should continue in operation, the services provided should be reviewed. Certain aspects of the operation, such as the plowing and repair services, might be appropriately left to the private sector or alternatively provided on a fee-for-service basis. The store could then concentrate on those services which may not otherwise be provided or only provided at a prohibitive cost to farmers.

Two pieces of forestry legislation have been drafted in recent years although neither has yet been enacted by the OEK. The Wildland Fire and Forestry Management Bill was drafted and submitted to the OEK in 1988. The Bill reflects concern about wildfires which forestry personnel see as the major problem confronting the sector. In any case, the Bill has been replaced by the Palau Forest Practices Bill which was drafted in 1992. This Bill is far more wide-ranging in scope, and provides for a more comprehensive plan of management for the forestry sector. The Bill also contains specific guidelines for forest practice standards, the export of forest products (including a ban on the export of unprocessed round logs), and various other statutes relating to matters such as permits and penalties.

This proposed legislation was not taken beyond the draft stage in 1992 because it was agreed that the United States Department of Agriculture's Forest Service would prepare a forestry management plan for Palau. This plan was substantially completed in 1993 but the report has not yet been finally accepted. It is therefore expected that legislation relating to forest practices will again be drafted in the near future. Such legislation is appropriate and needed in Palau, particularly given the stated mission of using the forests for watershed protection and for land rehabilitation. Conversely, enacting legislation to reduce fires may achieve little, although there is no reason not to have it in as a section in the statutes dealing with forest practices. Public education programs aimed at reducing wildfires are, however likely to be more effective in the medium to long term. In Chapter 12, there is a recommendation for comprehensive environmental legislation which will incorporate these aspects.

9.3 ISSUES AND CONSTRAINTS

The EDP indicates a number of problems for the development of market-oriented agriculture. These include:

- lack of available arable land;
- lack of motivation because of low wages and status attached to working in the sector (gardening is traditionally women's work, but there is a willingness to employ foreign labor);
- limited access to finance (the National Development Bank of Palau has not extended loans to the sector because of the high risk factor);
- limited infrastructure to support the development of agriculture;
- the market in Koror is small, but growing, and there are difficulties related to a lack of steady supply of produce from farmers;
- women are involved in most of the production of the sector, but there are no female extension officers in the Agriculture Division.

These problems and constraints need to be addressed if agricultural and forestry production are to be enhanced. A number of critical issues are detailed below:

9.3.1 LAND SUITABILITY

The total land area of Palau is around 103,000 acres. However, agricultural activities are limited by poor and acid soils, a limited land base, and steep topography. Areas of bottomland soils, typified by high water tables, are also restrictive in terms of the range of crops which can be successfully grown in these soils. Overall, most land in Palau suffers from moderate to severe physical limitations which restrict the distribution of development potential. However, an extensive soils survey for Palau (completed by the United States Department of Agriculture in 1983) shows that much of the land in Babeldaob, as well as parts of Koror and the coral limestone islands of Peleliu, Angaur and Ngerekebesang, is potentially suitable for agriculture; albeit subject to important limitations such as poor and acid soils, some with high aluminum levels, and extensive areas of steep land. Considerable scope exists to increase both agricultural production and productivity without clearing large tracts of additional land. Forest land, when first cleared, will be more fertile because of higher levels of humus and organic matter, and lesser exposure to the degrading effects of rain, wind and sun. However, given the value of forest for watershed protection and a range of non-timber uses, the temptation to clear forest for agriculture should be resisted.

Field visits and inspection of aerial photographs indicate that there are significant areas of cleared, unused land which have the potential for agricultural and forestry use. Realizing this potential will, however require careful attention to the agricultural system imposed. With the general acceptance of the need to make agriculture sustainable, the preferred production system in most areas is multi-canopy agroforestry. Such a system means that physical limitations may be minimized by the incorporation of conservation practices into production operations. In general, clean-tilled crop production, except in flat areas, should be avoided.

An issue related to land capability is that of zoning. Zoning of agricultural land is more problematic than that of other uses. Due to the combination of land tenure arrangements and state control of resources, such zoning, even if designed, may be very difficult to implement. Further, zoning of land for agriculture will be critically affected by the type of production system in use (eg tree crops might be grown on quite steep land, while vegetable crops generally should not) and public expectation regarding the potential future opportunities for land use such as tourist or retail developments. Therefore, the focus should not be on zoning agricultural land, but on developing sensible guidelines for land use practices and providing community education about farming systems. A general guideline would be to discourage any unplanned or uncontrolled clean tillage on slopes above 12 percent as this would certainly lead to severe soil loss. Information on sustainable production systems should be publicized widely. Such an approach is likely to do more for preserving limited land resources than Government-imposed zoning of agricultural land. If zoning were to be introduced, it would need to be based on the existing soil survey, topographic maps, aerial photographs and extensive ground truthing and review of potential future alternative uses.

9.3.2 LAND TENURE

Land ownership is an important issue which affects development activities in Palau. Ownership of land is quite fragmented and there are few individual parcels of any significant magnitude. Any project or enterprise requiring a large piece of land requires the concurrence of several owners or clan members. While in many cases this will not inhibit smaller agro-forestry systems, it may tend to inhibit more substantial commercial production.

Agricultural services may also be affected by issues of land ownership. For example, the feed mill operated previously by the Division of Agriculture was closed down when Koror State reclaimed the building in which it was housed. The agriculture station in Koror is also subject to a land ownership claim. Again, these issues need to be resolved if agricultural development is to proceed in a relatively unhindered fashion.

9.3.3 INFRASTRUCTURE

The availability of suitable infrastructure has a major bearing on the success of agriculture activities, particularly commercial pursuits, in any country. This is also true of Palau where both subsistence and commercial activities will be enhanced by infrastructure development in the period to 2000 (refer Chapter 6). In particular, the existing road network is in need of extensive upgrade and repair. Much of the potential agricultural land is currently not readily accessible. Angaur and Peleliu have daily air services, while Kyangel has float plane access. The international airport is located in Airai, with daily flights meeting connections in Guam and Manila. Two private fishing companies operate storage and handling facilities at the airport. If agricultural exports were to be sent out by air it may be possible to make use of these facilities on a contractual basis. Given that, at present, there is generally freight space available on flights to Guam, there is potential for agricultural exports by air. The cost of air freight for such goods is presently \$0.75 per kg.

The larger communities on Babeldaob have marine access and make use of locally owned boats for transporting goods and people. Angaur and Peleliu have marine facilities although use of the northern port of Peleliu is dependent on tides due to shallow access. Both these states own small ships which are suitable for transporting produce and which run regularly to Koror. The main port for Palau, in Malakal Harbor, is suitable for the movement of a full range of commodities.

The major infrastructural development to affect agriculture will undoubtedly be the construction of the Babeldaob national highway system. This road, which is to be built within the first six years of Compact implementation, will provide links to each of the States and main population centers in Babeldaob. The road project will result in increased farm output for two main reasons. First, it will facilitate easy and rapid transport of produce to market from a greater number of areas. Second, many people who work in Koror are likely to begin moving back to their home states and to commute to Koror. A large number of these people might undertake some agricultural activity. Associated with these two points is the fact that some local market outlets will open up as the road system expands. In any case, the road system will provide significantly increased opportunities for states and individuals to participate in more commercial and subsistence agriculture.

The Babeldaob road will also facilitate the delivery of agricultural services. It will become far easier for extension agents to visit farms, and the potential to establish research sub-stations will be enhanced. The implementation schedules for certain of the actions outlined below will be reliant upon the road building program.

The main impact of the Compact road on forestry may be removal of trees and increased erosion along the route chosen. The design of the road is required to conform to United States Environmental Protection Agency standards, so environmental impacts should be minimized. However, there may be edge affects as settlement and agricultural and forestry activities follow the road. Importantly, the use of any timber which is to be removed for road building should be considered carefully. If, in the final route

planning, there is a necessity to remove a significant quantity of timber, then areas where this will occur should first be surveyed to evaluate the potential use and value of this timber. Consequently, if it is discovered that significant quantities of useful timber are to be removed, the road gang could be preceded by a crew with a portable sawmill who would harvest and mill the available timber. This operation could be put out to tender prior to work commencing on the road.

There are three other components of service infrastructure of importance to agriculture and forestry. The availability of slaughtering facilities will be important if further livestock industry development is to occur. Similarly, small-scale timber milling is needed to support local forestry activities. At present this is being provided on a limited basis in two locations in Babeldaob, with service also provided in Koror. However, there is a need for support with training and advice to ensure that a quality product is being produced. Such support will need to come from forestry officers. The final component of infrastructure which affects agricultural developments is that of markets. This issue is considered in section 9.3.5.

A further significant impact on agricultural development in Palau will occur when the new national capital is built in Melekeok. Such a development will cause an increase in both commercial and subsistence agriculture in the State and nearby areas.

9.3.4 HUMAN RESOURCES

Perhaps the greatest single constraint on the development of agriculture in Palau relates to human resources. Agriculture is considered to have low status, to be hard work, and to be typified by low returns. Further, Palauan men have not traditionally been agriculturists. Consequently, there is a low level of interest in agriculture as a commercial proposition, apart from the few successful farms which operate in the southern part of Babeldaob. However, even in this case, the day-to-day management and labor is provided largely by foreign workers.

Concomitantly, there is quite a low level of commercial agricultural management skills, in part due to a minimal interest in the sector, but also due to the restricted effectiveness of government support agencies.

The level and type of training of extension officers is also a consideration, with the highest level of training presently being at diploma level from the former TTPI agricultural training school in Pohnpei. Further, the provision of extension advice and the preparation of materials involves specialist communication skills in adult education. Ideally, the extension officers should be supported for a 2 year period by an extension specialist who could provide training and program support.

Related also to the effectiveness of extension services in Palau is the absence of any agricultural research capability. The key to improving agricultural productivity is appropriate research, the results of which are disseminated to farmers by extension services. The link between research and an extension specialist is a vital component of conveying research results to farmers in a meaningful format.

Any discussion of research and extension in Palau must also take account of services provided by NGOs and other organizations. Extension services are provided by PCAA, with these services having a particular focus on household food production and consumption. The Republic of China's Agricultural Mission employs an extension specialist who works mainly in the southern part of Babeldaob because of the poor state of the existing roads. Finally, the College of Micronesia Land Grant Program has a charter to provide research and extension services through the Palau Community College. As previously

outlined, the program has been unable to retain an agricultural specialist and has, consequently, been constrained in its efforts to provide extension services to the agricultural sector. In strengthening its institutional structure and services, it is important that the Division of Agriculture continues to cooperate with each of these other agencies so as the best possible use is made of scarce resources.

Other issues relate to the provision of market and farm economic information. The Division has little capacity in providing these types of services with their present staff. These are services which are critical to the further development of the commercial component of agricultural activities. Currently, in excess of 90 percent of the divisional budget is required to meet salary commitments, leaving only a small amount to support the activities of the Division's officers. There is a need for a review of the activities of the Division of Agriculture and Minerals within the Ministry's strategic planning exercise.

9.3.5 MARKET CONSTRAINTS

Market constraints appear to be an important impediment to further development of agriculture and to some extent, forestry in Palau. The small size of the domestic market is one such constraint. The manager of one of Palau's commercial farms reports that there are occasional surpluses of crop produce when several farmers deliver commodities on the same day. Even with an increase in the size of the domestic market and promotion of local foods in the diet, the issues of marketing systems and information need to be addressed.

While there was a central market in Koror some years ago, this market ceased to operate because of its smallness and lack of demand. Since then demand has increased, and some states and private farmers have established their own market outlets in Koror. It is now widely believed that the central market should be reactivated to provide market access for all farmers and others with commodities to sell.

There is very little information available about returns from agriculture or formal market data such as production and price trends. This paucity of information may also inhibit agricultural development to some degree.

Finally, there has been little or no thorough investigation of export market potentialities. Guam and Saipan are nearby and accessed easily. Guam receives 1.1 million visitors each year and Saipan more than 600,000. In the 12 months to September 1992, Saipan imported almost 26,000 lbs of watermelons and papaya, and considerable quantities of other fruit and vegetables. These markets need to be investigated to establish the export potential for various commodities from Palau.

9.3.6 REGULATORY ISSUES

While smaller scale operations may be more suitable to the environment, these are usually less productive than larger scale commercial operations. The economies of scale in exporting usually require larger scale operations. Given the relatively high required remuneration levels in Palau, if agriculture is to expand (utilizing Palauan labor) and remain competitive, the sector will need to have higher productivity levels. This will usually entail larger farms and use of higher levels of capital equipment. In this respect, commercial agricultural and forestry production have been retarded by a number of regulatory constraints - most of which can be rectified. These include:

(a) Gross Revenue Tax

The gross revenue tax (GRT) favors labor intensive, subsistence farming, but discourages commercial production. For efficiency, commercial production requires wholesale and retail outlets to be established. However, each stage of production and sale is taxed, resulting in very high effective taxes on profits. Commercial production requires a higher proportion of capital, the cost of which is not deductible under the GRT arrangements. Only labor costs are deductible. Therefore, the GRT discourages capital intensive production which is likely to be the form of production that will employ Palauans. This is because higher capital intensity normally results in higher productivity, which provides scope for higher wages. If the taxation arrangements are not changed, as recommended in Chapter 5, then the only way of restoring competitiveness is through the utilization of low-wage foreign labor.

(b) Finance

Larger scale commercial agricultural and forestry production requires the financing of that investment. Funds available in Palau for equity investment are limited and foreign investment is restricted by the inability of foreigners to own land and the relative risks and uncertainty. Loan funding through the domestic banks is constrained because of legislative interest rate ceilings (which are below rates required for the credit risk involved) and lack of ability to acquire security over land titles. The National Development Bank lends little to agriculture because of more lucrative lending to building construction given its ability to access security of land title.

(c) Business Licenses

Commercial producers have to acquire and pay for a number of business licenses before operations can commence. These include State and National licenses and export licenses.

(d) Import Duties

Food imports are exempted from import duties whether for private consumption or for resale. There are few quarantine regulations and other imposts on imports. There are no import duties on forestry products if not for resale. That is, owners can import all building materials for construction without duty.

(e) Currency Issues

Palau utilizes the United States dollar (US\$) as its monetary unit of exchange. This means that there is no scope to engineer exchange rate changes to restore the competitiveness of agriculture and reduce the rewards to the non-traded goods sector such as the public sector. Devaluation of the exchange rate is a readily used policy instrument in most developing countries which is usually directed at assisting agricultural production. Although the US\$ is historically low at present, as it starts its cyclical upswing, agricultural production will become even more uncompetitive with non-US sourced agricultural imports.

Consequently, imports are extremely competitive, while domestic commercial production is taxed heavily, and finance and suitable land are difficult to obtain. Business license fees lift costs and use of the US\$ adversely affects competitiveness. Labor market distortions have depressed incentives to develop agriculture and increased Palauan labor costs. These factors have combined with poor training and education and ineffective extension services to provide a set of disincentives to commercial agricultural

production. It is these disincentives that have to be remedied if commercial agricultural production is to have a chance at developing into a viable and sustainable industry in Palau.

As Compact funding declines, there will be an imperative to make the necessary adjustments. In addition, the construction of the Compact road will lower costs of delivery to markets and provide much greater access to available and suitable land.

9.4 STRATEGY AND PROGRAM OUTPUTS: AGRICULTURE AND FORESTRY

9.4.1 STRATEGY: AGRICULTURE & FORESTRY

For agricultural development, maintain subsistence production, but diversify and significantly increase the level of agricultural production, both for import replacement and export, taking account of conservation practices (strategy 3.4.2.13). For forestry development, continue to emphasize watershed production and rehabilitation of degraded land, with a lesser emphasis on commercial production (strategy 3.4.2.14).

In formulating outputs for agriculture and forestry, there must be concerns for:

- Efficiency in the use of the natural resources;
- Equity in relation to development opportunities; and
- Sustainability of resource use, from biological, social and economic viewpoints.

9.4.2 PROGRAM OUTPUTS: AGRICULTURE AND FORESTRY - POLICY AND INSTITUTIONS

9.4.2.1 General Business Environment Improved

The incentive structure for the agricultural and forestry sectors should be improved by adoption of the reforms for the taxation, labor market, financial, land tenure and foreign investment systems and processes shown in Chapters 4, 5 and 7.

9.4.2.2 Availability of Agricultural Land Increased

The States should be encouraged to package quality agricultural lands in large enough areas for viable commercial production, establish long lease arrangements and promote such areas to investors. Indicative agricultural areas are shown in Map 7, Annex 3, NMDP.

9.4.2.3 Division of Agriculture and Mineral Resources Upgraded and Relocated

The Division of Agriculture and Mineral Resources should develop a strategic plan within the Ministry's overall plan and subject to the Government's budget priorities and policies as recommended in the Master Plan. The Division should establish performance targets for the lifting of agricultural activity over the next five years. The Division should be relocated to Nekkeng in Aimeliik State where there is space, existing facilities and where agriculture and forestry have a presence. The continued existence of the Division in Koror is at odds with where primary production takes place. The Compact road will facilitate relocation. Subsequently, two field stations should be established on Babeldaob - one on the

east coast and one on the west coast. One of these sub-stations could, for example, become the root crops institute. These sub-stations would serve as alternative research locations and as demonstration sites for Palauan farmers. In deciding on final locations for both the main station and the sub-stations, the route of the Babeldaob road system should be considered. States would also need to be invited to express their interest in providing land and some facilities for the establishment of sub-stations.

The relocation of the Division would be a substantial undertaking involving the construction and/or refurbishment of office space at the new site, the construction of a laboratory and the provision of research equipment, the construction of a shade house, equipment shed and storage shed, and the provision of three vehicles to support extension activities and research at the field sub-stations. The capital component of this project could be financed from Compact funds at an estimated cost of \$600,000.

The timing of the relocation should be decided after taking consideration of the Babeldaob road project. Given that the initial construction phase of the road is likely to move through Aimeliik in the first two years, it is proposed that the relocation of the Division be undertaken in 1997. The proposed research sub-stations are likely to be further north in Babeldaob and should be implemented in 1998. Finally, it is noted that the Division of Agriculture could retain a presence in Koror through an extension officer located at the new central market.

9.4.2.4 Research and Extension Capability Upgraded

There will be a need for some additional staff in agricultural research and extension. At least one extension specialist and one research officer, both with suitable qualifications and experience (farm management, budgeting and market analysis), should be employed and supported via the provision of adequate facilities and materials. For example, an agronomic research laboratory will be required to support research activities. The annual costs are estimated at \$100,000. External technical assistance should be sought for an expatriate extension specialist for 2 years with a requirement to train a counterpart.

Technical assistance for the in-service training of extension agents over a period of at least six months should be sought (possibly through a US Land Grant College). It would be desirable to undertake this through the Land Grant Program, using an appropriate specialist, and to include CES and NGO staff in training activities. Eventually it would be expected that a local extension specialist would take over this role and provide needed extension support.

One or more women extension agents should be recruited and/or a 'Women's Extension Program' should be established. Because women are involved more in agriculture in Palau, there is a case for specialized extension support for women. This would be best undertaken by one or more trained women extension officers. NGOs may have a special role to play in providing this kind of service, as they are already involved in extension activities with women.

9.4.2.5 Land Grant Program for Palau Established

The Land Grant Program needs to be made effective by ensuring the involvement of the PCC and providing an agricultural specialist with the capability of extending research into the community. The suggested strategy is for the Government of Palau to actively lobby the US Department of Agriculture for a separate Land Grant Program in Palau rather than having it administered from Pohnpei under the College of Micronesia. Concomitantly, the program needs to make every effort to appoint an agricultural specialist, with appropriate support, so as to more adequately service agriculture. If the Government of Palau were to contribute to the Land Grant Program, then the US would match Palauan funding on a dollar-for-dollar basis. Consequently, if Palau were to transfer its eight extension agents into the Land Grant Program, then the US would provide an amount of funds equivalent to the costs of their employment, with that money earmarked for research and extension. Therefore, the Government should consider opening discussions with the US Department of Agriculture about the possibility of leaving the extension agents based in the Division of Agriculture but, at the same time, bringing them under the umbrella of the Land Grant Program. For its part, the Government would provide office and laboratory space and research farm land use by the AES and others.

9.4.2.6 Primary Producers Association Established

Extension staff should facilitate the formation of a primary producers' association in Palau which could represent the interests of individual producers and provide a point of contact for Government on policy and regulatory issues, labor force needs, and sector training requirements in a way similar to the Palau Chamber of Commerce.

9.4.3 PROGRAM OUTPUTS: AGRICULTURE AND FORESTRY - CENTRAL MARKET

9.4.3.1 Central Market in Koror Established

A central market in Koror should be established following a research study of a suitable location and should include, at a minimum, stall areas, a fish retailing outlet, a cooking area for local foods, a handicraft and souvenirs area, the Division of Agriculture's Koror extension office and display area, an agri-store presently run by the Division and an administration office.

A central Marketing Authority should be established by the Government to oversee the development and operation of the market. The Authority would be self funded after operation commences. A research study should be commenced to determine the feasibility, location and layout of a central market. The study should determine available sites, develop a complex design and costing, investigate potential usage and recommend a management structure. The central market complex should include facilities for the Division of Agriculture's Koror extension office, the agri-store and Authority offices.

9.4.4 PROGRAM OUTPUTS: AGRICULTURE AND FORESTRY - RESEARCH AND DEVELOPMENT

9.4.4.1 Market Research Undertaken for Key Agricultural Products

Market research into the types of products required to satisfy feasible export demand and the demands of the tourism industry should be conducted. Results of this research should be published and made available to existing and potential primary producers.

There needs to be an analysis of potentially suitable marketing structures to ensure that Palauan farmers have the opportunity to participate in commercial agriculture. Chicken meat and pork are popular consumption items in Palau and the consumption of these commodities is growing. The authors of a 1988 report entitled Pigs and Poultry in the Republic of Palau recommended increased commercial production of pigs and broilers, and also recommended the establishment of a small-scale broiler processing plant. Some initiatives, such as cross-breeding in poultry, were taken up by the Division of Agriculture, although the initiatives on slaughtering have not yet been pursued. Given the increased demand for commodities such as chicken meat, these matters should be re-evaluated.

Medium-term aims for agricultural development in Palau include accessing export markets for existing crops such as papaya, and to seek further possible export opportunities for new, high value crops. In the first instance, it is likely that ready markets will be found in locations such as Guam and Saipan and, perhaps, Hawaii and Japan. However, there is a need to carefully review developing new commodities and new commodity markets. Consequently, technical assistance should be sought in 1997, following the in-country establishment of the required expertise. The estimated cost of the market study is \$150,000. Research regarding the Guam and Saipan markets could be assisted through a collaborative arrangement with the University of Guam College of Agriculture and Life Science, a Land Grant institution with significant research capability located in the market of interest.

The pig and poultry meat study, focused on production and slaughtering facilities, should be undertaken as part of this overall study. It should also include a review of health requirements associated with local slaughtering, and contain an up-to-date review of the use of local ingredients in pig and poultry feed, drawing on recent experience in Pohnpei and the Solomon Islands. Successful incorporation of local feeds into pig and poultry diets has the potential to make domestic production price competitive with imports.

9.4.4.2 US Soil Conservation 1992 Recommendations Implemented

The recommendations of the report by the Soil Conservation Service of the United States Department of Agriculture (1992) should be implemented. The recommendations include:

- control of erosion and run-off, along with better water management and plant production. Management practices include improvements in organic matter, soil structure and crop cover, crop rotations, proper use of fertilizers, contour planting and bench terracing;
- minimizing removal of the protective canopy provided by the forest lands;
- on sloping land, the use of a conservation resource management system approach. This includes crop rotations which incorporate a legume in the cropping cycle, conservation tillage, residue management, use of vegetative strips and grass waterways, and the incorporation of an agroforestry system; and
- the avoidance of farming steeplands (greater than 12 percent slope) except when agroforestry systems are integral to the farming system.

9.4.5 PROGRAM OUTPUTS: AGRICULTURE AND FORESTRY - FORESTRY MANAGEMENT AND FUNDING

9.4.5.1 Funding Appropriated For Tree Nursery And Replanting Work

In the event of United States Forest Service funds being no longer available after Compact implementation, then funds should be provided through the budgetary process to continue and extend the tree nursery and replanting work.

9.4.5.2 Forestry Legislation Enacted

There is an urgent need for forest practices legislation to be finalized. This legislation may also include provisions relating to wildfire control and should be supported by a public education program aimed at reducing the number of fires. Funds and technical support for this program could be sought again from the US Forest Service or provided under transitional funding. The estimated cost is \$90,000 over a 3 year period. There is a recommendation for comprehensive environment legislation in Chapter 12 which would include forestry matters.

9.4.5.3 Small Scale Milling Extension Program Established

To gain expertise in small scale milling, two foresters should be sent on a short attachment (one month) to a South Pacific country to be trained in the setting up, operation and maintenance of small, portable sawmills, and in the milling of coconut stems. Support for such an attachment may be available from the FAO sponsored South Pacific Forestry Program.

9.4.5.4 Mangrove Management Plan Established

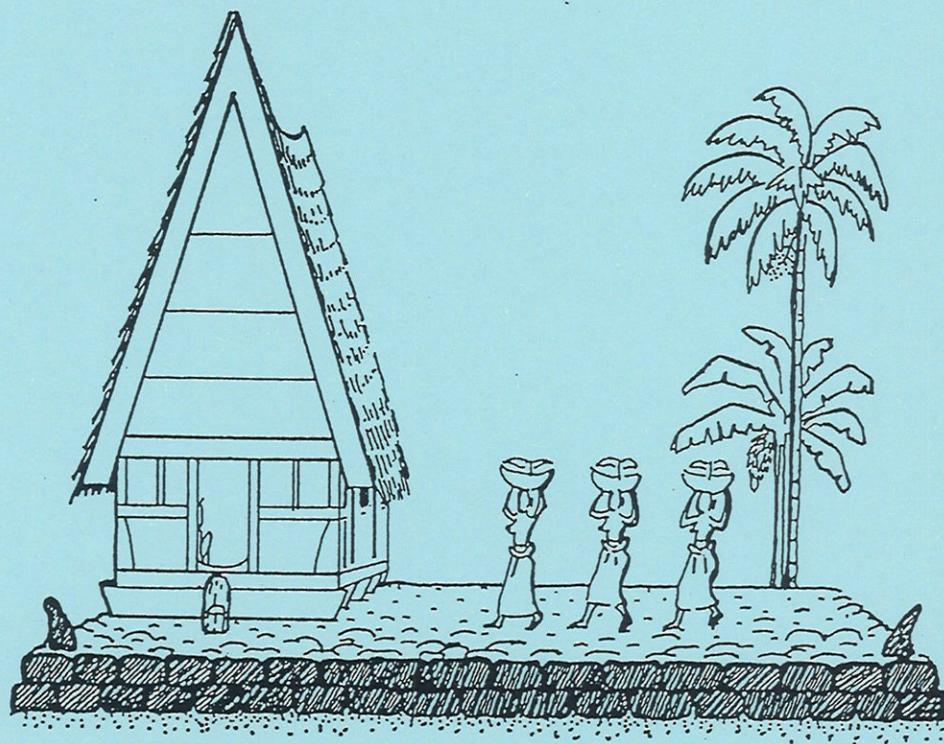
Funding should be sought for the preparation of a 'Palau Mangrove Management Plan'. The mangrove forests are among the most important of Palau's resources, providing a filter between land and sea, protection for the shoreline, and serving as a major breeding ground for marine species of all kinds. The estimated cost is \$250,000 (refer Chapter 12).

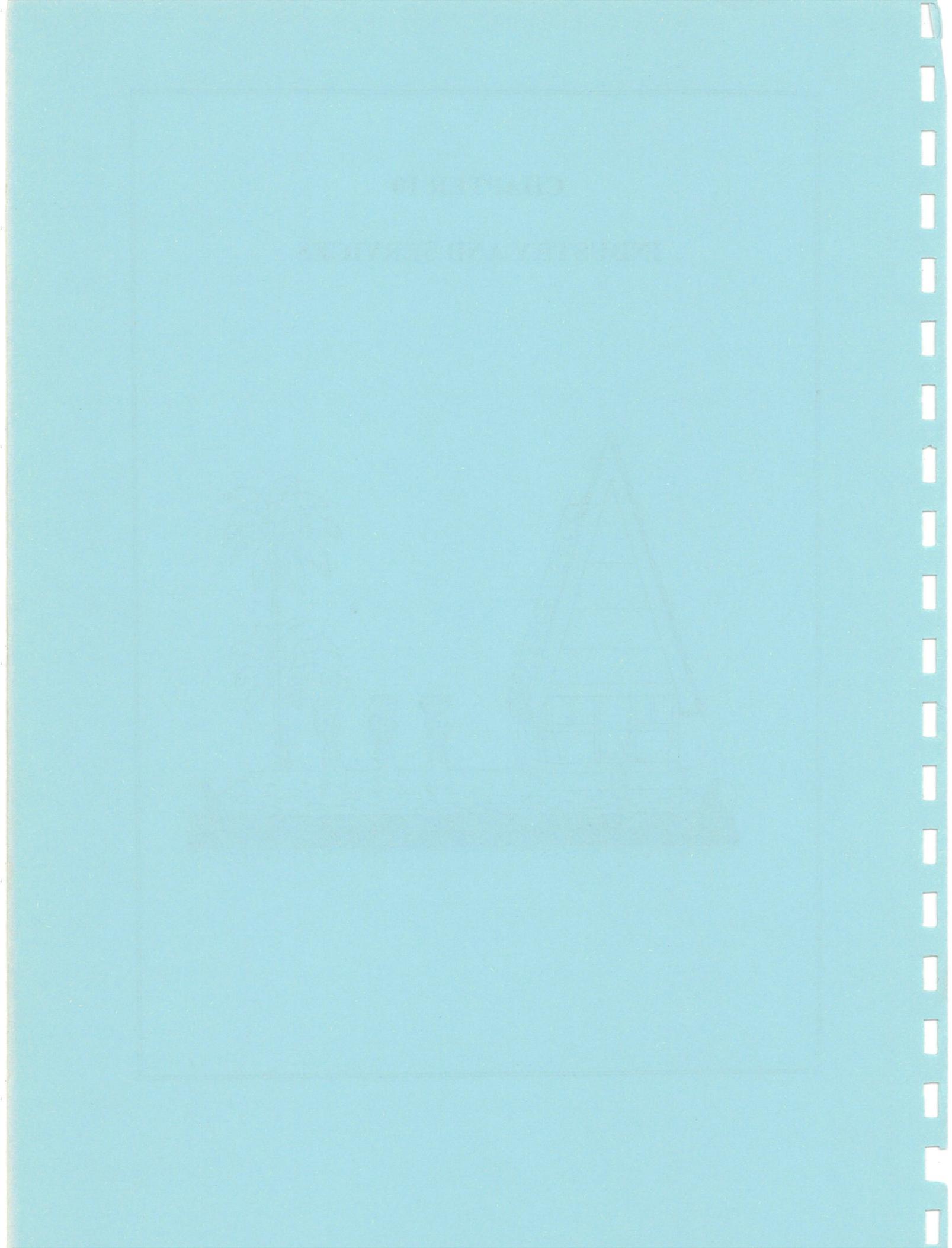
CHAPTER 9: AGRICULTURE AND FORESTRY LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 9.4.1 <i>For agricultural development: maintain subsistence production, but diversify and significantly increase the level of agricultural production, both for import replacement and export, taking account of conservation practices. For forestry development: continue to emphasize watershed production and rehabilitation of degraded land, with a lesser emphasis on commercial production</i>						
OUTPUTS 9.4.2.1 General business environment improved	Refer to Chapters 4,5 & 7					
9.4.2.2. Increased availability of agricultural land	Investors in primary production activities receiving acceptable rates of return from agricultural land. Agricultural production increased	Agriculture statistics, Palau National Development Bank data, export data	Markets for increased agricultural production exist either for import substitution or export.	recurrent		
9.4.2.3 Division of Agriculture and Mineral Resources upgraded and relocated	Strategic 5-yr plan for agriculture prepared and operational, meeting performance indicators. Research and extension facilities operating and meeting requirements of budgeted programs	Strategic Plan, Facilities,	Land available at the appropriate locations for facilities	4	600	
9.4.2.4 Research and extension capability upgraded	Extension and research staff in Government and NGO's trained to support programs designed to increase agricultural production. Women involved in extension programs supporting women's agricultural activities	On the Job Training Program Schedule (6-month Land Grant program \$50,000 matching grant). Foreign extension specialist (2 yr @ 250,000/yr)	Suitably qualified staff recruited to research and extension positions. US Land Grants available to Palau	3	60	550
9.4.2.5 Land Grant Program for Palau established	Targeted agricultural programs benefiting from land grant research capabilities which are being extended into the agricultural sector	Land Grant program	US Land Grant available to Palau	recurrent	recurrent	recurrent
9.4.3.1 Central Market in Koror established	A self-funding Central Marketing Authority administering an operational market serving the needs of Palauans and visitors	Central Marketing Authority legislation, CMA strategic & business plan, CMA facilities	Agreement can be reached on which Ministry is responsible for the CMA	3	400	100
9.4.4.1 Market research undertaken for key agricultural products	New and existing agricultural products available in reliable, commercially viable quantities to meet export and domestic demand by 2000	Market 'Research Study (\$150,000), export data, local consumption data, Central Marketing Authority data,	Primary producers available and willing to develop new products and markets	5	recurrent	150
9.4.4.2 US Soil Conservation Service 1992 Recommendations implemented	Legislation (either separate or part of a comprehensive environment act) for conservation practices enacted, enforced and understood by primary producers	Legislation, extension program targets	Leadership understands the need for conservation practices	recurrent	recurrent	
9.4.5.1 Funding appropriated for tree nursery and replanting work	Nursery and planting targets achieved as per US Forest Service targets	Forestry Division budget lines, annual targets for nursery production and planting	US Forest Service funds no longer available	recurrent	recurrent	
9.4.5.2 Forestry legislation enacted	Forestry legislation supports a public education program and enforcement to reduce wildfires	Forestry Legislation, Wildfire statistics, Public education program results (\$40,000)	Leadership understands the need for practices to reduce wildfires	3	recurrent	9
9.4.5.3 Small scale milling extension program established	Extension officers trained in setting up, operation & maintenance of small portable sawmills for coconut trees	Training program report, extension program targets	South Pacific Forestry Program (FAO) can provide advice on training opportunities	0.5	recurrent	10

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
9.4.5.4 Mangrove Management Plan established	Management plan prepared and operational, recommendations and legislation arising from the plan understood by community by late 1997	Mangrove Management Plan, Legislation, extension program targets	Leadership understands the need for managing mangroves	0.5	recurrent	250

CHAPTER 10

INDUSTRY AND SERVICES





CHAPTER 10

INDUSTRY AND SERVICES

As Palau moves ahead with the development of a self-reliant and market-oriented economy, Government policies and institutions should provide a framework, such that the focus of activity is directed towards Palau's comparative advantages. These advantages lie in tourism, fisheries, small scale manufacturing and facilitating service industries. This chapter will analyze the growth of the industry and service sectors which will contribute to economic growth and employment, and support the economy's lead sectors.

10.1 INTRODUCTION

The Palauan economy has been predominantly driven by public spending with support in recent times from the tourism and marine sectors. These two sectors will continue to provide the economic base for private sector expansion and, along with flow-on effects from Compact spending, will stimulate further growth in the industry and service sectors.

At present, most employment in these sectors, particularly in construction, retailing and manufacturing, is labor intensive and relatively low skill. Although low-skill, labor-intensive jobs tend to require less capital, they are not attractive to Palauans for employment because of low wages. In general, given relatively low skill levels in the Palauan workforce, the payment of higher wages can normally only occur if capital-labor ratios are higher. Therefore, Government policies, including taxation and incentive schemes, should emphasize capital intensive industry, if jobs attractive to Palauans are to be created. Increased capital intensity usually requires improved skill levels. Therefore, the aim of Government Policy should be to lift the required skill levels of the workforce through increased training opportunities. The growth of capital intensive industries will almost certainly require foreign investment. Many of the recommendations contained in this Plan with respect to taxation, business, licensing and foreign investment regulation, labor incentives and monetary institutional control are intended to create an environment in Palau which is attractive to capital intensive foreign investment of the kind that will provide jobs for Palauans and retain talented Palauans in Palau.

10.2 SITUATION AND TRENDS

10.2.1 THE CONSTRUCTION INDUSTRY

In 1990, there were around 1000 workers in construction (65 percent foreign). It is probable that of the additional 700 jobs created by 20 new private companies from 1970 to 1990, most were filled by foreigners in short and long-term assignments. Palauan employment in public sector construction and maintenance increased by around 100 positions over the same period.

Construction work has been sustained in the 1990s, following completion of the national hospital, by private investment in hotels (Airai View, Sunrise Villa, PPR extension), by new commercial premises, apartment blocks and houses. The value to commercial and residential applications in Koror have been running at around \$7 million per year. Construction contributed \$6.7 million (7.5 percent of GDP) in 1992, split equally between Government and private activity. The latter has prevailed in 1993-1994. Under current policies and Compact spending plans, Government construction will expand to \$20 million per year in 1995-2001 (including around \$8 million per year for the Compact road). Private demand could be another \$10 million per year. This will translate into contributions to GDP of \$8 million from government and \$4 million from private sector in the years 1995-2001.

The construction of the Compact road, new capital, national gymnasium and maintenance of existing government capital stock should provide opportunities for new Palauan construction firms to enter the industry and for existing contractors to expand. Plans for achieving greater Palauan involvement should include:

- encouragement of foreign contracting firms to allocate sub-contracts to local firms by taking into account such considerations in the awarding of contracts; and
- local training requirements built into the terms and conditions of contracts.

The construction industry in Palau is labor intensive and this is likely to remain so because of the availability of low-wage foreign labor and the existing tax system which favors labor intensive projects at the expense of capital intensive projects. Recommended changes (refer Chapters 4 and 5) to taxation, foreign investment requirements, foreign labor fees and land access arrangements will assist in redressing the excessive labor-capital mix.

10.2.2 MANUFACTURING AND PROCESSING

The contribution of manufacturing to GDP, although very small is increasing, rising from \$528,000 in 1990 to \$633,000 in 1991 and \$813,000 in 1992. Numbers employed in the sector amounted to 861 in 1990 and presumably this has grown to keep pace with the growth in the sector's contribution to the GDP. In 1994, there were ten establishments involved in bakeries, garments, building materials, furniture and handicrafts.

While one larger garment factory continues to operate in Palau, another two have closed down; although the reasons for the closures (temporary or permanent) could not be established. Palau may have considerable potential for an expansion of garment manufactures given the growth in such factories in Guam and Saipan. There is a need, however to lift the value added of such factories and the income and revenues to Palau. At present, the factories:

- Predominantly employ low-wage workers from China who are housed in barracks and who generally save income earned and repatriate the funds resulting in little domestic absorption;
- Pay no foreign labor fees because of the sub-contracting of labor through Palauan manpower supply companies;
- Pay minimal taxes because of high labor-output rates and offshore receipts;

- Pay the appropriate utility charges which are likely, however to be below full-cost recovery and, therefore, are a cost to the Government's budget.

Therefore, the economic benefits from the establishment of such factories is unclear and there is potential for social conflict. The Government should ensure that full taxation, labor fees and charging for Government services be levied on all private sector enterprises, including the garment factories. Further, while there should be no requirement for minimum wages, working conditions should meet the standard minimum conditions required for all workers in Palau. To safeguard Palau's reputation, compliance with employee contract conditions and minimum working conditions should be rigidly enforced.

(b) Potential for New Manufacturing Industries

Palau imported \$48 million in goods in 1994 which comprised \$6.6 million in foodstuffs, \$1.1 million in wood products, \$3.8 million in beverages including beer (refer table 2.4, Chapter 2). There is considerable potential for import replacement manufacturing in Palau. However, until changes such as those recommended in this Plan have been implemented, especially those contained in chapters 4, 5, 6 and 7, it is highly unlikely that any fixed asset, land based permanent operation involving large capital investments (such as breweries, soft drink manufacturing, or a tuna cannery) will be established in Palau.

Under US law, the garment industry in Palau could be subject to quotas. Although this is not currently the situation, if shipments of garments from Palau to the US were to increase significantly, a quota could be set.

10.2.3 UTILITIES

(a) Electricity, Water and Waste Water

Revenue collections from the public utilities (electricity, water and sewage) have increased strongly in recent years, rising by around 15 percent per year between 1990-1993. This reflects both increased demand and improved collection methods. The establishment of the Public Utilities Corporation (PUC) in 1994 should result in improved pricing policies and collection methods, which should increase revenues further.

There are a number of recommendations in the Master Plan (refer Chapter 6) pertaining to the PUC and PNCC which should improve institutional structures, pricing policies and returns to Government. To ensure that the private sector is not disadvantaged from possible increased (monopoly) pricing, it has been recommended that an Agency for Government Enterprise Monitoring be established to facilitate maximum competition. More efficient pricing policies should, in fact, enhance economic development by reducing waste and providing adequate returns on public investment, thereby allowing Government to maintain a low and competitive tax base in Palau.

The 5 percent contribution to GDP in 1992 from utilities should rise as large (Compact funded) investments continue throughout the 1990's particularly in sewage, water supply, and electricity generation and distribution. Employment in utilities in 1994 totaled about 250 and this number is expected to decrease in the short run with the transfer of public works employees to the PUC which will be accompanied by a retrenchment program. Over the medium term, with the proposed increase in

investment in this sector and expected increase in demand overall, employment in the industry should expand.

The contribution of utilities to GDP could rise from \$5 million in 1992 to \$12 million in 2020, and employment may rise to 500. During the Master Plan period, there will be a shift from investment and improvement to systems, maintenance, and financial management. The sector is crucial to private sector development and will have an obligation to deliver efficient and reliable services to support economic and social activities and to improve the environment for investment.

In this respect, it has been recommended (refer Chapter 6) that a more appropriate capital structure be assigned to PNCC and a dividend policy established. New investment could then be undertaken through government equity and evaluated against the alternatives in the public sector investment program.

(b) *Communications*

Revenue to the Palau National Communications Corporation (PNCC) increased from \$0.6 million in 1983 to \$2.7 million in 1993, a real rate of growth of over 10 per cent per year. The current switch has a capacity of 2,500 telephone lines, with an ultimate capacity limit of over 10,000 lines. Supply is impeded by the overloading of the main transmission lines in Koror and the inability of electricity transmission poles to carry more telephone cables, and by the technical incompatibility of switching from Airai.

As part of National integration, PNCC has extended services to outer States. For international integration, PNCC has purchased the Koror Satellite Earth Station and is upgrading it currently. International tariffs are relatively high, which is an imposition on Palau's industries and businesses. Excess profits from international calls are used to cross subsidize domestic calls. A loan of \$39 million has recently been obtained to support a five-year program of increased capacity, upgrading of reliability and a wider range of services. In assessing public investment programs for the Government, opportunity cost is an important consideration. The five year spending program of \$500 per person per year in telecommunications could then be considered against, say, a similar amount for the electricity system, the problems of which may need to be addressed urgently. Easier access to loans does not necessarily mean that the most productive public investments are made. The comments made in the previous section, regarding the PUC apply equally to the PNCC (refer Chapter 6 for a more detailed analysis of PNCC).

10.2.4 TRANSPORTATION

Transportation services contributed around \$2.5 million (3 percent) to GDP in 1992 and employed 500 employees in shipping, airlines, rental cars, trucking, buses, taxis and boats. Registered motor vehicles in 1994 were 4,700, of which taxis and rental cars numbered 250; registered boats were around 700, most of them for own use. There are fifteen tour operators, guides and commercial boat operators.

The high rate of vehicle and boat ownership and the persistence of family and clan cooperation, obviates the need for public transport but sustains the high public demand for investment in roads and facilities. Road traffic congestion already occurs at peak times on Koror's main road. This congestion can be addressed by improved traffic management and, over the medium term, should not require major capital investment in additional roads in Koror.

Travel and freight needs of the outer States are met mostly by small vessels with outboard motors, and the larger diesel boats serving Peleliu, Angaur, Sonsorol, Tobi, Kayangel and Ngarchelong. The latter are subsidized by public funds. There has been considerable investment in waterways and navigation aids. For safety and convenience, it would be desirable to make improvements at several locations. In general, production activity in the outer States is not prevented by water transport deficiencies. However, some site-specific improvements will be needed to serve tourism, perhaps in Peleliu, Ngarchelong and Kayangel (refer Chapter 8 and the Sector Report on Tourism, NMDP).

International shipping provides an adequate service to Palau at an average monthly rate of 5000-6000 tonnes. Three lines, each calling monthly, serve the regional routes, and there is a special fuel tanker service to both Malakal and Aimeliik. Freight rates appear to be competitive with the rest of Micronesia considering Palau's location, low demand and negligible backloading. Demand will increase significantly over the next five years, so price monitoring will be necessary to ensure competitive behavior is maintained.

Serving the increased demand will require investment in heavy lifting and transporting equipment, and expanded wharf and storage areas. Such investment is inhibited by the ownership and leasing of the port facilities by Koror State, the consequent uncertainty about revenue to Government and port operators, and the difficulty of arranging loan finance on the security of a five year lease. Construction of a new wharf at Malakal, and a bulk cargo facility at Aimeliik, would seem desirable. Both would require a ninety-nine year lease, or purchase of land. Safety requirements and the need for environmental protection would dictate significant improvement to the oil discharging facilities at Aimeliik.

In air transport, a more competitive environment for the single international operator, Continental Micronesia, would serve the tourism industry through wider promotion, more convenient schedules and connections, and more competitive prices and tour packages. The current annual demand is around 800 flights carrying 50,000 passengers (20 percent Palauan), the level of which is expected to double in the next 8-9 years. It is also recommended that air freight services, especially for fish exports, be opened up to tenders, and that imports by such operators be allowed (refer Chapter 7). Both changes should lower business costs and improve the range of services.

10.2.5 WHOLESALE AND RETAIL SERVICES

Since the subsidized economy supported imports and reduced incentives for production, trading became an attractive function for Palauan investors and workers. In 1992, trade contributed \$14 million (16 percent) to real GDP, which was double the real value of construction and five times agriculture. Employment was around 800 (14 percent of total) and was predominantly Palauan (75 percent). There are 300 wholesale and retail establishments, most of them being family stores, which is a ratio of one store per 50 residents.

Trade is the main entry to employment for young Palauans with high school education, but there is obvious reluctance to work for the low hourly rate of \$1.75, while the Government's starting rate is \$2.74. This compares with trade wages in Guam of \$4.50 per hour. Foreign worker participation is gradually rising in these industries, such workers being prepared to accept lower wages, inconvenient hours and, it is widely reported, greater discipline.

The volume of trade will increase significantly over the next five years, given current policies toward spending. The trend thereafter will depend more on domestic economic growth factors related to, for instance, tourism growth. Foreign worker involvement remains a concern, but should be addressed through the recommendations shown in Chapter 4. Similarly, the inward-looking protection of these businesses from foreign participation is anti-competitive and could be costly in the long-term in terms of prices, innovation and service.

10.2.6 PERSONAL SERVICES

Foreign workers have taken up the vast majority of jobs in personal services, such as in domestic help, beauty shops and massage, laundromats, recreation and medical services. Some of these needs are new to the general public, some evolve as Palauans demand additional leisure activities, and some are associated with rising disposable income. Personal services contributed more than agriculture to the 1992 GDP, and is among the fastest growing sectors.

There seems to be much under-employment in this sector, perhaps a result of the very low costs of foreign labor (\$200 per month plus on-costs) and the multiplicity of outlets. Given the high proportion of domestic helpers, and the finite demand for such workers, it is unlikely that employment in personal services will grow as fast in the remainder of the 1990s. A slow down is already evident, given preliminary 1995 data. Palauan cultural and social resistance to the increasing number of foreigners may also adversely impact on this sector. The recommended higher fee on foreign workers will restrain growth (refer Chapter 4), and probably force higher productivity in this sector. The employment of domestic servants for child minding also holds back opportunities for the development of day care centers.

10.2.7 BUSINESS SERVICES

This sector includes finance, banking, insurance, accounting, law, consultancy and professional services, and real estate and property services. The contribution to GDP in 1992 was \$7 million (8 percent) from around 100 enterprises with employment of 170 people at a rate of \$40,000 per worker. This value indicates the contribution of highly educated people, the importance of certain critical services to the business community, and the effect of imputed service charges (interest earnings in banks, insurance premiums and superannuation income). Growth in this sector indicates a diversifying and maturing of the economy, and will increase as the subsidized economy changes towards a market-led system. Such growth may attract professionals back to Palau who have experience of international markets.

Continued competitiveness in this sector is necessary to maintain innovation, minimize costs to businesses and avoid irregularities and market failures which might be contrary to the long-term public interest. The sector also requires stability in economic policy and consistency in the application of regulations. The recommendations concerning business licenses and banking supervision, if implemented, should support growth in this industry (refer to Chapter 5).

10.3 ISSUES AND PROBLEMS

10.3.1 COMPETITIVE FRAMEWORK

The inter-related issues recurring across the industries and services sector are:

- the small size of the market and the consequent structure of business and level of competition;
- the need to upgrade productivity, quality and diversity;
- the need to maintain competitive prices in Government enterprise services to underpin private sector development; and
- the increasing utilization of foreign labor and effect on sector wage rates and the employment of Palauans.

The subsidized economic system has cultivated business habits of positioning for a share of the flow of funds, more than seeking to produce and add to the flow of funds. As Palau opens up to the rest of the world, the protective reflex sets up contradictory and confusing tendencies - that is, Palauan businesses want foreign customers, investment, technology, even management and advice; but they do not want direct competition in industry and services. Consequently, individual businesses seek individual deals with foreign interests in attempts to 'gain-but-contain,' often in ways which are harmful to the broader, long-term national interest. Also, legislators act to protect certain activities and to penalize foreign businesses in particular fields. The protect-and-contain strategy would be sustainable only if subsidized funding, at an increasing level, were to continue. However, Palauan economic needs are rising and Compact funding will decline over time, and it is unclear whether private sector activity will increase sufficiently to offset these factors, given current Government policies.

Furthermore, this strategy of protect-and-contain discourages economic growth because it blocks beneficial competitive pressures, conceals inefficiency and low productivity, and passes these costs onto Government, business and consumers. The laws and regulations which are necessary to implement a protect-and-contain strategy, themselves create opportunities for tax avoidance and gray market activities. The strategy also keeps out of Palau the kind of capital equipment and training which is needed to raise productivity, increase wages, retain more of the capable young Palauans, and thus maintain a vital and attractive society. In consequence, this strategy encourages the employment of foreigners and in the long-run contributes to lowering skill levels and to lowering effective demand among Palauans.

Expansion and diversification with higher productivity is the only way to improve services and the rate of profitability. Thus foreign investment and technology will be required, and competition will be intensified. It will be necessary to reorganize taxation and fees, especially on foreign labor, so that distortions to competition and to the allocation of capital and labor can be minimized. Though some comfortable arrangements and privileges will be disturbed, the resulting environment will better serve Palauan welfare, and make for a sustainable economy. Recommendations on labor, taxation and foreign investment are shown in Chapters 4, 5, 6 and 7.

10.3.2 INDUSTRIAL RELATIONS

Industrial relations in the context in which it is understood in the more developed countries is almost totally absent from the institutional setting in Palau. There are no trade union or employee associations involved in wage and condition negotiations. In the public sector there have been at least two instances of government employees 'organizing'. The first of these was when a strike was called when salaries had been delayed. The second was the call for an increase in salaries at the beginning of the Compact.

During recent times there has been no such show of organization of workers in the private sector. This is due to a number of factors, including the cultural 'distance' between Palauan and foreign workers, low Palauan employment rates in the private sector, and the concern that complaints may lead to job loss. Grievances at the workplace have been resolved by resignation. In the absence of an organized labor movement in Palau, work contracts should be enforceable by the authorities. A number of Government employees work under contract. All foreign workers brought to Palau supposedly have a contract and a process should be instituted in which Palauan private sector employees are provided with a measure of protection from breaches of contract by employers.

10.3.3 OCCUPATIONAL SAFETY AND HEALTH

Cost conscious private sector organizations and governments dedicated to the welfare of the population and workers enact and enforce some form of Occupational Safety and Health Act (OS & H). The only reference to working with hazardous materials or dangerous conditions is in the wage differential set down in Title 30, Labor Code for non-government employees working with or near high explosives. No other reference to safety measures or occupational hazards could be found in any of the Palau National Labor Codes.

Safety of employees in the work environment must not be considered a nuisance or a burden on the employer but a necessity. Accident prevention is not a fringe benefit but an essential ingredient of the work place. As Palau moves forward with the development of commerce and industry, the enactment and enforcement of an appropriate OS & H Act must be considered a priority.

Protection of workers while they are in paid employment is a basic right of every individual at work. Employers have full responsibility for designing and implementing safety and health programs which satisfy the requirements of the Act. Therefore, it is recommended that an Occupational Safety and Health Act be drafted, enacted and enforced.

10.3.4 WORKERS COMPENSATION

Workers compensation laws provide another illustration of the social security problems involved in the transition of Palau from a non-industrialized state to a new and modern economy with the full range of workers' protection legislation.

Prior to the various workers' compensation statutes enacted by the US, injured workers had to settle disputes through the courts. The common law made the employer responsible if his or her personal negligence or the negligence of his employee resulted in injuries to others. However, the system generally favored the employer. Few statutes were introduced to ensure benefits to workers and their families in the event of work-related injuries or death, while at the same time, limit the liability of the employer to the size of the compensation payment.

Under the conditions of the Social Security System of Palau, people with disabilities can receive social security benefits. It is presumed disability means that an injury has been sustained which prevents the contributor to the scheme from being employed (or self-employed). While being better than no system at all, the Social Security System falls far short of the coverage required in a workers compensation Act. With the current system:

- there is no allowance for families to be paid in the event of the death of the worker;
- the Social Security payment may be far short of what families need, now that they are more dependent on larger cash amounts than they were in the traditional economy;
- individual workers need to take out extra cover with private insurance companies to be fully covered;
- the majority of workers, both Palauan and foreign, are not adequately covered under the Social Security System; and
- foreign workers particularly are at a disadvantage in that they need to be in Palau to receive benefits. One of the aims of a workers compensation system is to be equitable and this disadvantage makes the system far from equitable.

Furthermore, in recent times, technological developments have raised new concerns over physical and toxic hazards which were previously unknown. Substances which were previously thought harmless, such as asbestos, have since proved to be extremely hazardous.

Palau might already be termed a litigious society and the possibility of compensation claims being pursued through the courts under common law principles should spur legislators to devise a Workers Compensation Act for Palau that is fast, equitable and accessible by all workers. Palau is in a good position to be able to select an Act from among her Pacific neighbors who have already gone down this road (refer Chapter 15).

10.3.5 CONSUMER PROTECTION

As well as being protected by safety and health regulations at work, there is the need for protection afforded to consumers of manufactured products. Governments normally see the necessity to introduce legislation to protect the safety and health of the population of consumers.

Palau recently enacted a law requiring shopkeepers to abide by the expiry date on food products and dispose of those for which the shelf life had run out. Many products imported into Palau do not have expiry dates stamped on them and others have labels written in the language of the manufacturing country. Consumers cannot be sure what ingredients are in any particular product. Most countries have now taken steps to ban such products unless the manufacturers print labels in an appropriate language.

10.3.6 NATIONAL STANDARDS AND WEIGHTS AND MEASURES

Given Palau's stage of economic development, the setting up of a national standards organization may be a little premature. However, a weights and measures presence at this time would be invaluable. Both standards, and weights and measures form essential commercial and industrial infrastructure for a modern nation.

National Standards should cover:

- physical standards of measurement traceable to international standards;
- technical standards (specifications, procedures, code, etc);
- laboratory accredibility (for reliability of testing); and
- quality - ensuring quality of exports, imports and products for local use - includes manufactured, agricultural and food products.

Weights and Measures ensures justified public confidence in day-to-day trade measurement by:

- developing and implementing appropriate legislation; and
- inspecting weighing and measuring instruments (e.g. shops and gas stations) for accuracy and for fair use, and examining packaged goods for accurate quantity.

These measurements may be relevant to taxes, excise and freight charges (including airport as well as sea port). Exported packed goods have to comply with packaging legislation (always correct quantity) at destination.

10.3.7 BUILDING CODE

The lack of a uniform building code is a problem that will need to be addressed. It is particularly important for the tourist industry and will be a crucial underpinning for any Compact-funded civil works. Adoption of US Standards is too impractical and costly for Palau. Excessive and unnecessary regulation of civil structures often can provide scope for corruption if inspectorial accountabilities are inadequate. However, the safety provisions of the building code should not be sacrificed. Consequently, a code should be implemented covering at least electrical wiring, sanitary facilities, structural design and aesthetic requirements - the latter important for the tourist industry image.

10.4 STRATEGY AND PROGRAM OUTPUTS: INDUSTRIES AND SERVICES

10.4.1 STRATEGY

Provide an overall environment conducive to private sector development through provision of supporting infrastructure, competitive economic and regulatory policies, adequate consumer and worker protection, and facilitative policies towards promoting development and employment (strategy 3.4.2.15).

10.4.2 PROGRAM OUTPUTS: INDUSTRIES AND SERVICES - FRAMEWORK

10.4.2.1 Framework to Enhance Private Sector Development Established

Strategies and Program Outputs shown in Chapters 4-7 (3.4.2.3 - 3.4.2.12) that aim to create a non-discriminatory, competitive and facilitative framework for private sector development should be implemented.

10.4.2.2 Local Industry Component in Contracts Promoted

The Bureau of Public Works should encourage foreign firms, in submitting proposals for implementation of civil works under Compact funding, to allocate sub contracts and training to local firms by accounting for local content schemes in the awarding of contracts.

10.4.2.3 Investment in Palau Promoted by Government

The Government should provide budget support for promotional activities including trade shows, joint advertising and marketing information support, staff training and international representation.

10.4.2.4 Technical & Vocational Training System Upgraded to Meet Industry Needs

A much greater Government effort needs to be made to improve vocational training by creating a framework whereby industry is involved with education content and priorities. Chapter 14 details a number of reforms in this respect.

10.4.2.5 Labor Code Administered and Enforced by Division of Labor

The capability of the Division of Labor within the Ministry of Commerce and Trade should be upgraded to take on the responsibility of administering the Labor Code. Additional roles for labor inspectors of this Division should include the scrutiny of employment contracts and inspection of working and living conditions as specified by contracts, informing new foreign worker arrivals of the terms of their contracts and the means of solving grievances and problems, and recommending grievances be taken up by the Attorney General's Office if there is no resolution (refer Chapter 14).

10.4.2.6 Occupational Health and Safety Act Drafted and Enacted

The International Labor Organization should be requested to have a specialist adviser visit Palau with the aim of assessing the situation and providing further assistance to draft an Occupational Health and Safety Act. There are a number of model Acts that could be utilized for this purpose.

10.4.2.7 Workers Compensation Act Drafted and Enacted

The Division of Labor in coordination with the Attorney Generals Office should be commissioned to evaluate Palau's needs for a Workers Compensation Act and devise a scheme on the basis of other countries' experiences which is best suited to Palau. It is essential that the principles of equity guide the system and include adequate coverage for foreign workers as well. If injured during contract, foreign workers must have access to the compensation system even if they return home. If an Act is enacted, it is recommended that the scheme be assessed regularly on an actuarial basis and remain fully funded. As an employer, the Government should provide adequate protection for its employees and private sector employers should do likewise.

10.4.2.8 Consumer Protection Act Drafted and Enacted

Consumer protection legislation should be drafted and an education campaign commenced to raise the level of consumer awareness.

10.4.2.9 National Standards Act Drafted and Enacted

Legislation should be introduced covering standards, weights and measures, and include physical standards of measurement, technical standards, laboratory accrediblity, and quality standards.

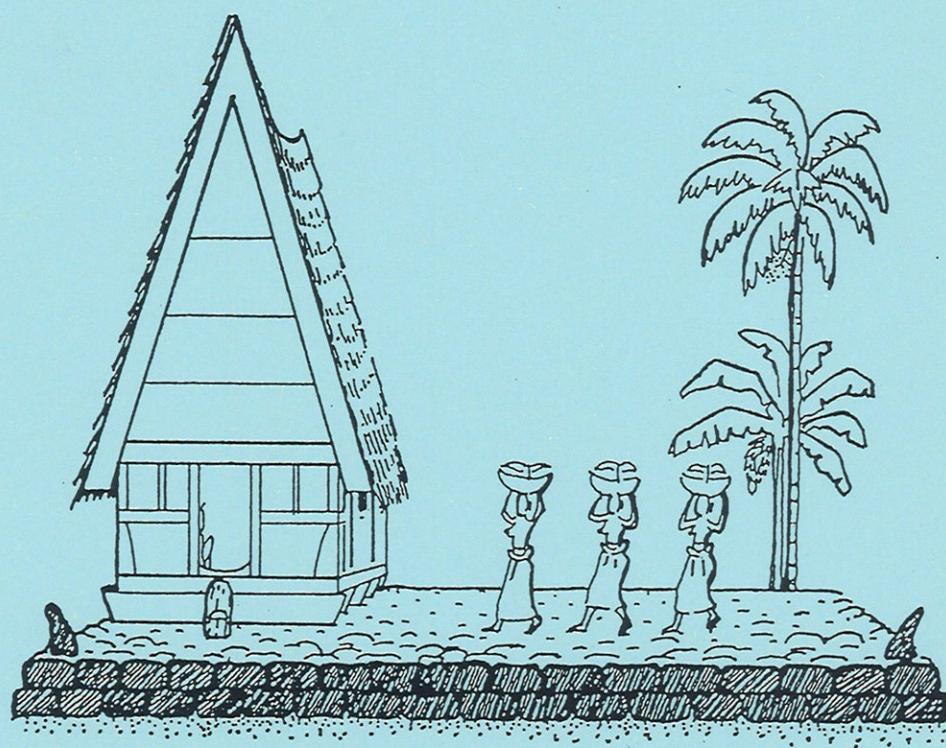
10.4.2.10 Uniform Building Code Drafted and Enacted

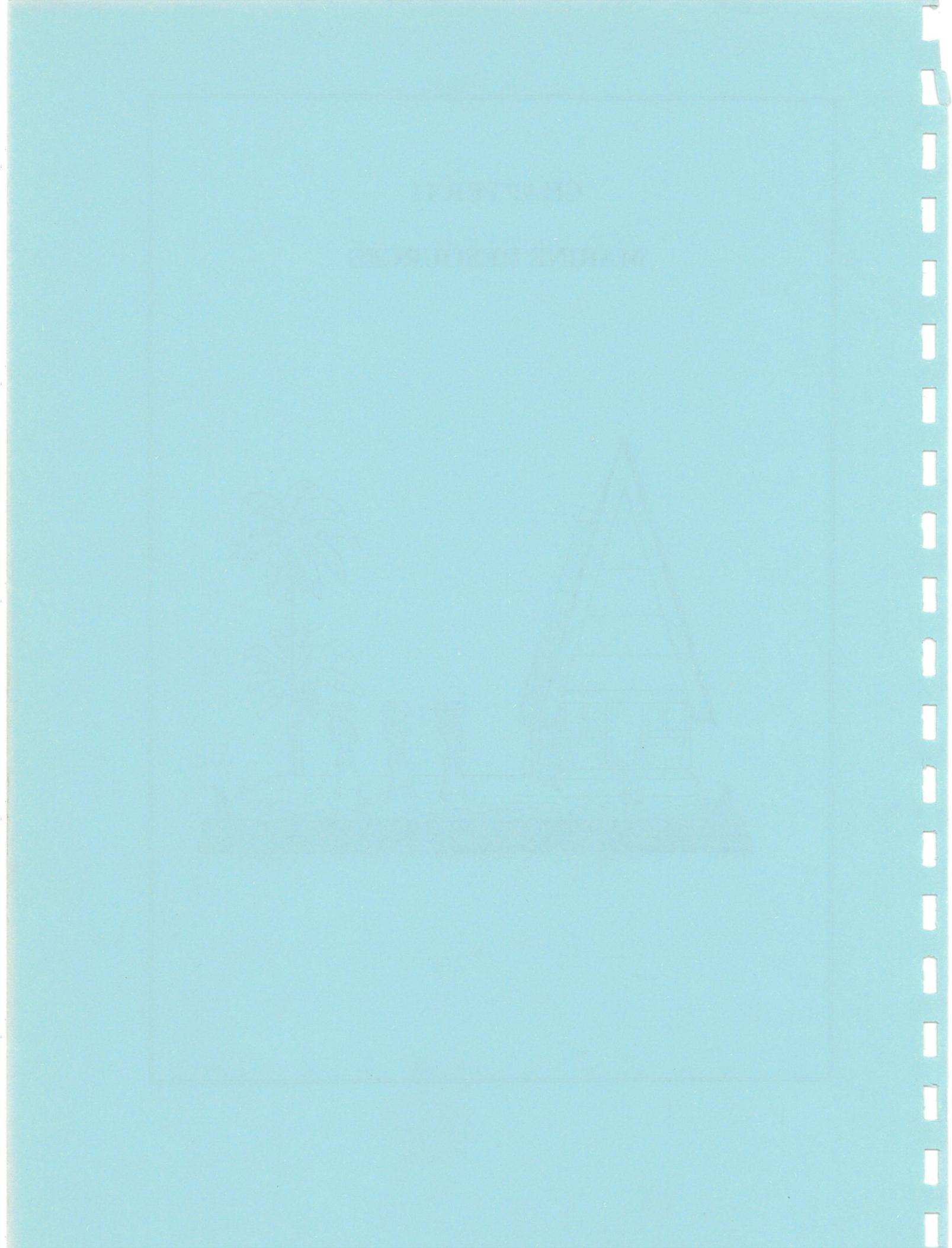
A basic building code should be developed and enacted covering at least electrical wiring, sanitary facilities, structural design and aesthetic requirements - the latter important for the tourist industry (also recommended in Chapters 6, 7 and 8).

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 10.4.1 Provide an overall environment conducive to private sector development through provision of supporting infrastructure, competitive economic and regulatory policies, adequate consumer and worker protection, and facilitative policies towards promoting development and employment						
OUTPUTS 10.4.2.1 Framework to enhance private sector development established	Refer to Chapters 4,5,6 & 7					
10.4.2.2 Local industry component in contracts promoted to foreign investors	Local companies undertaking increased subcontracts with foreign contractors	Taxation records, FIB records	Local industry has the expertise to undertake subcontracts. Foreign contractors willing to subcontract to local companies			
10.4.2.3 Investment in Palau promoted by Government	Increased foreign and local investment in Palau	GNP	Potential investors can be identified. Appropriate promotional opportunities are available and known			
10.4.2.4 Technical and vocational training system upgraded to meet industry needs	Refer to Chapter 14					
10.4.2.5 Labor Code effectively administered and enforced by the Division of Labor	Grievances relating to employment contracts reduced, employment conditions conform with contracts and Labor Code (Refer to Chapter 14),	Records of grievance procedures, Division of Labor inspection records, Division of Labor training course records		recurrent	recurrent	
10.4.2.6 Occupational Health and Safety Act drafted and enacted	OH&S Act operational and effectively administered to meet the needs of Palau, conforming with international approaches, and understood by the Community	Division of Labor records	Need for OH&S recognised by the leadership in Palau	1	20	250
10.4.2.7 Workers Compensation Act drafted and enacted	WC Act operational and effectively administered to meet the needs of Palau, conforming with international approaches, and understood by the Community	Division of Labor records	Need for WC recognised by the leadership in Palau	1	20	
10.4.2.8 Consumer Protection Act drafted and enacted	CP Act operational and effectively administered to meet the needs of Palau, conforming with international approaches, and understood by the Community	Ministry of Commerce & Trade records	Need for CP recognised by the leadership in Palau	1	20	
10.4.2.9 National Standards Act drafted and enacted	NS Act operational and effectively administered to meet the needs of Palau, conforming with international approaches, and understood by the Community	Ministry of Commerce & Trade records	Need for CP recognised by the leadership in Palau	1	20	
10.4.2.10 Uniform Building Code drafted and enacted	Refer to Chapter 7					

CHAPTER 11

MARINE RESOURCES





CHAPTER 11

MARINE RESOURCES

Palau has two major industries it can utilize to establish a viable economy - tourism and marine resources. Both will depend on the protection of the natural environment. To ensure development is sustainable, marine resources will need to be managed and the yield from such resources optimized. Marine resources are a fundamental underpinning of the traditional system. This Chapter examines the issues that impact on marine resources and recommends policies that enhance development and returns, while balancing the adverse environmental impact.

11.1 SITUATION

Palau has competent research and development facilities and staff, skilled international negotiators, and demonstrated experience in fisheries development. However, the responsibilities for fisheries management and conservation which were held by traditional authorities are now indistinct, and have yet to be properly assumed by State or National Governments.

Within the National Government the custody of marine resources of Palau falls under the jurisdiction of the Marine Resources Division (MRD) and Conservation/Entomology Division (CED) of the Bureau of Resources and Development, the Palau Maritime Authority (PMA), the Palau Fishing Authority (PFA), the Environmental Quality Protection Board (EQPB), and the Bureau of Public Safety. State Governments also make laws and regulations governing marine resources. The jurisdiction is blurred and most organizations have insufficient resources. The Constitution and conflicting mandates of Government agencies for marine resource conservation and management result in overlapping responsibilities and there is considerable confusion about jurisdiction, obligations and accountability.

The sector is quite clearly divided into two major areas, offshore and inshore (inshore including mariculture and aquaculture) and the analysis of the sector in this chapter follows this separation. The main offshore resource is tuna and the challenge is for Palau to achieve greater returns on a sustainable basis and involvement from the activities of foreign fishing vessels in its exclusive economic zone (EEZ). With inshore resources, the challenges are to reach a sustainable compromise concerning allocation amongst the contending needs of users; to balance the rates of extraction for subsistence and commercial sales with the maintenance of a healthy and diverse ecosystem; and to improve economic efficiency so as to enhance general welfare.

The usual fundamental tensions exists in the dilemma between extraction and its allocation among user groups and conservation. The former is necessary for the economic and material goals of Palauans; the latter is necessary to maintain the basis for Palauan culture and quality of life, and to attract income from foreign tourists.

The EDP sets down objectives for the marine sector. These are to:

- increase local participation in employment and other income generating opportunities in all commercial fishing, shore-based processing and servicing, export facilities, marine-based recreational ventures, mariculture and others;
- develop long-term integrated resource management policies that take into account the principle of sustainable development and adherence to it by resource owners, managers and users;
- explore further possibilities for local participation in the harvest of oceanic resources for sashimi markets;
- increase export of cultured and under-utilized species;
- introduce and demonstrate efficient methods for harvesting, handling, storage and marketing of marine products;
- develop fishery support facilities at strategic locations and increase use of existing ones;
- establish a marine export monitoring system and find ways to maximize net returns from it; and
- satisfy domestic demand for marine products.

The Government policy goals stated in the EDP seem appropriate for Palau.

11.2 OFFSHORE FISHING RESOURCES

11.2.1 SITUATION ASSESSMENT

The Palau Maritime Authority is responsible for regulating offshore fisheries within Palau's EEZ and for issuing foreign fishing permits and agreements. There are separate regional agreements with Japanese and US fleets. Other foreign fleets that operate in Palau waters are licensed through Palau-based fishing companies, of which there are currently three - Palau Marine Industries Corporation (PMIC), Palau International Traders Inc (PITI), and Kuniyoshi Fishing Company (KFC). None of the fishing boats are currently owned and operated by Palauans.

Table 11.1 shows the number of licenses issued and the fleet composition in terms of boats from the People's Republic of China and Taiwan. The number of licenses activated from Japanese boats has declined steadily throughout the 1990's reflecting lower catch rates and technical aspects such as difficulties in operating purse seiners in the strong currents of Palau. The number of active Palau-based licenses increased steadily between 1990-94 but declined substantially in late 1994 and in 1995 with the departure of Taiwanese fleets from PMIC and the (temporary) closure of PITI. Both PITI and PMIC have ceased their ownership of aircraft which facilitated quick transportation necessary for the sashimi market. PMIC and PITI (if it reopens) now utilize the scheduled Continental flights. Active licenses have declined from nearly 300 in 1993 to around 100 in May 1995. The decline is attributed to a number of factors including:

- lower catch rates in Palau's EEZ, although it is unknown whether this is due to seasonal or weather-related factors, or excessive catch rates in the past;
- changes to FSM regulations which now require all boats operating in the FSM EEZ to go through FSM ports;
- the additional tax (12.5 cents per kilogram) imposed from late 1993 on Palau-based companies;
- more attractive and simpler licensing arrangements in FSM than in Palau; and
- little surveillance of Palau's EEZ allowing intrusions from other jurisdictions, including FSM.

**Table 11.1 Fleet Composition of all Vessels Licensed to Fish in Palau Waters
(Number of Licenses)**

	1991		1992		1993		1994		1995	
	PRC	TWN	PRC	TWN	PRC	TWN	PRC	TWN	PRC	TWN
Foreign Fleets (Palau Based)										
PMIC	2	77	6	92	67	69	99	57	76	0
PITI	53	95	45	58	92	40	67	0	0	0
KFC	0	0	0	0	0	28	0	45	0	30
<i>Sub Total</i>	<i>55</i>	<i>172</i>	<i>51</i>	<i>150</i>	<i>159</i>	<i>137</i>	<i>166</i>	<i>102</i>	<i>76</i>	<i>30</i>
Total Pal Lic	227		201		296		268		106	
Japanese Fleets										
Longline	76		65		57		33		26	
Pole & Line	0		0		2		5		7	
Single Purse Seine	32		32		32		28		28	
Group Purse Seine	13		3		3		0		0	
Total Jap Lic	121		100		94		66		59	

Source Specific Catch Reports supplied to Ministry of Administration, and Palau Maritime Authority

License agreements with Palau-based companies are conducted on a case-by-case basis, but generally are in a form of a set annual fee in advance for a certain number of licenses whether the licenses are activated or not.

Landings of offshore catches by licensed vessels and the type of fish caught are shown in tables 11.2 and 11.3. The data needs to be used with caution as it has been compiled from a number of sources and some information is incomplete. Given the importance of offshore marine resources to Palau, improved information collection and dissemination would appear essential.

In line with the decline in active licenses, the tonnage of fish caught has declined markedly from the high levels of nearly 15,000 metric tonnes in 1989 to 2,000 metric tonnes in 1994 and an expected 1,000 metric tonnes in 1995. The catch rates of all three companies are lower in the five months to May 1995 than in the same period a year earlier. Consequently, Government revenues from the industry have declined sharply, despite the introduction of the new tax which collected a mere \$32,000 in the five months to May 1995. There is also a major problem with taxation arrears in one company.

Table 11.2 Landings of Offshore Catches by all Vessels Licensed to Fish in Palau Waters (metric tonnes)

	1989	1990	1991	1992	1993	1994	1995**
Foreign Fleets (Palau Based)							
PMIC	na	na	na	na	1,377	1,426	220
PITI	na	na	na	na	1,156	492	0
KFC	na	na	na	na	50*	111	31
<i>Sub Total</i>	<i>1,560</i>	<i>3,238</i>	<i>2,330</i>	<i>3,411</i>	<i>2,583</i>	<i>2,029</i>	<i>251</i>
Japanese Fleets	13,358	1,810	6,657	2,884	1,072	na	na
TOTAL	14,918	5,048	8,987	6,295	3,656	2,029*	251*

Note * shows incomplete data; ** shows data for the 5 month period Jan-May 1995

Source Specific Catch Reports supplied to Ministry of Administration, and Palau Maritime Authority

Table 11.3 Landings of Offshore Catches by all Vessels Licensed to Fish in Palau Waters-Type of Fish (metric tonnes)

SPECIES	1989	1990	1991	1992	1993	1994	1995**
Bigeye Tuna	886	2,257	2,824	2,646	1,627	1,307	109
Yellowfin Tuna	3,705	1,871	2,553	2,279	1,370	646	60
Skipjack Tuna	10,204	746	3,360	1,159	603	0	0
Other	124	174	250	211	56	20	82
TOTAL	14,918	5,048	8,987	6,295	3,656	2,029*	251*

Note* shows incomplete data for Japanese Fleets; ** shows data for the 5 month period Jan-May 1995

Source Specific Catch Reports supplied to Ministry of Administration, and Palau Maritime Authority

All categories of tuna have declined, although skipjack tuna catches have fallen more substantially reflecting the sharper decline in Japanese purse seine operations.

Most of the boats that have left the Palau-based companies have gone to fish in FSM where catch rates would appear to have been sustained. The situation may improve somewhat in the second half of 1995 if attempts by PITI to attract Chinese fleets prove successful. Around 70 per cent of fish are caught in the June-December period, so catch rates should improve by the end of the year.

The optimum or sustainable level of catch in the longline, purse seine or pole and line fisheries is presently unknown. Responsibility for stock assessment rests with international organizations such as the South Pacific Commission which collates and analyses logsheet data from foreign vessels operating under bilateral agreement. Detailed national assessments of catch and effort data, with analyses of oceanographic and other relevant information have been provided for a number of SPC member countries as Confidential Country Reports. A Confidential Country Report for Palau is urgently needed to allow evaluation of the impact of increasing the number of locally based foreign flagged longliners. A specific request has been put to the Tuna and Billfish Assessment Program at SPC and a report is expected in 1995. The report should include detailed biological assessment of the effects on catch rates of concentrations of longline effort, the interactions between different longline fleets and the impact of purse seiners on longline catches.

Good catch and effort data are a prerequisite for stock assessment. At present catch or effort data is being collected from more than 100 foreign longliners based in Koror and from the Japanese and US fleets based elsewhere. It is essential that logsheet coverage be continued to ensure adequate fleet coverage, and as a cross check on tuna exports. Port sampling at tuna offloading (including discarded fish) should continue to provide baseline data for detailed in-country stock assessment and studies of localized depletion, as well as contributing to regional tuna investigations. Accurate recordings of landings and exports must be implemented as a priority.

Overall the major issues for offshore fishing are:

- the build up of reliable data and improved management of the sector;
- the level of sustainable fishing on tuna stocks;
- the form of tuna operations that will maximize economic returns to Palau;
- the lack of maritime enforcement
- ways of increasing Palauan participation.

11.2.2 OPTIMUM FLEET CONFIGURATION

Without a knowledge of the state of the tuna stocks it is impossible to determine the optimum effort level to be applied or how this should be achieved. For longliners, effort is measured in numbers of hooks. However, the numbers of hooks shot varies between vessel types and flags, as does the techniques of fishing resulting in considerable differences in catch rates and species composition.

Consequently, the ideal fleet configuration in terms of numbers of vessels and vessel characteristics is at present unknown. The ideal fleet should maximize the opportunities provided by onshore transshipment, giving due consideration to the environmental consequences, while deriving maximum returns from foreign based vessels. Non-fisheries related economic assistance and foreign aid tied to fisheries access need to be considered in determining future fisheries access.

The assessment of the present impact of fishing and the sustainable levels of effort provided by SPC should be complemented with a detailed investigation of the optimum fleet configuration to:

- achieve sustainable catches in the long term; and
- provide maximum economic returns in the short, medium and long terms.

The Forum Fisheries Agency is presently formulating a three year research project with the Oceanic Fisheries Program of the South Pacific Commission and the University of Queensland, fully funded by the Australian Center for International Agricultural Research (ACIAR). The project is to examine possible biological and economic interactions among the purse seine and longline fisheries in the Central Western Pacific, and aims to identify the combination of purse seine and longline vessels that generates the highest level of returns to the region as a whole. The results of this study will provide the basis for resolving the problem of fleet configuration.

As longline catch rates appear to be falling, good management requires that a conservative approach to be taken to protect the stock. It is therefore essential that a proper assessment be made of the state of the stocks and the potential impact of increased effort, and the optimum fleet configuration.

11.2.3 RATE OF RETURN

In the short term, while the information outlined above is being determined, Palau should review the structure of charges from Palau-based operations with the aim achieving fair returns in the most efficient way from the companies. At present, there is little verified information on the quantities of tuna landed. Strict monitoring of all tuna exports is urgently required. The quantities of all exports must be verified. This will require availability of staff to monitor all loading operations, which may occur at any hour.

The process for obtaining a fair return from foreign operations in return for access to the Palauan EEZ should be simplified. The rationale behind the PMA's fee structure for local based foreign vessels is obscure and clear rules applicable to all should be open to public scrutiny. Negotiations should not be on a case-by-case basis. The levy of 12.5 cents per kilo on tuna exports introduced in October 1993 is considered to be inefficient. The levy is applied uniformly on all grades of tuna, including low grade rejects irrespective of value, and whether sales are made or not. This tax ignores the actual value of the catch, instead attempting to regain some of the perceived profit lost to Palau through suspected transfer pricing from the exporters. The tax may reduce the value of rejects to an unsaleable level. The tuna export levy may also serve as a disincentive to the development of genuine Palauan participation in the industry. A revised access fee system would obviate the need for the export tax.

The present lump sum (plus vessel size access) fee system, and the transshipment company structure encourages the introduction of inefficient vessels with decreased catching capacity. These vessels make shorter and more frequent trips, thereby increasing harbor congestion with concomitant pollution and environmental disturbance problems. Companies are required to pay the access fee for a maximum number of boats whether the boats are active or not. License fees should be based on active boats and size.

A new fee arrangement is required for locally based foreign vessels. The revised fee structure should be simple to collect and enforce, aim to capture a true percentage of the Japanese market price and encourage restructuring of the fleet towards more efficient and less polluting vessels, and more efficient fleet deployment.

This is best achieved by a revised annual vessel license fee based on percentage return from the estimated average value of the yearly catch of a vessel of that size and flag on the Japanese market. No PNA (Parties to the Narau Agreement) country appears to have been successful in achieving better than 5 per cent return rate from foreign vessels and a rate of 4 per cent rate is considered reasonable considering the desirability of encouraging in-country transshipment, the additional tax imposts already applying, and the additional fee proposed below. Accurate information on the value of sashimi tuna taken from Palau waters in the Japanese market is urgently required to provide a sound base for setting access fees. Price volatility on the Japanese market would need to be averaged out. The current gross revenue tax on sales should be abolished. The proposal for a VAT would exempt exports (refer Chapter 5).

A trip fee should also be imposed to encourage more efficient vessels and reduce harbor time. The trip fee could be termed an environmental levy as it is directly aimed at reducing harbor usage and thereby minimizing adverse environmental effects. Both the license fee and the environmental levy would be collected from the vessel owners by the managing companies. This system provides for simple enforcement as a vessel cannot fish (enter the EEZ) without paying the lump sum license fee, and cannot land fish without paying the environmental levy. Strict controls must apply to transshipment at sea, or transshipment through foreign ports such as Guam. Under the proposed revised legislation, this revenue could contribute to the stock assessment and management functions that are presently not being carried out.

11.2.4 MARITIME ENFORCEMENT

At the time of writing, with the existing patrol vessel "Ewatel" not functional, there is little offshore maritime enforcement. The consequences of this are illegal entry by foreign tuna vessels, poaching of clams, turtles and reef fish, and illicit entry to Palau's offshore islands by aliens.

It is essential that fishing in the EEZ be restricted to licensed vessels by active enforcement to ensure the integrity of the access agreement system. The stakes are often high in maritime enforcement, with the value of fines and vessel forfeiture in neighboring countries exceeding a million dollars a year. To make legal boardings and arrests, and to carry prosecutions successfully through the courts requires a highly trained and professional crew.

To effectively run offshore maritime surveillance and enforcement, the Bureau of Public Safety would require increased budgetary support, particularly for maintenance, staff and training to provide the professional crews and equipment to operate the present vessel. The donation of a purpose-built patrol vessel from Australia through the Pacific Patrol Boat Program has been confirmed, coinciding with Palau joining the South Pacific Forum. A patrol boat purpose built for use in the Pacific islands should enhance surveillance operations considerably. It would also provide the additional functions of disaster relief and evacuation in the event of natural disaster. A detailed evaluation of the ongoing crew and running costs is also required to enable sufficient budgetary support to be committed. (See Section 11.5.7)

11.2.5 IMPACTS OF FLEET GROWTH

The fishing fleet concentration in Malakal Harbor in recent years has resulted in overcrowding of dock facilities at certain times, oil leaks, bilge discharge, trash and human waste pollution. The aggregations of poorly maintained vessels are also visually incompatible with their scenic surroundings. Most vessels are not equipped to hold and discharge wastes for onshore treatment. The poor condition of many vessels and crew negligence result in ongoing harbor pollution. Koror State Rangers have issued numerous citations for harbor pollution, but court action has cast doubts on the legal basis for prosecutions. Koror State appears to be relying on respect for traditional power to collect fines.

Responsibility for national environmental protection is vested in the EQPB which is currently funded by the US EPA and mostly operates under EPA laws. The EQPB has extensive regulatory powers. There have been few convictions for violations by fishing vessels, although several are currently being processed. Responsibility for compliance with national laws rests with the management companies under the fishing access agreements with PMA. There are enforcement problems in attributing blame for pollution, particularly when vessels from different companies are rafted together. The practice of rafting vessels from different companies should not be permitted, so as to facilitate enforcement.

EQPB has the power to impose administrative penalties of up to \$10,000. Charges may initially be appealed to the Board and subsequently to the Supreme Court. There is considerable uncertainty over the level of penalties to apply for both minor and major environmental violations, and little body of local case law for precedents. This situation makes the prosecution of violators an uncertain process, with the potential to tie up the resources of the EQPB in protracted legal disputation.

In order to facilitate enforcement of environmental laws and regulations, an environmental bond for fishing companies is proposed. This sum, proportional to the maximum number of vessels open to the company, would be lodged in trust and be directly accessed by the authorities on substantiation of violation, and restitution would be conditional on successful appeal or court challenge. This measure is intended to facilitate the process of enforcement, and to shift the onus of environmental responsibility onto the managing companies. The legislation will require amendment to allow for the requirement, lodgment and holding of bond moneys. The bond could be collected as a component of the license fee arrangements.

Additionally, fishing agreements made by PMA should require satisfactory compliance with environmental law as a condition of renewal. This would place further accountability onto the managing companies negotiating the agreements.

While it appears that US EPA law will continue to be enforced during the EQPB funding step-down period of implementation of the Compact, the precedence of Palauan law over that period is uncertain. A clear understanding of which legislation is applicable during the change over period is required to allow amendment to Palauan Law if required to ensure that environmental safeguards are not compromised, and environmentally damaging businesses are not established through exploitation of jurisdictional confusion or legislative inadequacy.

The responsibility for compliance to anti-pollution laws must be resolved. Koror State has the enforcement capability and has shown a willingness to tackle the problem. The problem of legal jurisdiction may require delegation of national government power to the states or deputizing of state enforcement officers, or both, to ensure that pollution is controlled until national enforcement is available.

In recent years there has been a regional trend towards cheap foreign crewing by Distant Water Fishing Nations (DWFNs) such as Japan endeavoring to minimize operating costs, and DWFN fleets that traditionally fished Palauan waters are being displaced by vessels from the Peoples Republic of China (PRC). Foreign vessels based in Palau also use cheap foreign crewing. The poor conditions and low wages offered will not attract Palauans to crew foreign fishing vessels. The trend towards cheap PRC vessels also indicates that direct competition from Palauan owned and operated longliners would be a dubious economic proposition. This is borne out by the difficulties being experienced by national longline ventures in neighboring states. At best, Palau might compete in the transshipment sector.

If the commonly expressed sentiment that Palauans are not keen on becoming involved in the catching sector is true, then efforts must be directed towards involvement in the managerial and business side of offshore fishing. Therefore, training should be directed towards the development of business skills and the provision of work experience in relevant corporate environments. Opportunities exist for Palauan involvement in computing, accounting, business studies, management and marketing.

A number of Micronesian countries including the Federated States of Micronesia and the Republic of the Marshall Islands are now participating in tuna fishing, either through direct purchase of vessels by government corporations or by joint ventures. The success of these ventures has to date been unsatisfactory. The joint ventures have not met the expectations of their Pacific island partners in terms of generating profits and employment, or providing training for nationals to allow them to play a large role in either operations or management.

The Forum Fisheries Agency is implementing a major study, funded by the Asian Development Bank (ADB) with assistance from the Australian Agency for International Development (AusAID), relating the development of tuna fishing and marketing enterprises in the region. The study aims to identify the key issues affecting the development of locally based tuna industries in Pacific island countries, and to develop options to improve the prospects for the establishment of sustainable tuna enterprises beneficial to local economies. The focus of the study is on joint ventures involving foreign and local partners, and wholly foreign owned companies. In view of the difficulties experienced elsewhere, Palau should take a cautious approach towards direct involvement in tuna fishing, and it would be prudent to wait for the completion of the study before any national commitment is considered.

11.2.6 DEVELOPMENT OPPORTUNITIES

(a) Regional Cooperation

There is increasing competition between countries within the region to establish joint venture and national fleets based on local home ports through favorable access agreements and provision of shore facilities. However, there are likely to be advantages in regional cooperation particularly between Palau, Papua New Guinea (PNG) and FSM. A substantial volume of the tuna stocks of the Western Pacific are located within the EEZ's of these three countries. Under the present arrangements boats will base elsewhere if any one country attempts to change the ground rules against fishing companies. Regional agreements between these countries would circumvent most threats of departure. Thus access fees, taxation structures and port facilities in Palau will be crucial to continued foreign vessel participation and growth of the industry. Cooperation with FSM and PNG on access agreements and fees could be an important strategy to enable Palau to gain a greater share of the 'inner high seas' harvest between these countries' EEZs and so control a larger number of fishing boats.

It is important to note that the vast majority of tuna caught in the region is processed in Thailand and the United States. Japan's canned products are consumed almost entirely in Japan as it is too expensive to export to any country except Saudi Arabia. Japan is, therefore, a ready market. In addition, no Asian processor has a significant resource so they depend upon the tuna stocks in the Western Pacific for their viability. A prominent Japanese trade periodical published in 1993 stated:

"there were 204 tuna seiners operating in the Western Pacific during 1992 as opposed to 163 during 1991. Any vessel that cooperated with the new 'regional licensing requirements' would be assured of the ability to operate from a base in and adjacent to the biggest tuna resource in the world. Those vessels which chose not to cooperate could simply go elsewhere to fish. Access would be limited in time to the number of vessels which can provide the Pacific countries with maximum economic rent. Those vessels which can cooperate within the region would be in a very favored position as opposed to those vessels which do not choose to cooperate."

If the three countries can agree on the basic principles required to license vessels regionally, then they could plan the development of their own industries in an integrated manner. An independent industry specialist should be contracted to prepare a detailed plan.

In the absence of regional agreements and cooperation, there remains the possibility for subversion of national objectives by governments which may be influenced by investors and operators, that enable investors to keep the three countries divided in the belief they are competitors.

(b) *Tuna Cannery*

Tuna canneries are labor intensive and are increasingly being based in South East Asia, notably Thailand, or Papua New Guinea where unskilled labor costs are low and where generous tax and other government incentives are provided. Proposed new cannneries in Madang and Rabaul, and possibly in the Federated States of Micronesia will increase competition within the region. Those countries without locally owned and based catching capacity must rely on attracting fish from foreign fleets. The likely winners will be those cannneries that can minimize costs (labor, operating and capital), that are located close to purse seine fishing grounds and that can offer access fees or other incentives to attract foreign vessel landings. With the utilization of foreign labor and access to Compact capital funds, Palau could be in a competitive position. Preferential access to major markets, such as the US could also be an advantage. The quantities of purse seine catch landed by the Japanese from 1985 to 1990 is shown in Table 11.2. US purse seiners landed 8,811 mt of skipjack, 3,910 mt of yellowfin tuna and 13.5 mt of bigeye tuna in the Palau EEZ in 1991.

However, there are a number of problems and risks. It is likely that few Palauans would be attracted by the low wages and mostly menial work offered in canning factories, so imported labor would be essential. Managerial and technical positions are few in this industry and in most places are provided to foreign nationals brought in by the canning companies. Tuna cannneries also present special environmental problems, concerning waste and effluent discharge, and are demanding of power and water. Any cannery proposal for Palau would require particularly close scrutiny to ensure that national environmental protection objectives were not compromised. It is also imperative to ensure that the Palauan environmental legislation is adequate to enforce the stringent standards required to protect the environment against the hazards of potentially polluting industrial operations such as cannneries. Tuna canning is an inherently risky business, as evidenced by the number of abandoned ventures dotting the region. However, many cannneries in the region are operating, although there is doubt over the significance of the economic benefits to the nations involved. In view of the environmental demands and economic risks, no canning venture should be considered without thorough and impartial evaluation using economic techniques.

(c) *Offshore Fishing Development*

In the absence of regional agreements there will be increased competition between countries within the region to establish joint ventures and national fleets based in local home ports through favorable access agreements and provision of shore facilities. Thus the access fee, taxation structure and port facilities in Palau will be crucial to continued foreign vessel participation and growth in the fishery.

The further development of longlining will depend on expert advice on the capacity of tuna stocks within the EEZ to withstand increased fishing effort. The reasons for the recent decline in catch levels and fleet numbers should be ascertained as a priority. Notwithstanding the need for caution with regard to fleet expansion, there are opportunities to utilize the longline bycatch and sashimi reject fish presently frozen and exported for very low prices (US cents 80-120 kg). Value adding by loining, smoking, producing fish jerky or other packaged products could also be developed locally.

There seems little opportunity for tuna purse seining open to Palau. Purse seining in the EEZ by foreign vessels is opportunistic, relying on suitable oceanographic conditions that locally enhance fish availability. The industry is influenced by world markets, exchange rate fluctuations, international law and regional treaties. The western Pacific purse seine fishery is highly mobile, competitive, and dominated by large-scale fleet operations. The record of performance of government-funded purse seining ventures in neighboring countries has been poor. Purse seining does not present an opportunity for even moderate scale involvement by local vessels, and investment should be left to the private sector.

In the past Palau supported a substantial Japanese pole and line fleet with the lagoon providing the essential baitfish. While the high seas Japanese pole and line fleet appears to be in decline, opportunities for small-scale pole and line operations servicing local markets appear good. The one small vessel operating at present appears to be viable, and increased marketing opportunities should provide room for expansion.

Pole and line fishing cannot compete with purse seining to supply the bulk tuna canning industry, but targeted fishing for the local market, or specific value-added products such as katsuobushi may provide limited development opportunities.

(d) *Sportfishing*

The Marine Resources Division, in conjunction with The Nature Conservancy, is working to establish a small scale sustainable sport fishery. The objective is to develop a sustainable catch and release fishery that maximizes participation by local fishers, and economic rents derived from inshore fishery resources. The success of the venture will depend, in part, on the maintenance of catch rates, and restrictions on extractive commercial fishing in designated areas. Agreement with state governments and traditional users will be required.

The possibility of developing light tackle sportfishing for lagoon species such as bonefish is also being investigated by providing expert Palauan fishermen to assist sportfishers experienced in the techniques. Training and quality are being stressed and the possibility of small-scale development appears good.

(e) *Gamefishing*

The potential for gamefishing has not been sufficiently explored. Successful gamefishing development hinges on access to aggregations of marlin, tuna, sailfish, swordfish, sharks or other large predators such as wahoo and Spanish mackerel. While these species undoubtedly occur in Palau, as evidenced by the commercial longline and local catch, it remains to be proven whether catch rates are sufficiently high to warrant the considerable investment involved in setting up vessels to the standard demanded by the gamefishers. The availability of record or trophy fish is another desirable, though not essential, factor for success.

The seasonal abundance of key species can be easily obtained from longline log data, and exploratory fishing by an experienced gamefishing skipper during the optimum season should be undertaken to establish whether an opportunity for development exists. While gamefishing may require capital investment which is too high for small-scale local fishermen, it is a natural adjunct to up-market tourist development. It would require some relaxation of foreign investment restrictions. However, it would not be subject to local and state arguments concerning jurisdiction over the resource. Although the presence of an intensive longline fishery based in Palau and surrounding waters is indicative of concentrations of gamefish, their continued targeting by commercial vessels may impede the development of successful gamefishing ventures. The tag and release ethic is very strong in gamefishing today, and should be promoted.

(f) *Deep Reef Slope Resources*

The extent of deep slope resources is presently unknown, but the Marine Resources Division is investigating the feasibility of fishing the deep reef slope for valuable deepwater snapper. The most productive areas have yet to be identified, but promising reef topography is found off northern Babeldaob. Limited catches could be expected where suitable bathymetry exists around Peleliu and Anguar. The discovery of suitable grounds for these fish may divert existing effort from inshore resources, while supplementing local and export markets, however given the technology that would be used to harvest these fish, stocks of this slow-growing species could be overfished within a very short time. While exploitation of this fishery would capitalize on hitherto unexploited resources, and shift effort away from overexploited and high-conflict inshore reef fisheries, this would be a short-term solution with no sustainability.

11.3 INSHORE FISHING RESOURCES

11.3.1 SITUATION ANALYSIS

The main problems for inshore fisheries are:

- the maintenance of economic opportunities, including subsistence;
- competition with recreation and tourism;
- conservation of reef and inshore resources;
- enforcement and compliance of Government and traditional law;
- collection of catch information;
- the promotion of Palauan involvement in fishing and eco-tourism;
- institutional reform of Government agencies;
- inadequately defined jurisdiction; and
- inadequate and overlapping legislation, and unresolved constitutional contradictions.

There is common agreement that areas of inshore resources are being overfished and are in need of further conservation measures. In addition, numerous species of fish, crustaceans, mollusks and echinoderms are exported for the aquarium fish trade. There may be opportunities for controlled expansion, but the impact of intensive collection is not known. Opportunities exist for inshore development of pearls, oysters, fish, sponges, seaweed, and reef farming of clams. Regulation and research are required to assist commercial development within a conservatory regime.

Assessment of reef resources is continuing through various studies. There is general agreement that the situation on stocks and trends of reef fish is complex, with some species probably overfished and some underfished in different locations. The diversity of species and gear types further confound the interpretation of the available data. A major analysis of length frequency and commercial landings data in 1991 concluded that the reef fish stocks appear to be moderately to optimally exploited.

Trochus is presently managed through sanctuaries, closed seasons and a moratorium system that precludes the taking of trochus while stocks rebuild. The state of stocks is assessed by occasional survey. This system appears to be working well, with management focusing on lifting the moratorium only when the export price is favorable. While the absolute status of natural stocks of clams is not known, they are believed to be in reasonable condition. MMDC continues to distribute seed clams and brood stock. The status of natural stocks of hawksbill and green turtles in Palauan waters is not known. The US Fish and Wildlife Service lists the green turtle as threatened and the hawksbill as endangered. Despite protection, many turtles and their eggs are taken illegally in waters around Palau, particularly in the South West Islands. Nesting is inhibited in areas near population centers. Numbers of turtles are reported to be declining locally, and concerted conservation measures are required, including education, enforcement, reserves, and restoration of nesting habitat. Records of commercial landings are maintained by MRD. Table 11.4 shows total market data and the breakdown for the two major outlets for 1990-94.

Table 11.4 Market Landings Inshore Fisheries in Palau (Quantity and Value)

	1990	1991	1992	1993	1994
Quantity (US tons)					
Palau Modenkai Co	0	148	308	212	139
PFFA	171	135	121	131	107
Other	66	59	42	12	30
TOTAL	237	342	471	355	276
Value (US\$'000)					
Palau Modenkai Co	0	395	412	656	335
PFFA	312	294	122	334	266
Other	157	158	84	39	70
TOTAL	469	847	618	1,029	336
Unit Value (US\$/lb)	0.90	1.13	0.60	1.32	0.55

Source Palau Maritime Authority

There is little information on subsistence and recreational effort and catches. Although routine length-frequency sampling of commercial landings has been suspended, there is a need for species-specific total catch data, preferably by location of catching. Partial data on exports are available, but an accurate detailed breakdown of the quantities and species composition is needed for regulation purposes.

A subsistence and consumption survey is required to determine the significance of local fish as a dietary component and as a cash or exchange medium. Consumption by tourists, urban dwelling Palauans and foreign residents should also be determined. The expenditure by Palauans and tourists on commercial and recreational fishing is not known. This information will allow some assessment of the influence of fishing on the economy.

11.3.2 CONSERVATION OF REEF RESOURCES

There is a general perception that reef resources are suffering excessive exploitation, especially in readily accessible areas, and a recognition that conservation measures are necessary for the long-term protection of stocks.

Recently, the OEK introduced a bill intended to prohibit the commercial export of reef fish during the grouper spawning season to protect spawning aggregations from depletion. The bill also prohibits the export of mangrove crabs and lobsters at any time, although the definition of "commercial" is unclear. The bill is unpopular with commercial fishermen, due to the hardship caused by precluding access to the premium Lent market in Guam. Other national legislation governing conservation of reef resources is weak or non-existent. State and traditional laws, while adequate in some places, require strengthening to cope with recent changes in effort and fishing capacity.

Considering the importance of these resources to traditional and urban lifestyles, the deficiency in formal protective measures requires immediate action. A reef conservation bill covering fishing for threatened reef fish and aquarium fish, beche-de-mer, coconut and mangrove crabs, net mesh sizes and coral exports is expected to be passed by OEK. The bill will also set minimum marketable fish sizes, ban the taking of fish, lobsters and trochus on scuba, and prevent the sale of speared lobsters.

Urgent legislation is needed to control the export of all marine organisms. All exports should require an MRD export permit declaring the exporter's name, quantity of each species, source and destination. A permit would be required for both commercial and domestic export, distinguished by the quantity. The permit would be issued and enforced by Customs, with spot checks by MRD staff to verify the accuracy of declarations. An on-the-spot fine combined with forfeiture of the cargo and its containers should be imposed for false declaration. The system would be designed to allow restrictions to be placed on the export of protected, endangered or threatened species, or those in need of seasonal or occasional protection. This bill should supersede the reef fish export bill presently in place. Another option, as presented in Chapter 12, is for a comprehensive environmental bill covering marine and terrestrial resources.

A national system of registration for commercial fishers is required to regulate commercial fishing activity and facilitate taxation. This system should recognize the overlap between commercial and subsistence fishing and cover full costs of issue and monitoring.

Resource protection legislation is meaningless without adequate enforcement. Fisheries enforcement is weak in many places, and dedicated enforcement officers will be required to ensure compliance with respect to marine reserves, catch limits, licensing, mesh size regulations, spearfishing restrictions and sportfishing restriction zones.

The potential impact of terrestrial development on the reef resources is difficult to estimate without assurances on the applicability of existing and proposed environmental protection legislation. Coastal zone management requires site-specific study, including the environmental effects of the proposed Babelpao road, and the wider ramifications of beach, foreshore and wetland development including runoff, siltation, waste disposal and habitat loss.

11.3.3 INCREASING PALAUAN INVOLVEMENT

While Palauan subsistence and small-scale fishers rely on extractive commercialization of marine resources, increasing local involvement is in conflict with the long-term preservation of fish stocks. The proposals for controlling the export of reef resources will exacerbate the impact of resource conservation measures on dependent commercial fishermen and may temporarily impede Palauan involvement in exploitative fisheries. In the longer term, growth in tourism will enhance the market for fresh marine products.

Possibilities may exist for increasing catches of some species should the state of the stocks be better understood, and for development of hitherto under-exploited stocks such as pelagic and deep-slope stocks. The installation of fish aggregation devices would enhance this sector. Otherwise, advances in non-exploitative commercialization such as catch and release sport fishing must be pursued. The overall opportunities in these areas are unknown, but small-scale development appears good. The involvement in small-scale aquaculture of reef species, including invertebrates, that would allow fishermen to tackle a number of ventures at the same time, should be sought. To ensure that local fishermen benefit from this development, it is important that the number of commercial fishermen be regulated.

11.3.4 LEGISLATIVE REFORM AND THE CONSTITUTION

The nature of the authority of governments over marine resources is unclear and ambiguity in the Constitution renders the question of marine resource management responsibility problematic.

Marine resource conservation activity in the national interest clearly falls within the purview of the national government under Article IX Section 5(12) of the Constitution which gives the OEK power to "regulate the ownership, exploration and exploitation of natural resources". However, Article 1, Section 2 of the Constitution states that:

"Each state shall have exclusive ownership of all living and non-living resources, except highly migratory fish, from the land to twelve nautical miles seaward from the traditional baselines; provided, however that traditional fishing rights and practices shall not be impaired".

It would appear that this section imbues the States with the control of all marine resources within State boundaries. (Note: boundaries are still disputed). Therefore, disputation of future fisheries' management measures on constitutional grounds would appear likely unless a new agreement between State and National governments can unambiguously define their respective roles and the extent of the jurisdiction of each over marine resources. This would require a constitutional agreement or clear legislation specifying the rights of each party.

Assuming agreement is reached, national marine resources management legislation will then be required. This legislation would allow for centralized authority and responsibility to protect marine resources, to:

- assess the state of stocks, and recommend sustainable harvests;
- determine fishing activity by method, location, species, and time (including traditional fishing grounds);
- license fishermen and fishing vessels;
- protect essential or threatened habitat;
- require documentation of all landings and methods of disposal;
- control exports and imports of marine organisms by a permit system;
- prescribe penalties for violations;
- nominate enforcement authority;
- delegate management, enforcement or other authority as required;
- recover costs of management and enforcement; and
- educate and train Palauans in conservation and resource management.

Unfortunately, the Administrative Procedures Act (RPPL 1-53) diminishes the usefulness of regulatory power. The requirements for public consultation on regulations are onerous and there appears little value in pursuing the regulatory process instead of directly proposing new legislation in OEK.

There is considerable confusion about the applicability of US laws, especially during the phasing in period of the Compact. There is an urgent need to reconcile Palauan and US laws, especially with respect to the protection, export and import of endangered species and environmental matters.

The enforcement function must be clearly separate from resource assessment. It should be recognized that offshore maritime surveillance and policing are different in practice and intent from inshore enforcement. Inshore enforcement should emphasize education and extension to bring about a change in the way marine resources are perceived and treated by the public, but must retain the power to ensure compliance.

The responsibility for maritime enforcement should be clearly defined in the legislation. The enforcement role of the States is presently unclear, and attempts at enforcement of state laws have been hampered by the lack of delegated national authority. Similarly, the role of the States in enforcing national law is undefined. The success of enforcement of State and National laws will depend heavily on the vigilance and commitment of local fishers and citizens, and state involvement is essential. The enforcement responsibilities between the National and State governments should be resolved as a priority by legislation delegating authority to the states to allow enforcement of both state and national law. In the interim, the cross deputizing of enforcement officers and/or State officials could facilitate compliance.

11.3.5 DEVELOPMENT PROPOSALS

Increasing local involvement through extractive fishing is likely to be in conflict with the long-term preservation of fish stocks. Proposals for controlling the export of reef resources, as in recent legislation, will exacerbate the impact of resource conservation measures on dependent commercial fishermen and may temporarily impede Palauan involvement in exploitative fisheries, except if local prices and demand from tourists increase significantly.

Possibilities may exist for increasing catches of some species should the state of the stocks be better understood, and for development of hitherto under-exploited stocks such as pelagic and deep-slope stocks. At present there are artisanal and subsistence fisheries in all reef and lagoon areas (except the Seventy Islands Marine Reserve and specific seasonal closures), and to a lesser extent in ocean waters. In view of the cultural and traditional role of fishing in its many forms, including reef gleaning, subsistence fishing by Palauans should be permitted in all areas unless otherwise prescribed by state or traditional law, or designated as a category of marine conservation area that expressly defines the nature of fishing activities permitted. Conservation rules for the protection of threatened and endangered species must apply to all waters.

Recognizing that Palau's fisheries are limited, and that in a number of places catch rates have declined significantly, control and redirection of commercial fishing effort is required to achieve marine conservation goals, protect important dive and tourist sites, and allow the development of low-impact fisheries ventures such as sportfishing.

As there is at present little distinction between commercial and artisanal or subsistence effort, all areas not otherwise prescribed are available for commercial fishing. There are traditional laws restricting areas and access of fishermen from other states, and Koror requires vessels to be licensed. Angaur is considering restricting fishing to residents only.

Until the numbers of commercial fishermen can be stabilized through a licensing system, the process for zoning should be complementary to the introduction of marine conservation areas. However, in recognition of the States' ownership of inshore marine resources, the siting and regulation of utilization must be carried out in consultation between the States and the National government. All areas currently open to fishing should remain so, with the gradual restriction of activities or exclusion from particular sites as specific conservation management being introduced.

The north-west barrier reef has been identified as having potential for sportfishing and, through consultation with Ngerchelong and Kayangel States should be zoned as a fisheries conservation area. Kayangel State should also be considered for zoning in this category. This zoning category should permit specific fishing activities, but could be used to regulate sportfishers by requiring catch and release, and specifying the quantities of fish retained.

Opportunities exist to supply live fish to local restaurants. Tourist demand, coupled with export demand, for lobsters, mangrove crabs and groupers would guarantee high prices. This market may foster the taking of groupers from spawning aggregations, so exports based on wild caught fish should be regulated. The export of cage fish derived from wild caught juveniles should be promoted, but regulated by permit and the quantities of juveniles monitored.

In the aquarium fish trade, numerous species of fish, crustaceans, mollusks and echinoderms are presently being exported. There are opportunities for controlled development, if it can be shown that harvesting is sustainable and not ecologically damaging, or if suitable culture techniques are developed. Recommended controls include the licensing of collectors and exporters, recording of species and numbers, export permits, and prohibition on collection in conservation areas.

Marine reserves are an attractive alternative to controls on catch and effort which tend to be costly to monitor and enforce. Reserves have proven effective in protecting stocks of large fishes. Fish fecundity increases rapidly with length, and large individuals usually contribute disproportionately to the reproductive output of the stock. Chapter 12 details a number of proposals for reserve areas.

In view of the undisputed value of diving to Palau, the protection of important dive sites is supported. The alienation of specific sportfishing reserves is also supported but will depend on the costs and benefits of the foregone marketable catch against increased revenue from tourists.

Mariculture presents significant opportunities for development. With 586 islands (including Babeldaob) the lagoons and reefs of Palau present a diversity of marine habitats suitable for mariculture. The range of opportunities for development for each State are reflected in the areas or mangrove, fringing reef, lagoon and reef passes, barrier reef, atoll reefs, reef holes and islands shown in Table 11.5.

While all States possess either fringing, barrier or atoll reefs, those with extensive areas of reef provide the best development potential for extensive cultivation and enhancement of sedentary reef species such as clams and trochus, although substantial production could be expected from even relatively small reef areas if farmed intensively. The major fringing reefs are found in Ngardmau, Ngerchelong, Ngaraard, Airai, Koror and Peleliu. The States with extensive barrier reefs are Aimeliik, Ngeremlengui, Ngardmau, Ngerchelong, Ngaraard and, Koror. Both Hatobei and Kayangel possess substantial areas of atoll reefs.

Extensive mangrove stands (exceeding 2 square miles) are found in Aimeliik, Ngatpang, Ngeremlengui, Ngardmau, Ngerchelong, Ngaraard, Airai, and Peleliu. However, the need to preserve mangroves must prevail against destruction to create mariculture sites.

The environmental requirements for intensive culture sites for fish and mollusks, such as oysters, include shelter, water depth greater than 15 feet at low tide, reasonable flushing rates, sand or mud bottom, limited flooding with freshwater from land runoff. The States with extensive lagoon areas (exceeding 10 square miles) include Aimeliik, Ngardmau, Ngerchelong, Ngaraard, Ngeschar, Airai, Koror, and Hatobei. Water depths in Taochel Ngkesol lagoon (Ngerchelong) range from 40-150 feet, with most depths less than 120 feet. Lagoon depths in other States range as follows: Ngardmau 130-160 feet Ngeremlengui 80-130 feet, Ngatpang 190 feet and Aimeliik 90-160 feet. There are ample deep lagoon sites available for floating or benthic mariculture sites in these locations. There are also numerous (exceeding 10) reef holes in Aimeliik, Ngeremlengui, Ngardmau, Ngerchelong, Airai, and Koror that could be exploited for mariculture.

Some of the constraints to mariculture development include limited availability of natural clams, lack of extension and marketing information, lack of certainty on clam supply from MMDC, export restrictions on clams (CITES convention), and relatively high input costs (fuel, labor, utilities).

While the MMDC does not intend to go into full-time commercial production of clams, the technology is well established for Palauan operators to capitalize on the developments. If the difficulties in international trade in clams can be resolved (under CITES), there will be potential for large-scale expansion in hatchery and grow-out. Present efforts in farming and raising clams should be supported.

Table 11.5: Summary of Information on Palau's Coral Reefs and Mangroves

State	Mangrove km ²	Fringing Reefs km	km ²	Lagoon & Passes		No.	km	Ocean Side km	km ²	Atoll Reefs	Reef Holes	Islands	No.	No.	TOTALS km ²
				Patch Reefs	No.										
Almeliik	2.8	8.2	189.9	55	79.7	231	27	0	0	40	0	2	93	2	31.3
Ngatpang	6.3	2.7		15		14	7.1	57.4	0	0	0	2	17	0	38.8
Ngeremten	4	7.5		15		16	12.3	0	0	0	0	14	0	0	0
Ngardmau	7.2	13.8		22.5		16	11	0	0	0	0	141	0	0	54.5
Ngecheton	2.1	23	20.8	325	141.5	240	81.3	62.7	0	0	0	15	2	2	499.1
Ngataraad	3.4	23.2		23.8		43	17.3	0	0	0	0	5	2	2	67.7
Ngiwal	1.3	5.8	58.5	12.1	50.9	0	0	22	0	0	0	0	1	1	19.2
Melekeok	1.7	8.4		0		0	0	0	0	0	0	0	0	0	10.1
Ngchesar	1.8	6.9		23		86	4.7	0	0	0	0	7	1	1	36.4
Airai	7.9	22.7	11.6	30	20.1	17	4	6.8	0	0	0	87	41	41	64.6
Koror	1.6	19.2		500	112.8	683	100	86.4	0	0	0	100	0	0	620.8
Peleliu	4.9	35.5	12.7	0	0	1	0	0	0	0	0	5	13	13	40.4
Anguar	0	2.6	13.4	0	0	0	0	0	0	0	0	0	4	4	2.6
Sonsorol	0	8.3	25.5	0	0	0	0	0	0	0	0	0	2	2	8.3
Halobei	0	7	2	103	53.8	85	0	0	57.9	61.7	2	2	2	2	333.7
Kayangel	0	0	0	12.1	9.6	25	0	0	7.1	14.6	0	5	5	5	19.2
TOTAL:	45	194.8	241.3	1136.5	468.4	1457	264.7	235.3	65	75.3	418	*585			1939.7

* excludes Babeldaob

Source: REA, updated by Maragos and Meier 1993b

A ready market exists for live and dead corals for the aquarium trade. MMDC is commencing a coral farming project with selected species to establish the technology for coral aquaculture. The success of this project will provide another opportunity for local participation. There is at present no law controlling the export of coral.

Milkfish grow readily in ponds and a market exists both locally and for export. Milkfish are grown in many parts of south-east Asia and the technology for farming could easily be imported. As the technology is already established, milkfish farming does not fall under the MMDC brief. Tuna operators have expressed interest in farming and using live milkfish as longline bait. Some Taiwanese longliners prefer to use live milkfish, and as this proposal does not conflict with existing Palauan bait suppliers, it should be encouraged in the short term. The successful application of this technology may encourage local fishers to imitate the operations. If a market exists for farmed milkfish as bait, Palauans should be encouraged to develop this opportunity. The caveats concerning the environmental costs of large-scale pond culture apply to milkfish.

Sponges were cultivated by the Japanese in Palau before World War II and are being successfully cultivated in other parts of Micronesia. The techniques are simple and ideally suited to small-scale ventures. Sponges are propagated on lines suspended above the lagoon floor. There appears to be a ready export market for suitably prepared and packaged sponges through health stores world wide. Expertise would need to be imported or developed at MMDC.

The aquaculture of trochus has been abandoned, due to unacceptably low and inconsistent seed production. Emphasis is now being placed on conventional management of trochus stocks. The present management of trochus stocks is satisfactory, and trochus will continue to provide a valuable, although intermittent fishery.

A crocodile farm is presently operating. However, crocodiles are endangered in their natural habitat and protected under US law. They are presently listed under the Convention on the International Trade in Endangered Species (CITES) which precludes the export of Palauan crocodiles or their products. Crocodiles are a significant tourist drawcard in other places, and the expansion of this sector is supported. Where permitted under CITES, farmed crocodiles provide valuable export commodities. Although the world market for crocodile products is presently over supplied, the proximity to markets in Asia for crocodile meat, skins and other derivatives places Palau in a strong position to develop crocodile farming, should the market recover and the CITES listing be revised. This is, however unlikely given the precarious state of the wild stock.

Opportunities exist for the culture of pearls and pearl shell. Pearl cultivation has been successfully carried out, but security problems would have to be resolved. Potential opportunities may exist for the controlled export of the shells of marine mollusks by licensed operators providing small-scale development opportunities in isolated areas.

Seaweed is presently harvested by ethnic groups and controlled increases in harvest may provide an opportunity for local fishermen to supplement their income. The impact of seaweed harvesting on herbivorous fish needs to be considered.

11.3.6 STATE DEVELOPMENT

The development aspirations of the States have been expressed through the State planning committee process and the various State development plans. State planning has chiefly focused on infrastructure, with minimal consideration given to long-term involvement in development of marine resources. Some infrastructure development resulting in improved transportation will allow better access to urban markets and stimulate commercial fisheries, and tourism. Commercial fisheries development will, however be limited by the sustainability of stocks.

The major issues are summarized in Table 11.6, and mostly relate to poorly defined proposals for expansion of commercial fishing activities, an interest in future involvement in mariculture, and problems with poaching and enforcement that are dealt with elsewhere.

The States recognize that wild resources are limited, and in many instances are decreasing as a result of exploitation (e.g. Ngerchelong, Peleliu, Ngaraard, Ngeremlengui). For the most part, the States' proposals can be accommodated within the scenarios recommended for inshore fisheries. Ngchesar has expressed interest in establishing a fish cannery. Overall, the States' marine resources development proposals lack specificity, precluding detailed assessment. Most can be included within the national guidelines outlined for this sector. A summary of issues for each State, and for community interest groups is given in the Marine Resource Sector Report.

11.4 RESEARCH

Research priorities must be considered within the context of the Ministry's workload in extension and public awareness, data collection, analysis, technical advice, staff development, and management to determine the allocation of budget staff and time. Timely release of research information to fishers, the public and government would promote greater understanding of issues, and enhance budget support and institutional backing. Budget funding will be required for discretionary research projects.

Table 11.6: Marine Resources Interests expressed by the States

State	Commercial Fishing	Mariculture	Enforcement Problems	Tourist Fishing	Poaching	Capital Needs	Other Proposals
Ngerchelon	Yes	Clams; others Clams; joint ventures Milkfish; crabs	Yes	Yes	Yes	Yes	State programs for fish breeding Fish Cannery
Ngchesar	Yes	Clams	Yes	Yes	Yes	Yes	Airstrip available, could fly out Crocodile culture
Ngatpang	Yes	Milkfish; clams, crabs	Yes	Yes	Yes	Yes	
Angaur	Yes	Milkfish; others	Yes	Yes	Yes	Yes	
Peleliu	Yes	Clams; eels; fish	Yes	Yes	Yes	Yes	Concerns on Impacts of Research Institute, pharmacolo Fish breeding facility
Alral	Yes	Overfished	Yes	Yes	Yes	Yes	
Ngerdmaru	Yes	Fish Scarce	Yes	Yes	Yes	Yes	
Ngaraard	Yes	Need breeding	Yes	Yes	Yes	Yes	
Almeilik	Yes	Clams	Yes	Yes	Yes	Yes	
Melekeok	Yes	Interested	Yes	Yes	Yes	Yes	
Ngiwal	Yes	Clams/local	Yes	Yes	Yes	Yes	Concerns over aquarium fish No taking of aquarium fish
Kayangel	Yes	Clams too dear	Yes	Yes	Yes	Yes	Security a problem
Ngaremlen	Yes/reduced	Some failures to date	Yes	Yes	Yes	Yes	Research station, Helen Reef
Koror	Yes/local	Clams	Yes	Yes	Yes	Yes	
Hatobel	Yes/local	Clams	Yes	Yes	Yes	Yes	Transport, Transport, Mariculture station
Sonsorol	Yes/local						

Source: State Planning Committees

Major new priorities for research should include:

- programs to monitor the health of coral reefs;
- inclusion of South-West Islands in internationally significant research programs;
- monitoring of the impact of diving on popular and control sites.

Active programs include:

- clam hatchery (ongoing);
- mariculture internship;
- clam farming, reseeding and conservation;
- Malakal Fisheries Center redevelopment;
- assistance to women's fisheries (awaiting completion);
- survey of the potential for sports fishery;
- technical assistance to PFA;
- preparation of fisheries statutes;
- domestic fisheries statistics program;
- fisheries regulations education project;
- fisheries statistics of Palau (needs funding);
- fisheries science training (4 at USP, 2 in Guam);
- annual report (needs core budget funding);
- library expansion and upgrading (need new position of librarian).

Proposed and supported projects include:

- tuna resources review;
- survey of marine recreational use (expand to include Palauan participation with PVA and TNC);
- spawning areas of groupers;
- offshore fisheries development;
- offshore fisheries extension vessel;
- establishment of a fisheries inspection service;
- foreign fisheries statistics program (in part done by PMA);
- management plans for principal fisheries (sea cucumbers, trochus and turtles);
- co-ordination of national and state fisheries legislation and regulations;
- staff training program (with PMA and PFA).

Visiting researchers take up valuable time and utilize resources such as boats and office space. Additional budgetary support is required to provide for visiting scientists to enable the core functions of MRD to continue to be carried out.

The Palau Maritime Authority is conducting tuna size sampling of transshipment operations in Koror. These data will be incorporated into future stock assessment work by the South Pacific Commission. Long-term size and catch composition data sets are invaluable for determination of trends in the tuna fishery and for any evaluation of the impact of fisheries on stocks. This work should continue, and will eventually permit in-country analysis and assessment.

Data entry of logsheet data is also being carried out by PMA with assistance from MRD. While not strictly falling under the definition of research, this data gathering provides the essential time series for future analysis. Logsheets entry requires double entry for error checking, and is laborious and labor intensive. This function had been carried out by SPC on behalf of PMA, with considerable delays due to logistical problems. There are advantages in local data entry which provides timely advice to managers on vessel operations. This work should continue and be supported with additional resources to cover fleet expansion. Alternatively, this work could be contracted out locally.

While no tuna tagging program is established in Palau, the PMA has assisted when possible with the SPC Regional Tagging Programs. This should continue on an opportunistic basis.

With ongoing development in the longline fishery proposed, there is an urgent need for research results on the tuna fishery. Future research should cover:

- analysis of catch per unit effort data to assess impact of fishing on stocks;
- analysis of size frequency data to assess impact of fishing on stocks;
- analysis of catch by area to investigate local depletion;
- economic analysis to determine the optimum access fee strategy;
- cooperative sampling with regional yellowfin reproductive study;
- observer coverage to provide accurate data on fleet dynamics.

The diversity of reef populations makes considerable demands on researchers. Baseline studies are required for exploited species, especially those considered threatened or endangered, including:

- total catch;
- stock size;
- reproduction and recruitment;
- exploitation rate;
- sustainable catch by area;
- ecological and trophic relationships;
- effects of reserves on fish and invertebrate populations.

Routine monitoring of spawning groupers should continue.

Detailed market statistics are essential and where resources permit, length frequencies along with area of capture data should be collected. An assessment of the effects of harvesting aquarium fish is required.

Baseline information is required on those invertebrates facing continued or possible increased harvesting such as clams, or those with high market value including mangrove crabs and lobsters. Research should provide information on total catch, stock size, reproduction and recruitment, exploitation rate, sustainable catch by area, and ecological and trophic relationships.

The ecological effects of selective removal of invertebrates for the aquarium trade needs investigation. The destruction of coral by divers at popular sites should be quantified to provide baseline data for assessment of the effectiveness of conservation strategies.

Research relating to mariculture should be concentrated, in the short term, on those projects that will provide opportunities for small-scale development, including grow out of clams and sponges, and culture of marketable aquarium species including corals suited to Palauans conditions. There is also a need to develop local techniques for culture of milkfish and other species which do not fall within the MMDC scope of work.

11.5 INSTITUTIONAL ARRANGEMENTS

11.5.1 MARINE RESOURCES ACT

The nature of the authority of Government over marine resources is unclear and ambiguity in the Constitution renders the question of responsibility for marine resource management problematic. Marine resource conservation activity in the national interest clearly falls within the purview of the National Government under Article IX Section 5(12). However, Article 1, Section 2 of the Constitution explicitly imbues the States with the ownership of all marine resources out to 12 nautical miles within State boundaries.

Although a legal dispute over a non-living resource was settled in favor of the National Government, disputation of future fisheries management measures on Constitutional grounds would appear likely unless a new agreement between the State and National Governments can unambiguously define their respective roles and the extent of the jurisdiction of each over marine resources. This would require a Constitutional agreement. Assuming agreement could be reached, marine resources conservation legislation is then required with the power to:

- assess the state of stocks and recommend sustainable harvests;
- determine fishing activity by method, location, species, and time;
- license fishers and fishing vessels;
- protect essential or threatened habitat;
- require documentation of all landings and methods of disposal;
- control exports and imports of marine organisms;
- prescribe penalties for violations;
- delegate management, enforcement or other authority;
- recover costs of management and enforcement; and
- educate and train Palauans in conservation and resource management.

There is an urgent need to reconcile Palauan and US laws, especially with respect to the protection, export and import of endangered species and environmental matters. In Chapter 12 there is a recommendation to include marine resource conservation and development areas in a comprehensive environment act which would include terrestrial resources as well.

11.5.2 MARINE RESOURCES DIVISION (MRD)

The MRD (Ministry of Resources and Development) has responsibility for the management and development of inshore marine resources, which includes responsibility for:

- promotion and development of commercialization of fisheries and fishery products;
- operation of the Micronesian Mariculture Demonstration Center (MMDC) for marine biological research and experimentation of mariculture and aquaculture fisheries;
- hatchery and rearing of certain species;
- assessment of commercial potential of reef and deepwater species;
- guidelines and conservation measures to safeguard against over-exploitation;
- technical advice to local fishing cooperatives in purchasing, handling and marketing of fish and other marine resources;
- support and administration assistance to the Palau Fishing Authority (PFA).

The MRD has developed a number of strategies and projects. In particular, the MRD have developed a marine reserves proposal based on three conservation areas. The reserves need the support of the states and community, and the implementation of broad-based marine conservation legislation is indicated. Reef ownership is viewed as a state-based common property resource, but there are boundary problems between States (for example, Koror and Peleliu, which has implications for the management of the Rock Islands). The MRD has also been involved in the development of a sport fishery project in consultation with the Nature Conservancy, Forum Fisheries Agency, the South Pacific Commission and Japan Tourist Bureau. The project is designed to allow Palauans to apply traditional fishing skills, with low capital investment, to the tourist industry. The venture would target reef fish and stress catch and release of fish, snorkeling, sashimi or fish barbecue, and involvement of Palauan lifestyle aspects. It will require the licensing of vessels to ensure standards. A number of issues still need to be addressed, including state access charges, user fees, standards required, number of tourists, and management of commercial fishing in sportfishing zones.

The allocated budget for the MRD for FY 1995 is \$225,949 (personnel \$171,457, supply \$15,000, and utilities \$39,492). There is no core project funding. Staff establishment of the Division is 14. Given the responsibilities of the Division and the importance of marine resources to the Palauan economy, it would appear that the Division is underfunded when compared with, for instance, the Division of Agriculture (budget of \$271,300, staffing of 26). Clarification of the functions and responsibilities of the Division will be enhanced if comprehensive legislation covering marine resources is drafted and enacted. This should be undertaken within an overall Ministry strategic planning exercise. Performance targets for the goals of the Division can then be established and resourcing needs better evaluated.

11.5.3 MICRONESIAN MARICULTURE DEMONSTRATION CENTER

The Micronesian Mariculture Demonstration Center (MMDC) has concentrated on developing new technology in the farming of three species of clams, and recently of soft corals for the aquarium trade. The sale of clams for export, either for the aquarium trade or for consumption is at odds with the MRD charter. In future the Center will focus more on extension and technical assistance, while continuing appropriate development of mariculture technology. Continued funding is expected from the US Sea Grant and the University of Hawaii.

A Public Aquarium is proposed for the site at a cost of about \$500,000. The aquarium would serve the tourist market, while providing an important education function and outlet for local products and artifacts.

The training function of MMDC needs to be broadened to allow more Palauans to benefit from the high standard of research and development work being carried out by the Center. The MMDC training role should operate in conjunction with the proposed marine science course at Palau Community College.

All visiting scientists and researchers should play a role in the training program. Research by visiting scientists should require approval by the Divisions and fall under the Division's and Center's research priorities. Visiting researchers should be expected to conduct workshops and deposit copies of their research with the Division.

11.5.4 THE PALAU MARITIME AUTHORITY

The Palau Maritime Authority (PMA) is mandated (Title 27 PNC) to manage and regulate for conservation purposes offshore fisheries in the EEZ, participate in the delimitation of the EEZ, and negotiate and issue foreign fishing permits and agreements. The PMA also is responsible for the determination of the allocation among foreign nations of the total allowable level of foreign fishing. The area of responsibility of the PMA extends between 3 and 200 nautical miles from shore and, therefore, overlaps the area of exclusive ownership assigned to the States which extends out 12 nautical miles. Tuna stock assessment is carried out by the South Pacific Commission. A detailed in-country stock analysis has been requested.

The Government received approximately \$650,000 from foreign vessel license fees in 1993. Of this, 15 percent was retained by the National Government and the remaining 85 percent distributed to the States (under Senate Joint Resolution No 5, August 1982). Under the Resolution, each State receives an equal share of 55 percent and the remaining 30 percent is apportioned according to population shares.

The PMA has been unable to adequately fulfill all its duties and responsibilities due to lack of funds and trained personnel. In particular, the PMA has not estimated the total allowable level of foreign fishing defined under PNC 164 as "that portion of the optimum yield of such fishery which will not be harvested by vessels of the Republic". The optimum yield has not been estimated for any fishery.

Other problems confronting PMA include maximizing the return from foreign fishing license fees; lack of enforcement capability; lack of ongoing management and resource assessment capability; and insufficient linkage with MRD. Issues to be addressed in the future include the definitions of foreign and domestic vessels (i.e. under joint ventures); the existing provisions relating to the sale and forfeiture of property within the territorial sea and EEZ; the process of allocation of revenue from licensing and cost recovery; and other issues concerning implementation of treaties and conformity with regional agreements, especially with PNG and FSM.

A review of Palau legislation is being undertaken by the Forum Fisheries Agency and the Office of the Palau Attorney-General. It is examining the duties and functions of the PMA, including maritime boundary delimitation. The study addresses some of the issues raised above including recommendations for more autonomy, self funding through a share of the access fees and a clearer mandate. The study will also provide a new draft Act to replace the current legislation governing the Authority.

A substantial amount of the duties of the PMA board center on policy-making activities which are the responsibility of the Government. There would be substantial economies of scale in combining the resources of the PMA and the MRD, particularly in the areas of conservation or sustainability of the resource, and surveillance. Conservation aspects have a large social policy dimension. There is no commercial aspect to the PMA's operation which would require an autonomous management framework for commercial or competitiveness goals. Overall, offshore marine resource policies and management would be enhanced by the incorporation of PMA's duties within the MRD.

Whether a separate authority is to be maintained or not, policy, regulatory and resource management functions need to be separated clearly, with appropriate accountabilities for performance established. The regulatory and management functions relating to tuna operations should be funded fully through use of a user fee. This fee could either be a separate fee related to the costs incurred for specific operators or be calculated as a proportion of the annual license fees. Funding for other conservation and general policy aspects should be directly from the budget. The calculation of appropriate license fees should be aimed at recouping costs expended and the available economic rent. This will require improved data collections on catches, costs and profitability of the various operations.

11.5.5 THE PALAU FISHING AUTHORITY

The Palau Fishing Authority (PFA) is mandated (under Title 27 PNC) to:

- support and assist in the development of local fisheries;
- recommend policy for internal waters of Palau;
- serve as a conduit for public funds to establish and operate facilities required for commercial fisheries development;
- conduct pilot fishing operations and participate in large-scale commercial fishing, including joint ventures;
- support co-operative associations and locally owned private fishing enterprises, including making loans where possible; and
- act as an agent to sell or lease supplies to local and foreign fishing vessels.

The PFA receives approximately \$70,000 per year from the National Government plus revenues from the sale of ice and rental of refrigerated storage space. The PFA is chiefly engaged in supporting the operations of the Palau Federation of Fishing Associations (PFFA) which services the State fishing cooperatives and other local fishers. The support from PFA has resulted in PFFA trading out of bankruptcy. The Board is comprised of appointees from the fishing cooperatives, but with only five presently functioning cooperatives (Angaur, Ngerchelong, Kayangel, Ngeremlengui and Peleliu), the Board does not represent the interests of fishers in all States. The operations of the PMA and PFFA have coalesced, with one manager serving both. The combined organizations have 16 employees.

The regulatory, development and research functions of the PFA could be incorporated into the functions of the Marine Resources Division to improve performance and rationalize resources. The PFFA should be given the unambiguous mandate to promote the marketing of reef fish as an autonomous association to the benefit of the fishing cooperatives and other fishers. The Government could then continue to provide a facilitative and regulatory framework, as well as maintain its research role.

11.5.6 THE DIVISION OF CONSERVATION AND ENTOMOLOGY

The Division of Conservation and Entomology (Ministry of Resources and Development) has the general mandate (Executive Order No 70, 1989) to develop and implement national policies to conserve the resources of Palau. In relation to marine resources, the Division has responsibilities for the establishment of a conservation program for the whole country including marine resources, technical assistance to Government on conservation matters, and educative materials in this respect. The Division has a legislative mandate to establish a national enforcement scheme. However, Executive Order 128, clearly authorizes the Bureau of Public Safety, Marine Patrol to be the sole marine enforcement agency.

The Division has too few resources to carry out its mandated functions. Four conservation officers are currently employed, but as their duties include terrestrial conservation, the time available for marine conservation is limited. The increased enforcement required by marine conservation measures proposed in the Master Plan will exacerbate compliance capability. While enforcement should remain a National Government responsibility, some delegation of enforcement authority (not management) to the States would appear essential to ensure adequate compliance.

11.5.7 MARINE SURVEILLANCE

Marine surveillance responsibility is vested in the Office of the Attorney General through the Bureau of Public Safety. The operational status of the ex-Coast Guard vessel 'Ewatel' is uncertain, with no dedicated captain. The vessel has insufficient crew and may have inadequate range to be effective. The most urgent need is for reliable, long-range vessels to protect the sovereignty of Palau's waters and address the different policing requirements of poaching by small boats in southern waters, and enforcement of the foreign tuna vessel access agreements.

The Compact provides specifically for surveillance and enforcement of the maritime zone with a one-off grant of \$666,800 which will be supplemented by an annual grant of \$631,000 for fifteen years, an undetermined portion of which will go towards maritime surveillance. The problems of training appropriate crews and acquiring vessels with adequate range must be addressed. Given the distance to the South West Islands, it may be preferable to locate such a patrol boat away from Koror for lengthy periods. In this respect, the boat could be serviced by sea plane. The private sector in Palau can provide such a service. Payments for sea plane services would also make it more economic to service the South West Islands generally.

Responsibility for offshore marine surveillance currently rests with the Bureau of Public Safety. To rationalize resources, responsibility for both inshore and offshore marine surveillance could be combined under the Division of Conservation and Entomology. The Division of Marine Resources can then focus on management and development of the resource. The Bureau of Public Safety could be contracted under a performance agreement to carry out a number of functions with respect to the patrol boat, including arrest and detainment, firearms and use, crew operations etc.

11.5.8 ENVIRONMENTAL QUALITY PROTECTION BOARD

The Environmental Quality Protection Board (EQPB) has a mandate relevant to marine resources including administration of a permit, bond and monitoring system for the discharge of any pollutants in land, air or water. The law allows the EQPB to lower water quality standards if necessary to accommodate an important economic or social development so long as this does not interfere with or become injurious to existing uses. Regulations state that such waters be a limited area next to boat docking facilities in bays and harbors, and clearly indicate that effluent from fishing boats falls under the EQPB mandate and that discharge in these areas must be treated. The regulations provide no other classification of coastal waters. The EQPB has launched prosecutions against foreign fishing vessel companies for pollution of Malakal Harbor.

11.5.9 ENDANGERED SPECIES PROTECTION

Concerning endangered species, Palau will require its own international agreements governing wildlife trade to permit the development of export industries based on living resources, improve enforcement of the country's wildlife protection legislation, and contribute to the global conservation of endangered and threatened species. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is the principal means through which international trade in animals and plants is controlled. Membership would allow Palau to call upon the cooperation of other countries in detecting and preventing illegal trade. CITES would provide a framework for wildlife trade control, should Palau wish to develop sustainable exports of fauna and flora in the future. Accession would serve to demonstrate the country's commitment to international conservation efforts and cooperation with neighboring countries. Guidelines for the development of CITES implementation legislation are shown in Annex 1, Marine Resources Sector Report.

11.5.10 GENETIC RESOURCES, INTELLECTUAL PROPERTY, EDUCATION AND TRAINING

There are concerns about access to genetic resources and intellectual property. Some plant species and organisms are unique to Palau and consequently attract the attention of the international research community, seeking biological specimens for pharmaceutical and other research. Palau must ensure that a fair return is obtained from collectors, prospectors and from any resultant discoveries, and biological diversity is protected. National legislation is required for protection of Intellectual Property Rights to ensure that Palau receives due credit and financial benefits from the exploitation of its natural resources.

The education and training system in Palau, despite the significance of the marine environment to Palauan culture and lifestyle, does not provide a satisfactory tertiary program focusing on marine issues. Guidelines for an Environmental Sciences Program for college students have been supplied to the Palau Community College and MRD (refer Annex 2, Marine Resources Sector Report).

11.6 PROSPECTS

Despite the apparent abundance of seas and reef (only 24 persons per square mile of lagoon and reef), the probable yield from marine resources will not expand greatly. The critical period is in the next six years, with the aim being to gain increased returns from tuna and to set a pattern of sustainable extraction from inshore fisheries. Over the Compact period of 1994-2009, it is estimated that the value of output could be increased by around 4 per cent per year and Government revenue by around 7 per cent per year if policy recommendations in the Master Plan are adopted. Growth thereafter will depend much more heavily on policy commitment, level of research, efficient administration, new capital and productivity. If growth continues to depend on foreign labor, then Palauans themselves may gain little from the increased effort, unless they can increase ownership and management of the industry.

Palau's best opportunities in tuna are in coordination with PNG and FSM in changing the basis of charging for access. A tuna cannery is a possibility, although the risks are substantial. Inshore, the best opportunities are in removing price restrictions and allowing market prices to prevail, more diligent resource management, encouraging selective export markets, and developing a stable, professional and well-supported civil service to manage the balance between exploitation of the resource and conservation.

There will be no easy path to marine resources development, and few legitimate windfall gains. Development will require good quality foreign investment, technology, labor, management and market contacts, and these will come to Palau only if there is a consistent policy framework, good infrastructure and information, fair and objective enforcement, and a reliable and competent Government administration. Without these factors, it is quite probable that Palauans will lose their resources and attractive ecosystem, and the means to support their desired quality of life.

11.7 STRATEGY AND PROGRAM OUTPUTS: MARINE RESOURCES

11.7.1 STRATEGY

Achieve greater returns on a sustainable basis and increased local involvement from Palau's offshore and inshore marine resources, while maintaining adequate extraction levels for subsistence, and the protection of the natural marine environment for tourism and cultural purposes (strategy 3.4.2.16).

11.7.2 PROGRAM OUTPUTS: MARINE RESOURCES - INSTITUTIONS & LEGISLATION

11.7.2.1 Legislation for Conservation of Marine Resources Enacted

Marine resources conservation legislation should be drafted and enacted, and focus on development and conservation issues. Legislation should include the protection of genetic resources and intellectual property. Constitutional amendments may be required. In particular, legislation is required to set minimum marketable fish sizes, prevent the taking of fish, lobsters and trochus on scuba, prevent the sale of speared lobsters, and set minimum mesh sizes. There will need to be coordination of national and state marine resource conservation legislation.

There is a proposal to incorporate marine resource legislation into a comprehensive, natural resource development and protection Act. This is the preferred approach (refer Chapter 13).

11.7.2.2 Micronesian Mariculture Demonstration Center Commercialized

The Micronesian Mariculture Demonstration Center should be brought within the overall management structure and responsibilities of the Division of Marine Resources, but its charter amended to encourage more commercial activities:

- the Center should be encouraged to develop partial cost-recovery strategies for its extension services;
- the proposal for a public aquarium should only proceed if evaluation shows that a commercial rate of return can be obtained;
- the training function should be coordinated with the Ministry's goals and the proposed courses at the Palau Community College; and
- all visiting researchers should contribute to the Ministry's goals and training programs.

11.7.2.3 Marine Surveillance Extended and Upgraded

The Division of Conservation and Entomology should examine the feasibility of contracting out aerial surveillance in coordination with the new purpose-built patrol boat. The patrol boat could be based around the South-West Islands and serviced by private sector sea planes which are available in Palau.

11.7.2.4 Palau a Member of CITES

Palau should become a member of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

11.7.2.5 Environmental Sciences Program Established at PCC

The resources and focus in training on marine resource issues should be increased and upgraded through the development of an environmental sciences program at PCC. Guidelines for such a program for college students are shown in Marine Resources Sector Report, NMDP.

11.7.3 PROGRAM OUTPUTS: MARINE RESOURCES - OFFSHORE POLICIES

11.7.3.1 Regional Licensing and Management Area Established With FSM & PNG

There is a need for regional cooperation in management and development of marine resources. The establishment of a Regional Licensing and Management Area with FSM and PNG would give Palau substantial leverage when dealing with foreign fishing companies. An annual regional license fee should be simple to collect and enforce. It should be levied as a percentage of the Japanese market price and encourage restructuring of the fleets towards more efficient fleet deployment.

11.7.3.2 Policies and Programs Implemented to Protect and Manage Offshore Fisheries

In the absence of any regional cooperative agreement, a number of proposals should be implemented. These include:

- i) A Confidential Country Report assessing the state of tuna stocks for Palau should be sought urgently from the SPC.
- ii) A moratorium should be imposed on the entry of additional foreign longline vessels (above 1994 active license levels) until such time as a proper assessment has been made of the state of the stocks.
- iii) The process for obtaining users' contributions from foreign operations should be simplified. This is best achieved by a revised annual vessel license fee based on a 4 per cent return from the value of the catch on the Japanese market. The gross revenue tax on fish exports from these operations should be abolished.
- iv) Accurate monitoring of vessel landings and exports needs to be implemented immediately to determine the true level of catch by foreign vessels. Over the medium term, vessels should be required to be fitted with transponders which automatically give vessel location and catch data.
- v) A trip fee (environmental levy) should also be imposed to encourage more efficient vessels and reduce harbor time. The fee could be discounted for vessels conforming to certain minimum standards.
- vi) A clear understanding of which environmental protection legislation is applicable during the Compact change-over period is required to allow amendment to Palauan law, if required, to ensure that environment safeguards are not compromised.
- vii) A review of fishing vessel standards with respect to marine sanitation, bilge discharge protocols, and compliance with international requirements such as MARPOL should be urgently carried out by the Bureau of Natural Resources and Development in consultation with the Bureau of Public Health and other relevant agencies with prescription of mandatory minimum specifications.
- viii) An environmental bond for fishing companies should be imposed to shift the onus of ensuring compliance with environmental standards onto the fishing companies and facilitate compensation given the ease of mobility of ships.
- ix) An improvement in skilled technical and managerial personnel for onshore transshipment operations should be obtained through the development of appropriate training courses.
- x) Fishing agreements made by the Palau Maritime Authority or its successor should require satisfactory compliance with environmental law as a condition of renewal. This would place further accountability onto the managing companies that negotiate the agreements.

- xi) An environmental impact study and detailed feasibility study of a tuna cannery for Palau should be conducted, taking into consideration the potential benefits of regional agreements with FSM and PNG. Assistance in this might be available from the Forum Fisheries Agency, as well as contracting the work to a qualified independent consultant.
- xii) Research by the Palau Maritime Authority should include tuna size sampling at transshipment operations in Koror for determination of trends in the tuna fishery and for any evaluation of the impact of fisheries on the stocks. This work should be continued by the Ministry and will eventually permit in-country analysis and assessment. Entry of logsheet data should continue to be carried out by the MRD, to provide time series for future analysis and timely advice to managers on vessel operations.

11.7.4 PROGRAM OUTPUTS: MARINE RESOURCES - INSHORE POLICIES

11.7.4.1 National Registration of Commercial Fishers Implemented

A national system of registration for commercial fishers is required to regulate fishing activity and facilitate taxation. Aquarium fish collectors should be licensed and the number limited until the results of research on sustainability is obtained.

11.7.4.2 Enforcement Functions Strengthened

Dedicated enforcement officers will be required to ensure compliance. The present number of conservation officers is inadequate to deal with the new responsibilities to be introduced with marine reserves and other conservation measures. The number of conservation officers needs to be increased with supporting vehicles and boats. Consideration should be given to providing enforcement powers to any police assigned to States as a way of providing flexibility in sharing scarce regulatory resources. Delegation of some enforcement responsibilities to the States and cross deputizing to facilitate enforcement of State and National laws are priorities and salaries may need to be shared between the States and National Government.

11.7.4.3 Coastal Zone Management Strategy and Program Prepared

Given the economic pressures on marine resources, it is imperative that pollution and disturbance impacts on breeding and feeding areas be minimized. Coastal zone management requires site specific study, including the environmental effects of the proposed Babeldaob road, and the wider ramifications of beach, foreshore and wetland development including runoff, siltation, waste disposal and habitat loss. Immediately, a program of control on wastes building near foreshores, and erosion from roads and construction sites should be implemented by State authorities.

11.7.4.4 Marine Resources Established

The implementation of marine reserves is recommended as quickly as practicable to protect the Rock Islands, Ngeremeduu Bay and Helen Reef. Base line data on the size and abundance of indicator species should be established to enable the effectiveness of protective measures to be properly assessed. Also, there may be a case for exemption for traditional owners who can demonstrate a history of use. Details of these resources are shown in Chapter 12.

11.7.4.5 Commercial Fishery Opportunities Reviewed and Promoted

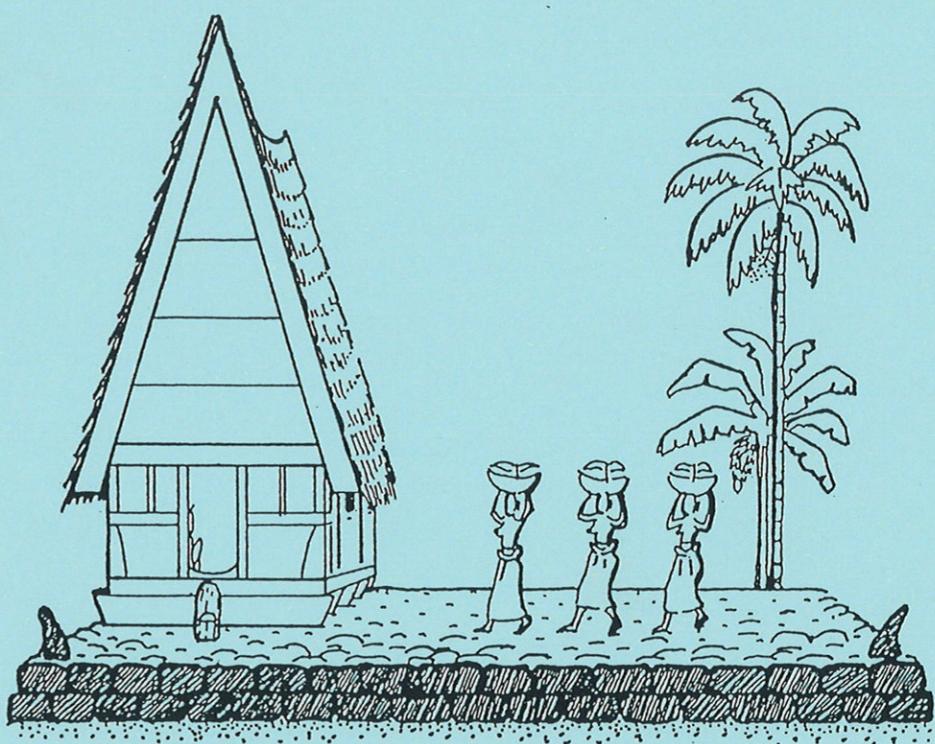
- i) Development of aquaculture has been slow, despite the presence in Palau of a world class mariculture facility. In order to promote development there is a need for the Ministry of Resources and Development to facilitate the involvement of Palauan fishers and foreign investors through partnerships and joint ventures in accord with regional development aspirations. Possible ventures include coordinated clam culture, pearl and other oyster culture, intensive shrimp culture, milkfish culture, and the cage culture of groupers and other fish for the live fish market, coral culture and sponges.
- ii) Research studies are required for exploited species, especially those considered threatened or endangered. Routine monitoring of spawning groupers should continue. An assessment of the effects of harvesting aquarium fish is required. Baseline information is required on those invertebrates facing continued or possible increased harvesting such as clams, or those with high market value including mangrove crabs and lobsters. The ecological effects of selective removal of invertebrates for the aquarium trade needs investigation. Aquarium fish collectors should be registered under the same system as that developed for commercial fishermen. Research relating to mariculture should be concentrated on those projects that will provide opportunities for small-scale development, including grow out of clams and sponges and culture of species including corals.
- iii) Catches of big-eyed scad, *Selar erumenophthalmus*, by small boats fishing at night can provide a substantial fishery for locals as can lift-net fishing for *Acanthocybium solandri* (*A. opelu* as in Hawaii) without having a negative impact on the reef populations as these species live in the near coastal regions.
- iv) Trochus has significant value, but has been over harvested in the past. If marketing is restricted to shells three inches in diameter and larger, harvesting is restricted to a specific time period, and sanctuaries are established in key locations within the inner reef area, this fishery could become quite valuable to Palauans once again.
- v) Ika-shibi fishing for yellowfin has also proven successful in the coastal waters of Palau and could be developed by local fishermen using their own boats. Game fishing for marlin, large tunas, and other species such as Spanish mackerel, wahoo, mahimahi, etc. could develop into a large industry as it has in Hawaii.

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY						
11.7.2 Achieve greater returns on a sustainable basis and increased local involvement from Palau's offshore and inshore marine resources, while maintaining adequate extraction levels for subsistence, and the protection of the natural marine environment for tourism and cultural purposes						
11.7.2.1 Legislation for conservation of marine resources enacted	Legislation implemented and enforced covering development and conservation issues, coordinating with State legislation	Legislation. PNC. Marine Resources Division catch and effort data.		recurrent	recurrent	
11.7.2.2 Micronesian Mariculture Demonstration Center commercialized	MMDC extension services partially recovering costs, training coordinated with PCC incorporating visiting researchers to meet MMDC financial and technical goals	MMDC budget line. Training records & research records	MMDC staff have the capability to support commercialization process	recurrent	partial cost recovery	
11.7.2.3 Marine surveillance extended and upgraded	Patrol boat operational with trained crew meeting surveillance targets	Surveillance vessel. Surveillance reports. Prosecution records. Crew training records. Maintenance reports		recurrent	recurrent	AusAID
11.7.2.4 Palau a member of CITES	CITES policies and programs operational in Palau	CITES meeting records, policies & programs	Leadership understands the need to participate in international conventions	recurrent	recurrent	
11.7.2.5 Environmental sciences program established at PCC	PCC graduates from environmental sciences program contributing to Palau economy in public and private sector	PCC graduate tracking records. Curriculum	Palauan and other regional students interested to enroll in courses	recurrent	partial cost recovery	Sea Grant
11.7.3.1 Regional licensing and management area established with FSM & PNG	Regional Management Area agreement signed by Palau, FSM & PNG and licensed fishing vessels operating in Palau waters monitored and returning expected revenue	Agreement. License Fee Revenues	PNG & FSM prepared to admit Palau into the regional agreement	recurrent	user fees	
11.7.3.2 Policies and programs implemented to protect and manage commercial fisheries operations	Strategic sectoral plan with accompanying studies & legislation operational and meeting targets for user fees revenue, compliance, and tuna stock management	SPC Country Report on Tuna. Foreign Longline Licenses. License Fees. Catch and Effort data. Environmental legislation covering fishing vessels. PCC fisheries training courses. Feasibility study & EIS for a tuna	PNG, FSM & Palau do not have a regional agreement	recurrent	user fees	
11.7.4.1 National registration of commercial fishers implemented	Fishers' catch data providing basis for taxation and monitoring of stocks	Registration records.		recurrent	user fees	
11.7.4.2 Enforcement functions strengthened	Enforcement of marine legislation effectively managed by using resources of police and state officials who are trained to enforce state and national legislation through cross-delegation of powers	Legislation detail on delegations between state & national government and other enforcement agencies	Leadership prepared to delegate responsibilities in the interests of providing a more effective enforcement of marine legislation	recurrent		
11.7.4.3 Coastal zone management strategy and program prepared	Disturbance and pollution of inshore areas utilized for breeding and feeding does not exceed designated or accepted levels.	Baseline surveys, monitoring studies, environmental legislation. Coastal Management Strategy (ODA technical assistance estimate \$50,000)	Environmental Impact of Babeldaob Rd included in EIS provided within Compact fees. States' environmental concerns align with national concerns	recurrent		50
11.7.4.4 Marine reserves established	Refer Ch 12					

CHAPTER 11: MARINE RESOURCES LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
11.7.4.5 Commercial fishery opportunities reviewed and promoted	Opportunities for aquaculture researched, sustainability of exploited species reviewed and management plan for individual species operating on a sustainable basis. Scad, trochus and ika-shibi fishing for yellowfin for locals promoted on a sustainable basis. Commercial game fishing opportunities identified and promoted where sustainability assured	Management plans for commercial species	Palauan and foreign fishers interested in taking up commercial opportunities	recurrent/partial cost recovery		

CHAPTER 12

ENVIRONMENTAL PLANNING AND MANAGEMENT



The choice between the standard of living to which Palauans aspire and the potential for damage to the environment is a conscious decision for Palauans to make. It is of crucial importance that Palauans know beforehand in the development process exactly what the environmental consequences of any major development project will be. Decisions are then made with knowledge of the issues or, more importantly, people know that decisions have been made with their consultation. Environmental concerns need to be institutionalized into the legislative and administrative decision-making process. This chapter addresses the physical and institutional framework for environmental planning and management in Palau.

12.1 INTRODUCTION

Risks of environmental damage should not by themselves deter the use of resources for development. With all development, it is inevitable that some damage will occur. Good environmental management will attempt to ensure that this is reduced to tolerable levels.

Due primarily to the resilience of nature, most damage is repairable in time, albeit sometimes at a significant cost. Some damage arising from the non-renewable use of resources, such as open cut mining, may by its very nature be irredeemable. Nevertheless, Palauans might choose such non-renewable utilization of their scarce physical resources in order to raise the standard of material well-being to the level to which they aspire in the shortest time possible - however unpalatable this may be to someone who believes that environmental preservation is mankind's paramount responsibility.

With the exception of Velasco Reef and a few other areas, the environment of Palau is no longer in a pristine state. There is serious erosion on Babeldaob Island, some of which is associated with the construction of a road network. The silting of taro gardens, other wetlands, mangroves, estuaries and reefs witness the fact that environmental degradation has occurred. This observation is strengthened by a reported scarcity of pigeons, dugong, and nesting turtles in areas where they were once common, increasing pollution of the Rock Islands lagoon, and the death of a 32 acre patch of mangroves due to dredging activity.

This chapter supports the conclusions of the Division of Conservation and Entomology's (Bureau of Natural Resources and Development) 1992 Comprehensive Conservation Strategy that the natural resources of Palau are threatened either directly or indirectly by:

- existing or projected large-scale forms of development, which have not been well planned or considered. Only one tourist resort and the Compact Road have been subjected to detailed environmental impact assessment;

- a lack of enforcement of existing regulations and controls across almost all activities.

For at least the next decade after the commencement of the Compact, public investment will concentrate on infrastructure development. There are high expectations for such development within the States. In addition to public sector investment, the Government is making a concerted effort to attract private investment. Tourism is seen as the pre-eminent investment channel and a number of resorts and hotels are currently in the planning phase. An increased harvest of marine resources has been identified as a second possible economic development prospect. These investments are all likely to have environmental consequences.

12.2 SITUATION ANALYSIS

12.2.1 HISTORICAL RESOURCES

Palau has a fascinating array of ancient cultural treasures, and historical relics from the post-European contact period of the four foreign administrators of Spain, Germany, Japan and the USA.

The origins of some archaeological sites in Palau are unknown, but the magnitude and intensity of terracing and hill-top, fortress-like earthworks would indicate highly organized societies with populations much larger than exist today. There are relics of many villages and sacred sites scattered over much of the country, including the mysterious ancient stone monoliths (*Badrulechau*) in the northern Babeldaob State of Ngerchelong, faces carved on stone in Melekeok State, and the *Medechii Belau* of Airai State. Many of the traditional village sites are identified by stone pathways, old platform roads, and stone building platforms.

There are few physical remnants of the more recent periods of history, with the last traditional men's house (bai) being found in Airai State. The neglect of succeeding colonial administrations for preservation of Palau's historical resources, deliberate destruction, and the destruction from World War II have all taken their toll.

Historical sites on Babeldaob are shown in Map 8, Annex 3, NMDP.

12.2.2 NATURAL RESOURCES

Palau is blessed with many natural resources, a great cultural heritage and invaluable historical treasures. From an economic viewpoint, Palau has three main assets— a) its strong aesthetic appeal and intrinsic worth, which provides the base for a tourism/eco-tourism industry; b) its marine resources; and c) its proximity to the bustling and rapidly growing economy of Asia, only a short 4-5 hours flight distant.

For the naturalist or biologist, due to its proximity to larger continental land masses, Palau is a treasure trove with a range and diversity of species seen nowhere else in Micronesia.

A full description of Palau's natural resources is catalogued in the Comprehensive Conservation Strategy by Demei and Cassell 1992. Marine and other resources are covered in other chapters of this report.

12.2.3 LEGISLATIVE FRAMEWORK FOR ENVIRONMENT PLANNING

The Palau National Code (PNC) has a mixture of laws passed by the Olbiil Era Kelulau (OEK), and old Trust Territory Codes plus some US laws (e.g. Clean Water Act) which have been applied to Palau. Some of the laws of the Trust Territory of the Pacific Islands (TTPI) were amended to suit Palau while others were adopted without modification. Since the adoption of the PNC there have been many additional laws enacted which have not yet been incorporated into the Code. Following implementation of the Compact of Free Association in October 1994, US laws pertaining to Palau are no longer generally applicable.

12.2.4 ENVIRONMENTAL QUALITY PROTECTION (EQP) ACT

The EQP Act was enacted in 1981 (RPPL 1-58). With the consolidation of the law into the Palau National Code (PNC), it became Title 24. The Act has three divisions: 1) General provisions; 2) Wildlife Protection; and 3) Preserves and Protected Areas.

Division 1 covers the creation, functions and operation of the Palau Environmental Quality Protection Board (EQPB). Division 2's framework legislation of Wildlife Protection includes an Endangered Species Act (Chapter 10, which is a former Trust Territory Act P.L. No 6-55 of 1975); it provides for both plant and animal endangered species. Protected sea life sub-chapters include turtles, sponges, mother-of-pearl, dugong, trochus, and clams. Chapter 13 deals with illegal fishing methods including the use of explosives, poisons or chemicals. Chapter 14 covers protected land life which is restricted to the conservation of birds. This bans the killing, harming of birds, and the taking of eggs of all birds with the exception of four species: *Porphyrio porphyrio*, the Purple Swamphen (Uek); *Halcyon chloris*, the Collared Kingfisher (Tengadidik); *Cacatua galerita*, the introduced Sulfur-crested Cockatoo (Yakotsiang), and *Gallus gallus* (Malkureomel). Division 3 covers the only two legally protected areas in the ROP of Ngerukewid Islands Wildlife Preserve and the Ngerumekaol Spawning Area. Division 1 is administered by the EQPB, and Divisions 2 and 3 by the Bureau of Natural Resources and Development.

The Act is in need of overhaul and translation from legalese into common English. Some sections appear outdated and others virtually bypassed. This is a major undertaking as it should take into account all extant legislation enacted since the compilation of the Palau National Code. It is also suggested that regional Environmental Impact Assessment legislation be studied closely in the process.

12.2.5 NATURAL HERITAGE RESERVES SYSTEM ACT 1991

The Natural Heritage Reserves System Act (1991) RPPL 3-51 states (clauses 2(a) and (b)):

"the Republic of Palau possesses unique natural resources such as geological features and distinctive freshwater, marine and terrestrial plants and animals, many of which occur nowhere else in the world that are highly vulnerable to loss by the growth of population and technology;"...

... "in order to accomplish these purposes, a system of reserves, sanctuaries, and refuges must be identified, developed and strengthened. Additional terrestrial and freshwater and marine areas

suitable for preservation should be set aside and administered solely and specifically for the aforesaid purposes."

The Bureau of Resources and Development is cited as the body responsible for designating and nominating areas for inclusion in the Republic's Natural Heritage Reserves System and for developing regulations to the Act. However the Act also stipulates that such regulations must first be specifically approved by the appropriate state government officials.

The system established by the Act is that:

- (a) The Governor of a State, through the State Legislature and State Chiefs, shall designate areas within the State by mutual consent with the Bureau of Natural Resources and Development as part of the ROP Natural Heritage Reserves System. This applies to State-owned land, private land gifted to or purchased by the State for the purpose;
- (b) The Ministry of Resources and Development may designate, through its Bureau of Natural Resources and Development, areas as part of the ROP Natural Heritage Reserves System and bring them under its control and management. This applies to Republic-owned land, land set aside under the TTPI, State-owned or private land conveyed or set aside for the purposes of the ROP Natural Heritage Reserves System, and other land purchased by the Republic for the specific purpose.

12.2.6 BILLS IN PROCESS

(a) Palau Wildland Fire and Forest Management Bill

This Bill has been on the books for some time. The second draft to the OEK was in 1988. This Bill would empower the Head Forester to provide overall leadership for wildland fire prevention and suppression; to suppress wildfire in areas within one mile of roads, or in other areas deemed (by the Minister or in his absence the Director) to be harmful to forests or soil resources. The lighting of fire in any wildland without a permit would be prohibited.

(b) Palau Forest Practices Bill

This Bill was drafted in March 1992 with the assistance of the USDA Forest Service. It has not yet been passed.

(c) A Bill to Amend the Endangered Species Act

Amendments were drafted in 1993 to sections of the Endangered Species Act 1975 to establish conservation programs for endangered and threatened species under the Minister's authority, including the research programs needed to define which species are truly endangered or threatened. The amendments also sought power for the Minister to acquire areas of known aquatic habitat for the conservation of resident endangered or threatened species.

The Minister would also be empowered to add or remove species from an established Threatened or Endangered Species List.

The criteria in the Bill for determining list inclusion are:

- present or threatened destruction, modification or curtailment of the species habitat or range;
- over-utilization for commercial, recreation, scientific or educational purposes;
- substantial decrease in species population caused by disease or predation;
- inadequacy of existing regulatory mechanisms to protect the species;
- other natural or man-made factors affecting the continued existence of the species.

PNC Title 24, 12 (I) protects turtles, sponges, black-lip pearl oyster, dugong, trochus, some clams and all birds except four species. The endangered or threatened status of these species listed in Title 24 was not indicated. The draft regulations to the Bill give the following list: dugong, blue whale, sperm whale, Palau gray duck, Micronesian megapode, Palau nicobar pigeon, saltwater crocodile, leatherback turtle, hawksbill sea turtle, green sea turtle, loggerhead sea turtle, Olive Ridley sea turtle, and the giant clam (*Tridacna gigas*).

(d) Wildlife Management Bill

The wildlife referred to in this Bill means the wild birds, amphibians, reptiles and wild mammals not listed under the Endangered Species Act. The Bureau of Natural Resources and Development would be empowered to develop a wildlife classification scheme; promulgate regulations concerning harvest or collection; provide a system of licensing of hunters and a system of permits for collection of species for various purposes; prepare management plans and recommend key habitat of sensitive or rare species for inclusion in the Natural Heritage Reserves System; establish a monitoring system; and regulate importation of wildlife.

12.2.7 CONVENTIONS

(a) Convention on Biological Diversity

This Convention was opened at the UNCED (Earth Summit) in 1992 for signatures. It requires countries to take appropriate action through regulations and management to control the destruction of biological species, habitats, and ecosystems within their jurisdiction. The Convention places an obligation on contracting parties to establish a system of protected areas, rehabilitate and restore degraded ecosystems and promote the recovery of threatened species. The Convention places an obligation on individual countries to assist developing countries financially and, through technical expertise, to conserve their biological resources.

The Global Environment Facility (GEF) had made \$15 million available for biodiversity conservation in the Pacific Region. The program in the region is known as the South Pacific Biodiversity Conservation Programme (SPBCP). Palau has as yet availed itself of only a token amount of money. That GEF is now being supplemented by GEF II, which commenced in October 1994, making US\$2 billion available worldwide for biodiversity conservation; the proportion designated for the Pacific region is not known.

(b) Apia and SPREP Conventions

These conventions provide for the establishment of protected areas where activities which are likely to have an adverse effect on species, ecosystems, or biological processes are controlled or prohibited.

The Apia Convention (Convention for the Conservation of Nature in the South Pacific) is the oldest of the Pacific's Conventions. Palau is urged to become a Party to the Convention.

Palau is a signatory to the SPREP Convention (Convention for the Protection of Natural Resources and Environment of the South Pacific Region), and its related Protocols, but is one of the few countries which has not yet ratified it.

12.2.8 NATIONAL ENVIRONMENTAL INSTITUTIONS

The Environmental Quality Protection Board (EQPB) has the main charter (under PNC Title 24 - Environmental Protection) for environmental protection. The responsibility for environmental protection aspects of natural resource management rests with the Ministry of Resources and Development (under PNC Title 24 and other legislation) through its Bureau of Natural Resources and Development, with its Division of Marine Resources (DMR), Division of Agriculture and Mineral Resources (DAMR) (and the Forestry Department within that Division), and the Division of Conservation and Entomology (DCE).

The cultural and historical aspects of environmental management are the responsibility (under PNC Title 19 -Cultural Resources) of a third body, the Division of Cultural Affairs of the Bureau of Arts and Culture within the Ministry of Community and Cultural Affairs, under the guidance of a 16 member Palau Historical and Cultural Advisory Board.

Within the Ministry of Health is found a fourth body with charted environmental responsibilities, the Division of Sanitation and Environmental Services (DSES) in the Bureau of Public Health.

In addition to these, there are a number of other agencies with mandates which include some aspects of important environmental responsibility. These include the Palau Visitors Authority, the Palau National Museum, the Ministry of Commerce and Trade, and the Ministry of Education.

In addition, the resource-based, and social service Ministries and Bureaus are especially important in the process of environmental administration; but the Bureau of National Treasury, Bureau of Program Budget and Management, Bureau of Foreign Affairs, Bureau of Domestic Affairs, and Bureau of Public Safety all play specific roles in resource allocation and protection.

(a) Environmental Quality Protection Board

The EQPB was established as an authorized policy-setting and decision-making regulatory agency under PNC Title 24, RPPL 1-58. The mandate of the EQPB is to ensure that the quality of the human environment, air, soil, and water, of the ROP is protected. Major responsibilities include:

- promulgation and enforcement of primary and secondary drinking water regulations and other such regulations as are necessary to carry out the purposes of the US Safe Drinking Water Act;
- establishment and provision for the continuing administration of a permit and monitoring system for the discharge of any pollutants in the air, land, or water;
- the adoption and implementation of plans for the certification of applicators of pesticides and issuance of experimental use permits for pesticides;
- promulgation and enforcement of nuclear and other hazardous waste regulations;

- promulgation and enforcement of other regulations for the purposes of monitoring, inspection, and record-keeping for environmental quality protection.

The EQPB reports annually to the President of the Republic and to the OEK.

The main resource management issues affecting the EQPB include:

- road construction, tourist resorts and other developmental projects directly impacting on soil, air and water quality, such as dredging, earth moving, filling of mangrove swamps and other wetlands;
- water, solid and liquid waste problems relating to population growth in Koror;
- pollution of freshwater and marine water through dumping of wastes and use of pesticides;
- lack of knowledge by the general public, business people and government employees and politicians on the potential impacts of everyday activities as well as development activities on environmental quality.

The EQPB Annual Report for FY 1993 reported expenditure of \$396,181, of which 45 per cent went on salaries. The Board also received grants for Near Coastal Waters, Wetland, and under the Job Training Partnership Act. During FY1993, a short-term watershed management study commenced in Ngerikilil Watershed, one of two main sources of water for Koror/Airai; this has now terminated.

(b) Other Government and Non-Government Agencies with Environmental Responsibilities

These include:

- The Division of Conservation and Entomology which has a mandate to develop and implement national policies to conserve the resources of Palau.
- The Division of Marine Resources (refer to Chapter Eleven) which is mandated to develop and manage the inshore marine resources of Palau.
- The Division of Agriculture and Mineral Resources, including the Forestry Department (refer to Chapter Nine).
- The Division of Cultural Affairs in the Ministry of Community and Cultural Affairs, established under the Historical and Cultural Preservation Act (PNC Title 19), under which is the operation of the Palau Historical and Cultural Advisory Board responsible for the identification, certification and management of historical, cultural, and archeological resources including the museum.
- The Ministry of Commerce and Trade responsible for enforcing the prohibition of illegal fishing in the Palau EEZ and the marketing and promotion of economically sustainable development for the benefit of the local economy and the quality of life.
- Non-government organizations, such as the Palau Community Action Agency, Palau Resource Institute, OISCA International, School for Field Studies, and The Nature Conservancy which have played roles in certain aspects of sound environmental use and protection.

With such a range of organizations having a degree of responsibility either imposed or assumed, there is considerable overlap and duplication of effort and neglect of matters requiring attention. This is highlighted in the following section.

12.3 ENVIRONMENTAL ISSUES

12.3.1 RISK

On the basis of past performance, large-scale infrastructure development will be of environmental concern unless that development proceeds under the guidance of an environmental management plan prepared in the context of a thorough environmental impact assessment. If that planning is done at the outset, then the level of damage which is an automatic consequence of any development can be kept within acceptable bounds. Such planning is integral to the preparation of an environmental impact statement (EIS).

The consideration of environmental risk should not, of course, be confined to an individual project development but take into account the cumulative risks of repeated similar types of development. For example, with a major tourist resort, provided the building design is aesthetically in harmony with its surrounds, with the height kept below tree level; buffers are left between the resort and environmentally sensitive areas such as mangroves or sand beaches; it does not contribute to pollution; and is well maintained and serviced, then few direct adverse environmental consequences should result.

At the same time, there may be other beneficial or adverse indirect environmental consequences which would need to be taken into account, from such obvious considerations as the impact additional tourists may have on the natural resources they use or visit, to equally important but more subtle influences on culture and the nation's social fabric. As it is the country's aesthetic appeal combined with the adventure of exploring its marine wonders which will lure increasing numbers of tourists to Palau, those very tourists may not care to see mega-resort developments similar to those they can find anywhere in their own country. However, it is for Palauans to decide what type of country they want to see in 10–20 years time. Some may want the economic advantages of a Saipan or Guam. Others would be horrified by the prospect of such seemingly haphazard, high-rise development scattered over the islands. Perhaps the majority hope for a compromise of the economic benefits of the one without the environmental consequences of the other.

The fundamental issue is that if all large-scale development projects are automatically subjected to the environmental impact assessment (EIA) process, then the threat of further serious environmental damage can be averted. Most of the major infrastructure development projects planned under the Compact call for an EIS. If the application of the EIA process is disregarded as being too costly, too time consuming, or a threat which will discourage prospective investors, then it is inevitable that environmental damage will result.

12.3.2 RESOURCE MANAGEMENT

Even given the prospect of no further major environmental damage, Palau is still left with the task of rehabilitation of existing damage.

The main existing resource management issues are:

- erosion control and rehabilitation of degraded watersheds on Babeldaob, with:
 - gully erosion control headworks;
 - revegetation programs, particularly with trees and ground cover;

- fire control;
- dredging of coral;
- destruction of wildlife;
- heritage protection, particularly archaeological sites in the face of increasing tourism;
- solid and liquid waste disposal.

There is an urgent need to boost the rate of reforestation. That need translates into additional nursery capacity and transportation, together with a modest increase in staff for the Forestry Department to advise States on forest establishment, management, and protection. However, the reforestation need is so important that the only way it can be achieved is by mobilizing the support of families and Non-Government Organizations (NGOs) to plant trees not only on their own land, but under the guidance of their traditional chiefs and the State governments on designated public land.

For this mobilization process, the support of the traditional women's leaders is considered important, with the reforestation thrust strengthened by special programs involving NGOs like OISCA and the schools. This type of activity may be attractive to foreign aid donors. Such a reforestation thrust will fail if it is not closely allied with a greater capacity for and action on fire control. For this, the first step will be the enactment of fire control legislation. Armed with this, and the necessary physical resources and training, the Forestry Department can take positive steps to control outbreaks of wildfire. A fire protection system would include the development of manned fire towers in strategic locations and the equipping of quick-attack fire suppression crews. However, because of resource constraints, an effective system of community-based controls is likely to more feasible. This system should focus on increasing the knowledge about damage caused by fires, addressing attitudes and changing local practices of burning should be explored. The extension-by-example principle which would occur automatically with prevention activity will hopefully lead to a reduced incidence of the deliberate firing of the country.

The dredging of coral adversely affects nearby live coral and other vital resources, such as mangroves. The advent of the high-standard Compact road brings the need for good quality, sharp aggregate which may be obtained from outcrops of suitable igneous rock in the vicinity of the road alignment. In the interim, where the Japanese road is being brought back into use, it is of concern that the source of material for an all-weather road surface is still coastal dredging. The use of portable rock crushers in the south and of compacted bauxite in the north would serve the road far better, with much less need for maintenance. With better attention to drainage, the road could achieve an acceptable standard. The use of crushed basalt is more economical than coral and should be used.

The destruction of endangered or threatened species is a global concern. Consequently there are major international programs set up to assist countries to protect their biological diversity, including animals and their habitats. Palau has legislation in place, but enforcement is weak. Apart from the enforcement issue, there is also an emerging problem of the indiscriminate use of high-powered air guns, and special conditions similar to those for firearms may need to be attached to their sale and use.

Palau's cultural and historical resources are gaining wider recognition and more culturally related activity will likely be a feature of future tourist packages. There are many heritage sites in need of restoration but this work has been completed on only a small number out of the 41 sites currently registered. Some sites will interest tourists and appropriate charges for entry to such sites may help fund restorative work elsewhere. Controls on tourist numbers and access to approved sites will need strengthening. Map 8 (attached in the Annex 3) shows historical sites in Babedaob.

Solid and liquid waste disposal should be less of a problem than it is, given the availability of suitable land on Babedaob for regional landfills, coupled with improving accessibility. Sewerage problems in Koror/Airai are expected to be addressed as a result of the recent sewage disposal master plan, but more attention could be given to small, stand-alone and self-contained sewage treatment systems for hamlets and villages.

Environmental concerns require attention to the application of environmental controls. These include global considerations, such as the need to raise the level of environmental awareness right across the community. However, there should be a special focus on children through both formal and informal environmental education, using them as a conduit for the passage of correct environmental messages to their parents. Entertaining communal ways of transmitting environmental messages are advocated, including song, dance and plays.

12.3.3 APPLICATION

(a) Demarcation of State and National Environmental Responsibilities

The roles of the National and State Governments in the administration of many nationwide resource areas are quite unclear. Currently, 15 states have the capacity for only the bare minimum of government. The clear exception is Koror State, which is the most populous state with a population at the 1990 census of 10,501 persons.

Of the 16 states, Koror's neighbor, Airai, has the next largest population of 1,234 persons, while there is a nominal population as low as 22 persons on Hatohebi and 62 on Sonsorol. Such States do not have the human resource capacity to develop all the administrative machinery of government needed to implement the many national programs within their State boundaries: nor does the National Government have the human resources which would permit the establishment of national offices within each State to provide direct assistance to States for program delivery.

If the respective roles of National and State Government could be more clearly defined to avoid overlap, then many of the contentious administrative issues might disappear. The essence of National - State cooperation will be the devolving of responsibility for day-to-day monitoring and local enforcement of national regulations, particularly on resource use. The people living close to a resource are in some cases already exerting their traditional leadership to monitor utilization and control over harvest or other environmental degradation, and may need to be mobilized to maintain this role.

At the same time, the National Government would need to maintain the overall control of national assets, because resource use also needs to be seen from the national perspective, rather than merely the geographically circumscribed view of the State. National Government would set the umbrella legislation; State law would mirror this legislation. States would accept the minimal standards set by the National Government but institute their own stricter standards if they see fit. The lack of enforcement of existing regulations and controls and the inappropriateness or impracticality of some regulations are the other main threats to Palau's natural resources.

To help overcome the impasse between State and National Governments on the delegation of national authority, there should be cross-authorization of specified State and National officers to enforce each other's law:

- State environment legislation should not be permitted to conflict with national laws and regulations. But provided the intent of the national law is met by the State, it is suggested there should be *no* objection to the States choosing for themselves to impose a stricter law with more stringent conditions. If that were so, then the National Government would in future pass legislation governing the minimal environmentally acceptable standards to be enforced.
- There is clearly a need to strengthen the arm of the traditional system of resource protection, but at the core is the need for the Judiciary to give full legal recognition to oral, unwritten law. It is crucial for national courts to uphold the penalties imposed under the traditional system of resource control by the chiefs. Without such recognition, the authority of the chiefly system will wane even further than it has, and the abuse of local enforcement will worsen.

There are a number of legal measures or Bills in the pipeline which may strengthen the authority of those responsible for environmental enforcement; however attention to coordinating these measures is needed to ensure there is no internal conflict. Currently, the main legal concern is the very loose wording and vagaries of Article VI of Title 1 of the Compact which makes it almost impossible to determine what environmental standards Palau must enact and enforce. A number of ambiguities have been identified by the EQPB and these will have to be clarified for successful Compact implementation.

(b) *Lack of Environmental Awareness*

Unsustainable development is often pursued out of ignorance rather than unscrupulous attitudes. Effective long-term environmental management will require an informed and supportive public. There is a need to increase environmental awareness at all levels, including politicians, school children, National and State Governments, traditional high chiefs and clan chiefs, and villagers. The need for increased awareness is particularly apparent at the "grass roots" or village community level. It is the resource owners who decide what activities will occur on their land, and it is therefore they who have the greatest potential effect on the environment of Palau. Consequently, resource owners should be the prime target for awareness raising programs.

If resource owners are informed about initiatives, such as the reasons for development of environmental legislation, then they are more likely to understand and comply. If such awareness raising does not occur, then the chances of successfully implementing environmental management programs on traditionally owned land are reduced greatly.

Existing institutions should be encouraged to assist in the dissemination of information. The education sector has a critical role to play in this regard. It is a truism that the children of today are the decision makers of tomorrow and, as such, children must be adequately informed about environmental issues. Agencies responsible for delivering environmental messages should employ a range of informal approaches, including radio, newspaper, market/community notice boards, theater group actions (dances, plays, mimes), and church sermons, as well as more formal education processes. There is the need for a coordinated effort from all organizations involved and the effort needs to be longitudinal, i.e., beginning at the grass roots level and earliest school years through to post secondary education and into government and non-government employment.

12.3.4 INFRASTRUCTURE

Following consultations with State and National Governments, a number of infrastructure projects were nominated for funding under Compact arrangements. These are likely to impact on the natural environment and are discussed below:

(a) Airports

Kayangel: The proposal is to construct a roadway/runway between the atoll of Ngcheangel (Kayangel) and Ngerungs. The one-way strip would be constructed of coral dredged from the lagoon and positioned in a SW - NE direction such that the approach from the SW would be over the lagoon. This orientation would also permit future extensions of the strip. This runway is opposed on environmental grounds. The airstrip would completely mar the aesthetics of the atoll. There do not appear to be any strong mitigating circumstances. The atoll can continue to be served by sea plane or surface water transport from Koror, which addresses concerns about security, or the need for evacuations in medical emergencies.

Peleliu: The lengthening of the airstrip by 2,500 feet and possible strengthening of the pavement is seen as an important part of the strategy to develop the tourist transport triangle of Koror-Peleliu-Ngemelis. Peleliu airport is seen as a feeder destination from Koror. These works would require the removal of some mangroves at the northern end of the strip. With attention to drainage from the disturbed area, the effect on the remaining mangrove resource would seem minimal. The main environmental concern would be the sea-grass beds on the north-east side of the island, the largest in Palau. The continued health of these sea-grass beds depends on the quality of the water, tidal currents and wave action. None should be affected by the airport reconstruction if well managed. The proposal is supported subject to Environmental Assessment (EA).

Sonsorol and Hatohobei: The proposals put forward seek the expenditure of a large sum of money for a very small population. Yet in the name of national security against intrusion by Indonesian fishing boats and others, and to provide fast medical evacuation capabilities, the construction of airports on these islands might be justified. They certainly would not be justified on economic grounds. Around 20 - 25 per cent of each island would be lost to the airstrip. The proposals should be subjected to EA, the main purpose of which is to ensure the islanders are fully aware of the consequences of constructing the airstrips through the public consultation process.

(b) Communications

Babeldaob Round Island Cable: The proposal involves laying fiber optic cable in the deep areas around the island and inside the barrier reef, with finger cables taking off to the main points on the coast. From there presumably land lines would need to be erected to connect other villages to the state entry points. This project is proceeding. An EA should be stipulated as a matter of urgency. Particular non-environmental points of interest would be the need to repair cable after it has become embedded in coral, or to repair breaks where the feeder cable might move and abrade with current action in the shallower waters. The environmental question is what damage is done to the reefs, both during cable laying and during repair.

(c) *Marine Research*

Helen Reef Research Facility: The need for such a facility at Helen's Reef has been advocated for a number of years. The facility would serve both atoll research and marine research in the Southwest region. There are a number of conditions for the establishment of this facility because Helen Reef has been nominated as a Natural Heritage Area. The proposal is supported subject to EA.

(d) *Mining*

Airai: The possibility of epithermal gold is being investigated in an area of Airai. However, indications as yet are the deposit may not be commercial. Should it prove otherwise, then it should be mandatory that a full EIS is undertaken before any open cut or pit mining is allowed to commence.

Angaur: The reopening of the phosphate mine on Anguar is an urgent development. There are apparently sufficient reserves to support mine operation for a number of years and perhaps return Angaur some of the benefits it once had under the Japanese administration. The proposal would benefit from an environmental study to ensure that Anguar derives the maximum benefit from the mine, and that at the end of the mine life is not left with just a hole with which nothing can be done. EA/EIS is required depending on information supplied on the mining and factory process for conversion to superphosphate.

Mineral and construction material deposits are shown in Map 3, Annex 3.

(e) *Ports and marine*

Port: The construction of a commercial bulk port at Gamiangel Bay in Aimeliik has been proposed. The first step is the preparation of a Bulk Port Master Plan, and if the pre-feasibility study is positive, the feasibility study should entail a full EIS. The advantages of the site are that ships can come alongside in 60 feet and stand offshore in 130 feet. There is plenty of turning room. Perhaps the most important advantage is that with this much better berth and channel approach, the risks of oil spill ever present with Malakal are eased. Furthermore the traffic using Malakal would possibly be reduced to fishing boats and tourist/charter boats.

The main disadvantage of the site is that the current flowing through the large deep central pass, Toachel Mid, could carry an oil spill through the deep inner lagoon channel to be picked up by the Rael Edeng, a strong current flowing between two main passes in the western barrier reef, Toachel Mlengui and Deimechesangel. The Rael Edeng could then carry the pollution into the northern areas of Badeldaob with its extensive reef flats and seagrass beds where the largest concentration of dugong is found. Alternatively, such an oil spill could head to Koror and into the Rock Islands.

A major problem is that there appears to be no map of marine currents for Palau. A search in Japanese Navy records may prove fruitful, but if nothing can be located, then a study of the currents of Palau should be undertaken as a matter of urgency. Such information is vital for containing any pollution problem that might occur, both inside the lagoon and outside the reef system.

Navigational Channels: There are two channels proposed, one for Peleiu and the other for Ngerchelong. Both require extensive blasting and dredging through reef. These channels are certainly required, but a thorough study should be made first to determine what can be done to contain some of the damage to surrounding reef. The area at Peleiu is quite important, being adjacent to the extensive northern mangroves and seagrass beds. The natural channel to which the dredged channel would connect is

reported to be the habitat of the important population of saltwater crocodiles in Peleliu. Full EIS is recommended for both proposals.

(f) *Power*

This proposal concerns the construction of transmission lines along the old Japanese road on Babedaob Island and possibly ahead of road reconstruction in some portions. The corridor for this project will primarily affect trees and vegetation, and would pass through a number of wetlands. Under the Clean Waters Act, the project would require an EIS. However, much of the work for this may have already been undertaken with the EA for the Babedaob Road/future National Highway alignment. An EA should be stipulated.

(g) *Road*

One of the major benefits to flow from the Compact of Free Association is the construction of a high standard road on Badedaob. Because of the protracted negotiations with the US Government on the Compact, the Government decided to reconstruct sections of the old Japanese road system on Babedaob itself. Reconstruction of these sections commenced almost eight years ago. In addition, some new road sections were constructed comparatively recently to connect the southern state of Aimeliik. Ngatpang, Ngeremlengui, Ngchesar and Melekeok to Airai State and thence to Koror State.

With the commencement of the Compact on 1 October 1994, the US Army Corps of Engineers is proceeding to construct a high standard road on Babedaob. To distinguish between the two road reconstruction programs, the existing program is referred to here as the Babedaob Road while the road to be constructed under the Compact is termed the National Highway. An EA was undertaken on the 'Babedaob Road' at the direction of the EQPB. To an extent, the EA concerns both road activities. However, further EA may be required for alternative road alignments for the National Highway.

Babedaob Road: Some new sections of the road were poorly designed and constructed, lacked proper foundation and surfacing and had little if any installed drainage system other than major gully or stream culverts. The road alignment includes quite long and steep sections which have inadequate and unlined table drains, and no table drain culverts whatsoever. One such section also has a dog-leg in the middle where all free drainage from the upper road portion scours across the road pavement. The Babedaob Road will continue to erode badly and cause severe erosion of some surrounding areas. Suspended sediment in runoff will eventually deposit in the stream channels, wetlands, taro gardens, estuaries, mangroves and reef flats. The Babedaob Road Environment Assessment prepared for the EQPB refers to remedial work being carried out on such bad road sections. However, the remedial work could not be described as effective. To remedy the situation it has been estimated that a base erosion control system for exposed batter slopes of cuts and fills of the Babedaob Road using standard coconut or jute 'terramats' together with a hydromulch bituminous spray carrying seed of a legume/grass mix, flowering shrubs and tree species, will cost \$300,000.

If rehabilitation of table drains, construction of table drain culverts, and other engineering works to provide adequate drainage for the road pavement, are taken into account, the total road rehabilitation may well cost in the order of \$1 million. The available funding for the remaining phases of road reconstruction is in the order of only \$900,000, and that figure includes no provision for erosion control or other rehabilitation measures. Remedial capping of the road surface with unrolled coralline material transported from the coast is considered a waste of time and money. Such material will serve for only a

short period and the road will then need resurfacing. If the alignments of some sections of the Babeldaob Road are used for the National Highway and given the highway is to be constructed to full NEPA standards, then it is expected the environmental problems of those sections will be overcome. Those sections that are abandoned will need to be ripped, vegetative cover established, and completely restored. The costs for this work would have to be found by the national government from its own resources or with the assistance of another aid donor.

National Highway - Babeldaob: This road is to be constructed by the US within six years of implementation of the Compact. If that schedule is adhered to, then the selection of the road corridor and the completion of design should be finalized by end 1995. Presumably construction would occur over the period 1996 - 2000. Part of the route must inevitably pass through some areas of forest. Once the route is finalized, immediate action should be taken to harvest and mill timber of commercial species along the planned route before road construction commences. As a 'salvage operation' such logging should be attractive to commercial sawmillers, even offering some export opportunity for a season.

It is expected the road will be constructed strictly according to US NEPA standards, and that this will be closely monitored by the Government. Even with those standards, close attention will need to be paid to culverts over streams and in wet areas, vegetation screens for table drain runoff, stabilization of road batter and fill slopes with grass, shrub and taller woody species selected for their greater tolerance of acid soils (hydromulching combined with the use of coconut or jute terra-matting (bio-degradable), and monitoring for early detection of sediment.

This road will be an important asset to the ROP, particularly if road design ensures that maintenance costs are kept to a minimum so it is not a major drain on recurrent expenditure. Because of this it would be wise to build the National Highway to the highest standard possible initially, with an impermeable asphalt concrete seal over a deep, crushed basalt foundation. A cheap bitumen chip-seal road will not last long under Palau weather conditions. Basalt sites are shown in Map 3, Annex 3.

Concerning alignment, it would be expected that the road alignment would not come closer than 300 feet from the coast, take the high ground following the ridge tops wherever possible, and would not follow valley routes unless the ridge top is too narrow, forcing large, expensive and environmentally and aesthetically undesirable side-cuts.

One of the prospective alignments follows the route of the old Japanese road up the main valley of the Nbermeskang River Watershed. Every endeavor should be made to take this road away from the river as far as practicable even if it is not possible to follow the ridge line as stated in the Environmental Assessment. This watershed is the main water source for Ngeremlengui. A deterioration in water quality following rainfall must occur if the road takes the valley route. A possible trade-off would be for the compensatory installation by the National Government of a water filtration and treatment system for Ngeremlengui State.

Koror Urban Roads: there will be some adverse impacts with road construction and maintenance in the urban area but nothing that should be of concern given normal earthmoving permitting controls.

Koror Reef Road: It is claimed (Koror Master Plan; refer Map 15, Annex 3) that there is a need for a major urban arterial road which would bypass the center of the business area of Koror, providing a link from the KB bridge to Malakal. It is also claimed that the difficulties in obtaining land for a road alignment are such that it would be more practical to construct the road along the reef flat. The

development plans indicate a causeway type construction with some large culverts and infilling the area between the new reef road and the current shoreline. This project calls first for a detailed economic and financial appraisal and a full EIS. Current estimate costs are \$7.5 million. It is unlikely to pass such appraisals. The peak traffic problem could be solved by improved management of peak demand (for example, by staggering public sector working hours).

(h) *Solid waste*

A new dump is urgently needed to permit the full treatment and sealing of the dump in Koror which has been causing so many pollution problems, not only for the immediate area of Malakal but for the whole Rock Islands. The problem of location of a dump is a major one which will be resolved only through extended negotiations. However, it should be pointed out that the operation of a dump as a private venture is usually financially attractive. Wherever the new dump was proposed to be sited, it could serve the needs of all the southern states of Babeldaob as well as Koror once the sealed road system is completed. An EA would be required.

(i) *Tourism*

Tourism resorts are proposed to be established at Melekeok Northern Beach, Ngerchelong, Ngatpang overlooking Ngeremeduu Bay, and Peleliu. In essence these resorts are proposed as high quality but secluded types of resorts which would blend in with the countryside. The beach resorts planned for Melekeok, Ngerchelong, and Peleliu should be built well back from the beach with attractively landscaped and signposted walk trails to connect from cabins to the beach. Where the beaches are known to be used by turtles for nesting sites, resort lights should not shine on to the beach. Where that is not possible, then lights should be capable of being dimmed to permit turtles to nest. Each of these hotels should be completely self-contained for sewage and water. There should be no discharge into the sea. EA would be required for each proposal.

(j) *Water supply*

A major dam is proposed in Ngerikiil Watershed. This should of course be subjected to a full EIS. A considerable area of land would be flooded with the proposed dam. Particular attention should be paid to watershed values, and in this area especially to the protection of the taro patches from any sedimentation.

A summary of the environmental recommendations on infrastructure proposals is shown in table 12.1 in the program outputs.

12.4 FRAMEWORK FOR ECOLOGICALLY SUSTAINABLE DEVELOPMENT

12.4.1 OBJECTIVES AND PROCESS

The Government's Economic Development Plan (EDP) sets down the Government's responsibilities under the Environmental Quality Protection Act. These are to:

- use all available means to create and maintain conditions under which man and nature can coexist in productive harmony;
- fulfill the responsibility of each generation as trustee of the environment for succeeding generations;
- assure all Palauans of safe, healthful, productive and aesthetically and culturally pleasing surroundings;
- gain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable or unintended consequences;
- preserve important cultural, historical, and natural aspects of the Palauan heritage, and maintain wherever possible an environment which supports diversity and a wide variety of individual choices.

Expected increases in development activities throughout Palau, coupled with elimination of current funding sources for the EQPB, will necessitate increased Government funding. Funding from other sources should be sought for hiring and training of staff, as well as to evaluate, monitor, inspect and enforce the required environmental regulations.

The objectives presented in the EDP are appropriate for Palau. In achieving these objectives in an efficient manner, environmental considerations need to be intermeshed into levels of economic decision-making, State and National. In this respect, the appraisal and approval process for private and public sector projects and for Government policies should integrate environmental considerations in a structured manner. Environmental considerations should be included in project appraisals that are submitted by Ministries and agencies through the planning and budget processes in the Ministry of Administration. In the case of construction, the recommendation for an effective building code should provide some of the necessary framework. The more coordinated approach to foreign investment appraisal and approval procedures (refer Chapter 4) will enable integration of environmental issues. Appraisal of environmental costs and benefits should be made alongside other social and financial costs and benefits associated with any project or policy. The Director of the Bureau of Natural Resources and Development should be the nominated officer for FIB referrals (refer Chapter 4).

12.4.2 TAXATION AND USER CHARGING PRINCIPLES

The tourism and marine sectors and, to a lesser extent, the agricultural/forestry sector are lead sectors in the economy. These sectors, along with the development of infrastructure, impact significantly on the environment. The benefits of development in these sectors and infrastructure development are spread across the broad community. Therefore, there is a strong case for the costs of environmental policy, administration and enforcement to be borne by the general community and funded out of general taxation revenues.

However, in areas and projects where the benefits are quite specific to a certain group, then the principle of user pays is the appropriate strategy for efficient resource allocation. In evaluating a user-pays charging system, particularly in small countries like Palau, it is important to take into consideration the administration costs involved in collection and enforcement of the user-charging system, as well as the annoyance costs to consumers and businesses. Often these costs are high which offset the economic efficiency benefits. In such cases, funding of environmental administration costs should be through general taxation collections - provided general taxation methods are relatively efficient (refer Chapter 5, Master Plan). In applying user-pays mechanisms, the principles outlined in Chapter 5 should be applied. It is important that environmental protection is achieved in the most cost efficient manner, thereby

limiting the costs and adverse impact on business competitiveness and consumer satisfaction. Also, it is important that any fees collected should be earmarked for maintenance and site improvement.

Against these principles, a number of charges should be levied including:

- entry fees for National Heritage Areas;
- entry fees for restored or managed cultural sites;
- dive boat charges;
- full-cost infrastructure services;
- boat registration fees; and
- environmental inspection fees.

The proposed introduction of a House Bill (4-54-79) in the OEK incorporating an environmental tax of two percent of the total cost of any project above \$0.5 million should be abandoned. The proposal is a tax on private investment and is not related to defined beneficiaries or specific environmental costs and, therefore, is inefficient. There is also no economic rationality in taxing large projects as opposed to smaller ones. This aspect will tend to make the proposal a selective tax on foreign investment. It would be much more efficient and equitable to fund general environmental costs through the income tax system or specific environmental costs through a targeted user-pays system. A two percent project tax is a significant impost on investment which will reduce the level of private investment on environmentally friendly projects, as well as those that cause environmental degradation.

In addition, applying environmental bonds, while being able to be well targeted, impose additional costs on business (due to the requirement for up front fees) which are unnecessary. If environmental safeguards are required, bank guarantees are preferable to prescribing environmental bonds. (Fishing fleets are an exception and environmental bonds could be appropriate, given the mobility of operators).

Increasing the number of inspections or lifting the required standards can also be preferable to environmental bonds and more focused on protection rather than on compensation after environmental damage has occurred. Developers and resource users should pay the full costs of all required environmental inspections and the associated administration costs. Any project which requires an Environmental Impact Assessment is likely to require environmental inspections which should be costed accordingly. Similarly, increased environmental standards would also focus attention on prevention rather than compensation. If an EIS is required, the applicant should provide the assessment at no cost to the Government.

12.4.3 WOMEN AND THE ENVIRONMENT

Women will play a central role in environmental protection and the pursuit of ecologically sustainable development. In a matrilineal society, they hold significant influence. There are ten paramount chiefs in each State. Ten paramount female counterparts select the chiefs. Then within each hamlet or village of a State, there are ten chiefs, with the top four chiefs having equal say and power within a clan.

The role of the traditional chiefs in Government varies from State to State. Some State Governments are dominated by traditional chiefs while other States have major divisions between State Government and traditional chiefs. However, few women enter into the realm of politics or the senior ranks of the civil service. Therefore, while they have direct influence and indirect power, the direct power of promulgation

of law tends not to be in their grasp. Recently, the women have been far more vocal in their concerns for the environment in addition to other concerns about customary practice and traditional rights. At the 1994 Belau Women's Conference, a series of resolutions were passed on a range of issues about the environment, tourism, and fishing.

Every opportunity must be taken to bring the traditional women leaders and other women's groups into greater prominence in the debate on environmental management. Women leader representatives should also be on environmental policy-making committees. When the Council of Chiefs is consulted, the paramount women's leaders should also be consulted.

12.4.4 INSTITUTIONS: THE ENVIRONMENTAL QUALITY PROTECTION BOARD (EQPB) AND DIVISION OF CONSERVATION AND ENTOMOLOGY (DCE)

The lack of human resources, both in training, expertise and experience is a serious constraint on all forms of land use administration, resource management and conservation, and environmental protection, monitoring and enforcement. All efforts must eventually work towards better use of existing resources of the institutions involved and greater coordination of effort.

A small number of additional staff are sought for critical areas, particularly those of environmental impact assessment and environmental monitoring, but the general principle adopted has been that the Government will have to make do with the existing level of resources, and even be able to accommodate some reductions in staffing levels.

The current level of activities of the EQPB may be forced to contract as the contribution from USEPA is scaled back 25 per cent each year after the Compact commences. These circumstances may force on the Government the need to reduce overlapping agencies with mandates for various aspects of environmental protection or resource conservation.

Environmental management functions which require additional resources in the Bureau of Natural Resources and Development are:

- increased environmental monitoring activity for (a) the Babelaob Road network and (b) Ngerikiil Watershed (where the construction of a dam to serve Koror/Airai is planned under the NMDP);
- the faster processing of permit applications and administration of the EA or EIS process;
- the strengthening of financial administration with the introduction of cost-recovery mechanisms; and
- increased environmental planning and enforcement staff for protected areas within the proposed National Heritage system.

Additional staff will be required to fulfill these functions, including:

- four additional staff to undertake the major increase in the environmental monitoring program, with two (technical assistants) engaged on erosion and water quality monitoring of the Babelaob road network and the other two (a watershed management specialist and a technical assistant) assigned full-time to the Ngerikiil watershed and adjacent areas;

- two further staff are required for strengthening the EIA administration process;
- an environmental planner; and
- four additional enforcement officers.

Enforcement is a nationwide responsibility and therefore it should remain under the umbrella of the National government. Because it is a nationwide responsibility, some delegation of enforcement authority to the states is absolutely essential to ensure compliance. The enforcement responsibilities between National and State governments should be resolved as a priority by legislation delegating authority to the states. National and State governments should cross-deputize conservation/environment ‘enforcement’ officers and designated State officials. Such officers would need to carry visual evidence of their authority in each other’s jurisdiction.

The Judiciary need to face the issue of precedence of oral law over statutory law squarely. There have been many calls in the past for codification of traditional law. The government should give legal recognition to traditionally chosen chiefs. Where a national court has difficulty in accepting the validity of traditional law and of such law taking precedence over statutory law, then the problem might be sidestepped by the expedient of the national government enacting laws which mirror the intent of any traditional law, such as a Bul placed on a resource by a traditional chief. Long standing seasonal Buls on reef passes such as Telebadel re Ngerael, Tochlir Arngebard, and Ebiil, or a permanent Bul such as that on the reef flat in Ngaraard from Ngilt to Uluchel would then be given the full protection of statutory law in the courts. Consequently, the Bureau of Environment, Conservation and Sanitation should draft Bills to establish a series of National Heritage Reserves under the Natural Resources Heritage System Act, which mirror exactly the intent of traditional Buls and with those penalties deemed appropriate by the traditional leaders who maintain Buls.

12.4.5 ENVIRONMENTAL IMPACT ASSESSMENTS

The EQPB is legally mandated under the Act to conduct Environmental Impact Assessments (EIA). This mandate should include the EQPB requiring developers both government and private to conduct an EIA as part of the necessary pre-feasibility study of any project.

An EIA is widely recognized as a vital management tool in the quest for sound economic development, but has become a little cumbersome over the years, and perhaps not well attuned to Palau’s needs. An attempt has been made herein to streamline the environmental impact assessment process.

The current process is that a project developer completes a General Permit Application for the EQPB. This form covers many types of permits which may be sought. These permits are the:

- Earthmoving Permit
- ACOE (S404) Dredge Permit
- Building Construction Permit for Sewage Disposal Facilities
- US National Pollutant Discharge Elimination System Permit (NPDES)

- Marine and Fresh Water Discharge Permit (which replaced the NPDES following Compact implementation)
- Public Water Supply System Permit
- Solid Waster Management Permit
- Permit for a Stationary Source of Air Pollution

From that permit application, together with field inspections as required, EQPB assessors can determine which permits will be required for the project and the need for clearances from other agencies, such as Cultural Affairs or Marine Resources. They also use their judgment to assess the potential degree of environmental impact and categorize the application as exempted from the EIA process, or requiring an Environmental Assessment (EA). If exempted, a permit can usually be issued within 2 weeks with current staffing levels. If it is deemed that an EA should be undertaken, the applicant then prepares the EA. Another factor is the frequency with which the Board holds business meetings.

Once the EA is received by the EQPB, it is appraised, and from that appraisal the Board determines whether the anticipated impacts and effects constitute a significant effect. If not, then a Notice of Determination is issued to the applicant advising of the acceptance of the EA. The Notice of Determination must be a Public Notice (Part 6 of the Regulations). If on the basis of the EA the Board decides that the applicant should proceed to the preparation of an EIS because of the anticipated level of impact, this is specified in the Notice of Determination. Thus the Notice of Determination may also constitute due notice for the preparation of an EIS.

From the time of original submission of the General Permit Application to the point where an applicant will know whether a full EIS will need to be undertaken, with all the costs and time delays that implies, is a minimum of two months. This system is the US approach to environmental impact assessment based on permitting procedures. In the US it may have served its purpose well, but for post-Compact Palau the system may be a little too cumbersome and slow. There would seem to be a clear need to simplify the EIA process as far as possible, but without diluting the strength of the process for protecting the environmental values of Palau.

There appear to be four specific areas which require attention:

- the unnecessary complexity of the EIA administrative process, involving professional judgments of environmental specialists (who are in short supply) each step of the way until an application reaches the Board;
- the need for the Board members to have among its ranks persons who have environmental or resource management training;
- the time currently taken for processing applications; and
- the need for revision of the Act and its Regulations and their conversion into simple English which is clearly understood by ordinary Palauans and foreigners alike.

The proposed EIA process accepts the permitting system (only because the client public are used to it) and accepts the three categories of:

- i) Exempt - simple, low-key projects with uncomplicated direct issue of the required permits.
- ii) Environmental Assessment (EA) (say 2-20 pages) - prior to permit approval with conditions specified with the permits.
- iii) Environmental Impact Statement (EIS) - a substantial study and submission exercise, also leading eventually to the issue of the required permits, if the EIS gains approval.

The main difference proposed is that these three categories stand on their own. No longer would an applicant have first to prepare an EA and then subsequently prepare an EIS, with the exception of borderline cases. The stepping stone from EA to EIS is for all intents and purposes removed and at least one month of investor's time can be saved.

Details of the Classes of Action for three EIA categories are provided below:

Category I - Exemption

Some classes of actions where the permit application for a development proposal would be exempted from the EIA process are:

- operations, repairs or maintenance of existing infrastructure involving little or no expansion of use beyond what was previously there;
- replacement or reconstruction of facilities basically on the same site, with the same purpose and similar size;
- basic data collection, research, experimental management or resource evaluation which do not markedly impact on the resources being researched;
- construction of small, new facilities or structures where:
 - it is a single family house;
 - a block of four units which will house fewer than 25 people;
 - a free-standing store, office or restaurant with a total occupancy of not more than 20 persons;
 - public utilities installations or interior extensions to service the above structures;
 - interior alterations in existing structures, including services; and
 - the demolition of structures except those registered as historic buildings or those located on any historic or cultural site;
- forestry, agricultural or development activities which will:
 - bare or disturb less than one quarter acre of soil (around 100 x 100 ft = 10,000 sq ft, or the size of an average house block);
 - less than 5,000 cubic yards of fill;
 - be undertaken on slopes less than 12 per cent;
 - cause significant modification to vegetation.

The permitting procedure where the proposal is exempted from the EIA process is simple, and should be unobtrusive and swift. Applications made to the proposed Bureau should ideally be handled on the spot, or at the most within 2-3 business days.

Category 2 - Environmental Assessment

Where the proposed development activities may have a more significant impact on the environment, then an Environmental Assessment (EA) is required. By comparing the application against classes of action of likely environmental significance, the applicant can be advised whether an EA will be required, the information required for the EA, the nature and extent of public consultation required, and the appropriate fees. Following the applicant's preparation of an EA with an acceptable management plan (or an independent assessor engaged by the EQPB), the EQPB would issue the desired permit/s. The speed of the EA process depends on how fast the applicant can collate the necessary information, analyze it, shape the development proposals accordingly to protect the environment, and prepare the EA report. Where the information is available, the EA production process should not exceed 10 working days; review 3 days; public consultation 15 days; approval of permit 2 days; entire process, 1 month.

An EA would be required for any of the classes of action involving:

- any dredging of coral reef, other than major channel dredging;
- any threat to a taro garden area, or wetland;
- any threat to rare, threatened or endangered species or its habitat;
- development projects which will require considerable disturbance to the site, entailing:
 - bare or disturbed soil larger in area than 10,000 square feet (one quarter acre);
 - more than 5,000 cubic yards of fill;
 - land slope greater than 12 per cent;
 - significant modification of vegetation;
- construction of a rural road, eg to a hamlet or farm;
- site development adjacent to mangroves, within 50 meters of mangroves, or entailing any modification of mangrove vegetation;
- any likely discharge of waste directly into rivers, mangroves, or the sea (if this is a significant discharge, or involves toxic or hazardous chemicals, as EIS would be mandatory);
- any impedance of the flow of water, or interference with the natural drainage system;
- smaller hotels and resorts catering for more than 25 but less than 100 people containing more than 12 toilets, or having at least 15 service connections; and
- unlikely compatibility with surrounding land uses.

This list is not exclusive and provision should be made to add further types of projects at the discretion of the EQPB. It is important to note that in reaching a decision the Bureau should take into account the cumulative effect of an activity under question, possible related activities, and both short-term and long-term effects.

Category 3 - Environmental Impact Statement

A comprehensive EIS is required only when the classes of action indicate that large scale social, cultural, or biological impacts are likely, and considerable mitigation effort could be required. Obviously, an EIS will provide a more detailed and in-depth treatment of a development proposal than is the case with an EA.

Project classes which require an EIS include the following:

- channel dredging through coral reef;

- chemical plants;
- large food processing installations, eg fish cannery;
- large forestry or agricultural projects;
- major communications network eg round island marine communication cable;
- major construction, eg highways, airfields, ports;
- major dams or river diversions;
- major electricity transmission lines (eg round island electrification);
- major hotels catering for in excess of 100 people;
- major power station;
- major tourist resorts, golf course complexes and the like;
- major waste disposal schemes, solid or liquid;
- mining ventures, particularly open cut mines;
- new towns/hamlets;
- oil refineries or oil storage farms;
- resettlement schemes, or new capital; and
- tanneries, eg shark or cane toad skin.

This list is not exclusive and provisions should be made to add further types of projects at the discretion of the Bureau. An EIS may require the conduct of additional studies to obtain necessary social, biological, cultural and other data, and thus takes considerably more time and effort to prepare. A six month period should be allowed in the preparation and processing on an EIS. The first major step in the conduct of an EIS is the establishment of a Scope of Works, in negotiation with the applicant. Some years ago, the EA was used to provide a guide to the required content of the EIS. This is no longer necessary now that a body of EIS experience has been built up around the world on the scope of works needed for an EIS for different types of development.

The draft EIS document is prepared by independent experts, not by the applicant. This draft is appraised by the Bureau (who may seek external independent appraisers), and subjected to full public scrutiny. The draft is then revised and a final document prepared for consideration by the Bureau for approval. The cost of the EIS is a legitimate component cost of a major development project. The cost levied must cover administrative overheads of the Bureau, monitoring cost during and immediately post-project, and any independent appraisal (should that be necessary).

The change in process permitting an applicant to proceed directly to an EIS does not require any legislative amendment, merely adjustment to the Regulations. With the proposed change, the responsibility for determining whether an applicant should proceed to an EA or an EIS would rest with the head of the Minister.

The fundamental principle with public consultation is to take the EA and EIS reports to the geographic area and people directly concerned with the development proposal. Consultations should also include the Council of Chiefs, the Bilung and the Ebilrekrai, State Office/s of the State/s concerned and relevant national agencies.

To introduce the prospective investor to the EIA process at the earliest opportunity, the following series of steps should be considered by the EQPB:

- The Class of Actions within each of the three EIA categories (Exempt, EA and EIS) are converted into a questionnaire using a yes/no check box approach. The form should be simple and take no longer than a few minutes to complete.
- Copies of the questionnaire should be placed with the major relevant organizations/agencies, together with copies of the General Permit Application. Agencies should include the Foreign Investment Board, Chamber of Commerce, Foreign Affairs (for information of foreign aid donors), and the Division of Economic Development. It is also important to encourage the Palau National Development Bank, and all private banks to take the forms for the information of loan customers.
- The completed questionnaire would be attached to the completed General Permit application and submitted to the Bureau; where appropriate, an exemption could be validated and a clearance given promptly.
- Where the questionnaire indicates either an EA or EIS might be required, the EQPB would arrange an appointment with the applicant for detailed discussions. The normal EIA process would then swing into operation at this point.

12.4.6 EDUCATION AND RESEARCH

Environmental education at all levels of society needs to be improved. There should be emphasis on raising environmental awareness, funding environmental research, and developing a Palau Resource Information System (PALRIS).

(a) Environmental Education

Formal environmental education should be aimed at children, whether in the schools or within the town, hamlet or community. The main focus of this education should be the maintenance of what Palau has now. The Ministry of Education should place special emphasis on environmental curriculum development to overcome current deficiencies in the standard of environmental training received by children through the primary and secondary school system. This should be done by integrating environmental topics into existing core subjects at the primary school level and developing a separate course on the natural resources of Palau, and on good and bad environmental practices for the secondary level. The Ministry should place increased emphasis on the integration of traditional knowledge into the curriculum to raise environmental awareness on the importance of traditional controls.

Assistance should be sought from the South Pacific Regional Environment Program's education officer to assist with the development of teaching aids relevant to Palau's environment and needs, and assist, through block-release and in-service training programs, the training of teachers on the use of available environmental teaching material and aids. Within post-secondary education, the Government should provide base support for the proposed Environmental Sciences Program College Course at the Palau Community College, (Marine Resources Sector Report) such that the ESP proposal can be submitted to the US and regional agencies for the provision of financial and technical support for the Program. With regard to the Land Grant Program, the Government should investigate the possibility of the Palau Community College being given Land Grant status, thereby bringing the PCC into line with other Land Grant universities and colleges.

(b) Environmental Awareness

To raise environmental awareness, officers of the Bureau of Natural Resources and Development and the EQPB should jointly develop an environmental extension program for marine, agriculture, forestry, and health officers; workshops and conferences should be held for civil service and political leaders; and village/hamlet based education programs should be organized and conducted.

(c) Research

i) Research Stations

A number of research stations should be established and funded by the National Government to serve an expanded research effort in the natural resource disciplines, including agriculture, forestry, environmental science, and the earth science, (soil, water, flora, faun(a). Three stations should be established, in order of priority, 1) at Nekkeng Forestry Station on Babeldaob, 2) on Peleliu and 3) in eastern Babeldaob, perhaps in Ngaraard. Each station should include a small laboratory and bunk-house style accommodation for visiting scientists. The research stations should be advised through the scientific community as centers from which foreign researchers may, by prior arrangement, base their research studies.

Helen Atoll is proposed as one of seven designated Natural Heritage Areas (see section 12.5.4). The Rapid Ecological Assessment of Palau (Part 1) strongly recommended that the island and reefs be declared an international wildlife refuge for marine and terrestrial resources. This recommendation followed a long line of past recommendations to similar effect. Coupled with this recommended REA designation was a further recommendation that a field research station be established at Helen Atoll to monitor global climate change, and marine and terrestrial resources in an atoll environment. The research station was also seen as a center for study of turtles and seabirds. There are also national security arguments. The proposal for a research station at Helen Atoll is strongly supported, providing it is established as a facility available to accredited international scientists to study the marine and atoll terrestrial resources of Palau. A permanent Palauan staff of two is envisaged, with accommodation and laboratory facilities for visiting researchers. Electronic surveillance sensors could be installed to assist monitoring and enforcement. A powerful radio system for communication is essential. Consequently one of the Palauan staff should be trained in maintenance of such equipment. A system of regular visits by ship or sea plane to Helen Atoll would be needed to service the center. The estimated cost is in the order of \$250,000 for the establishment and first two years of operation.

ii) Groundwater and Surface Water Survey

There is no Water Master Plan for Palau. There is some information (now quite dated) on surface water, but very little on ground water resources. A proposal has been made for the construction of a second dam in the watershed of the Ngerikiil River to supply future water needs for Koror/Airai. If suitable groundwater resources were assured which could be trapped through a borefield, then the construction of a surface storage with its large loss of land and other environmental consequences might be avoided. Therefore, a systematic survey should be made of the groundwater resources of Babeldaob prior to the conduct of any EIS for the construction of the Ngerikiil Dam.

iii) Marine Circulation Study

Concerning water circulation, it is important to determine what the pattern is throughout the Palau archipelago for a wide range of reasons, including planning of marine facilities, and particularly the form of response to any oil spill. Consequently, a study of marine currents should be undertaken in the Palau lagoon as a matter of urgency. This marine circulation study should be undertaken prior to any feasibility study for the proposed new bulk port for Palau in Gamliangel Bay, Aimeliik State.

iv) Flora and Fauna Survey

Systematic botanical, ecological and wildlife surveys need to be conducted to provide base data to assist planning and environmental management for the infrastructure development program to be instituted under Compact funding. The REA terrestrial survey in 1994 will not provide this type of information. Existing vegetation information is of limited use because it was conducted entirely from a set of (incomplete) aerial photographs (which have now been superseded) with little ground truthing. The Government should seek international funding for the conduct, under the direction of the Bureau, of a comprehensive nationwide survey of flora and fauna, including the type and density of species present, species populations and population trends, threatened and endangered species, and condition of species habitats.

v) Mangrove Management Plan

A mangrove management plan should be developed over a two year period 1996-1997. This will be a major task of importance for Palau, and has the strong support of State officials and traditional leaders. Funding is estimated at \$250,000. If this funding cannot be secured in the short term, it is suggested the program be split into two phases, with Phase 1 conducted in Peleliu during 1996, and Phase 2 conducted on Babeldaob over the period 1997-1998.

vi) Palau National Botanical Gardens

The area below the old Japanese agriculture building now housing the DCE and DCA was formerly a botanical gardens. But with the increasing pressure on land in Koror, the area has been subsumed for other purposes. Palau has a number of endemic plant species, and also other interesting or ornamental species. Specimens of these should be established in a Botanical Garden where they can be preserved and studied. With the anticipated transfer of the Agriculture Division to Nekkeng (refer Chapter 9), this would be the preferred site for a botanical garden. At Nekkeng, it would also be adjacent to an area shortly to be set aside under the Natural Heritage Reserves System Act, which will provide an excellent multi-purpose and largely self-funding reserve. The establishment of a Botanical Gardens would add to the variety of interest in the area.

(d) *Palau Resource Information System (PALRIS)*

The Division of Conservation and Entomology has initiated a program to enter available resource data on to a computerized database. This is necessarily a long-term program. This data is currently only accessible through a variety of sources and in a variety of formats. Unextracted data are buried in original published papers or in unpublished reports. A program is proposed for the development of a user-friendly, PC-based, interrogative land resource information system. Similar such systems have been developed in the past five years for Papua New Guinea and Vanuatu. These systems are called PNGRIS and VANRIS. A similar system has now been developed for Solomon Islands.

PNGRIS and VANRIS were developed by the (Australian) Commonwealth Scientific and Industrial Research Organization (CSIRO) (Cunningham Laboratory, Brisbane) and the technology could readily be applied to Palau with appropriate adaptation. The system allows the fully interactive analysis of resource information including soil, vegetation, geology, landform, slope, climate, census data, resource surveys, land ownership, cadastral information, traditional use information, cultural areas and historic sites, etc, and can produce hard copy output in the form of color maps and reference data sets.

12.5 PROPOSALS FOR MANAGEMENT AND PROTECTION OF NATURAL ENVIRONMENT

Palau's future is intimately bound up with its natural resources. The fundamental resources are the soil, water and air, and these must be safeguarded. The most significant economic resource, however, is the marine environment. The important reef, nearshore and inshore fisheries depend heavily on a healthy terrestrial environment. Where there is severe erosion in the uplands, where pollutants of various kinds are allowed to escape to the sea, where the mangroves are cut down, infilled, or drowned, and where the dredging of coral reef for construction material is encouraged, then those fisheries will be threatened. This will be the situation in Palau unless corrective steps are taken to control environmental degradation.

12.5.1 WATERSHED REHABILITATION

Palau places an extremely high value on its reefs and marine ecosystems. Active erosion in a number of Babeldaob watersheds is causing siltation of taro areas, wetlands, mangroves and reef, and this is viewed with particular concern. Despite this concern, little has been done by national or state governments to tackle the causes of erosion or rehabilitate eroded areas. Watershed management has been the focus of the small Forestry Department of the BNRD, entailing species trials, nursery production and reforestation. The value of this work is self evident, but must be greatly expanded if it is to make any significant inroads on the very large watershed degradation problem confronting Palau, especially in those States with highly erodible soils. Watershed delineation for Babeldaob is shown in Map 6, Annex 3.

Further, with fire being the main enemy of tree planting throughout Palau, there is a need to establish quick attack fire suppression systems on Babeldaob to counter fire outbreaks and, through local extension, eventually establish a rural fire brigade network working to a series of fire tower lookouts. Legislation which aims to curb the improper use of fire has been drafted but remains in abeyance. Without the legal support of the draft bill, it will not be possible for Forestry to take a more active role in enforcing fire restrictions.

Development planning for land use should be performed on a watershed basis, extending from the headwaters to stream channels, wetlands, mangroves, lagoon, and the outer edge of the barrier of fringing reef. Funding for watershed rehabilitation work, including erosion control works, reforestation, and fire control should be increased. The draft Palau Wildland Fire and Forest Management Bill, which proposes limits on burning of land through a permit system and imposes penalties for individuals who willfully light wildfires, should be reconsidered by the OEK for early passage. Alternatively, the Bill could be incorporated within a comprehensive environmental Bill, as recommended in section 12.6.8.

12.5.2 EROSION

As previously mentioned, the extent of erosion on Babeldaob is serious and every effort must be made to counter this. The services of an engineer will be required as vegetation alone will not be sufficient in some areas where there is active gully erosion. The recruitment of an engineer to work with the Babeldaob Road Project, and of a second environmental engineer (short-term) affords the opportunity for professional advice on engineering measures which are simple and affordable, yet functional. Erosion should be examined on a watershed basis and a regular monitoring program instituted.

12.5.3 REFORESTATION

In response to the forestry issues facing Palau, the Forestry Section's objectives include the rehabilitation of denuded and degraded areas of soil which are either actively eroding now or are liable to erosion, and the establishment of industrial plantations specifically to meet future timber needs of Palau. The rehabilitation objective should have highest priority. However, such a rehabilitation task ahead is well beyond the Section's current capability. In addition, the Section also looks to a continuation of its reforestation plantation program at Nekkeng.

As Forestry cannot hope to handle the extent of reforestation needed on Babeldaob before more severe permanent damage is done through erosion, reforestation needs to be based on community action. The Forestry Section should urge active reforestation efforts by families, concentrating first on those areas which have bare soil, (Forestry can supply seedlings to villages for the women and children to plant, and provide instruction on how to plant them and look after them). Wider community support of Tree Planting Day throughout Palau should be sought, and forestry plots at every school or on nearby land designated by State Governors should be encouraged.

12.5.4 PROTECTED AREA SYSTEMS

(a) Framework

The *Rapid Ecological Assessment* (REA) conducted in the South-West Islands and in marine and coastal areas of the main Palau islands in 1992 is a very valuable contribution to the development of a Protected Areas System for Palau. Currently Palau has no Protected Area system. The Ngerukewid Islands Wildlife Preserve is the only legally established area for the protection of the natural environment. There are other traditional controls such as *Buls* (taboos), both seasonal and permanent on grouper aggregation and spawning areas, and on the use of fishing nets on reef flats. In all cases, but varying with the State, these controls are only as good as their enforcement.

The REA proposed a series of conservation areas and other candidate sites for protective action, based on a set of criteria which established their outstanding ecological or biological value and economic worth for ensuring that resources can be harvested in a sustainable manner. With an expansion of the harvest of marine resources seen as one of the two main economic development prospects for the country, such harvest must be conducted according to sustainable use principles. Those principles, such as the protection of fish aggregation and spawning areas for breeding stock and recruitment, have long been recognized in Palau to which many long-standing *Buls* attest.

Many of the identified marine protection sites are reefs, reef passes, dead-end channels, seagrass feeding grounds, and those superb fish nurseries—the mangroves. Other identified areas include sand beaches, special forest habitat for wildlife, other forests with unique ecosystems, some wetlands and watersheds. The REA established a set of categories according to a set of selection criteria and the purpose of the protected area. While both the REA and IUCN categories may be useful from a scientific point of view, they are not particularly useful to the general public. The REA Categories present a mix of the words park, reserve, preserve, area and site, qualified by a function description, eg marine, or forest.

The list of 50 proposed protected areas appears very long. However, dissection will quickly show that 28 of these proposed areas were categorized by the REA as fishery conservation areas; 7 marine reserves, 4 forest preserves, 4 ecological reserves, and 2 coastal conservation areas, with the remaining 5 including a national park (Rock Islands), and special management areas. Most of the fishery conservation areas are reef passes, dead-end channels, and reefs for which no conflict would be expected in trying to afford them some measure of resource protection. A number of these already have traditional Buls applying to them. Following consultation with the States, a number of areas were proposed for protection. These are shown in table 12.1.

Table 12.1 Protected Area Proposals by States

STATE	PROPOSED PROTECTED AREA	REASON
Angaur	Angaur beaches Lkes Reef shoal	Coastal/beach protection Valuable marine resource area
Aimeliik	Ngerderera river Watershed Isemiich River Watershed Tabechedung River Watershed Ngermongimb Barrier Reef	Water source, conservation area Water source, conservation area Water source, mangrove conservation area Giant Clam and trochus conservation area
Melekeok	Ngerdok Lake & adjacent watershed Reef area from Ngetbaet to Meteuelteuachel	To protect Lake Ngerdok and surrounding heavily forested area, including adjacent watershed. Water source. Historical site. Marine conservation, giant clams
Ngaraard	Reef stretch from Uluhel in the north to Ngilt in the south West Ngaraard mangroves and sea-grass beds Ngulitel Ngerkall Lake and watershed	Permanent Bul prohibiting use of fishing nets Marine nursery; wildlife habitat; dugong feeding grounds Forest Reserve Water source
Ngardmau	Ileakl el Beluu Reef Mangroves and reef flat from Dechor to Ngrikreker Ngerechelchuur	Trochus sanctuary Permanent Bul prohibiting the use of fishing nets To preserve the area of the highest mountain in Palau. Intent is to establish a lookout and rest shelter park.
Ngatpang	Sond Reef Ngeremeduu mangroves	Trochus sanctuary Protected area. Protection action being prepared by Ngatpang Council.

Ngerechelong	Ebil Pass Tochlir Arnggebard Telbadrel ra Ngerael two (unnamed) small watersheds on the western fall of Ngerechelong	Bul (April-July) for grouper spawning (tiau and temekau). This Pass is particularly important. Bul for grouper spawning Bul for grouper spawning Water source for villages
Ngeremlengui	Toachel Mlengui Bkul a Beluu Barrier Reef Ngermeskang River and waterfall Headwaters of the Ngatpang River Yamato mangrove area, Ngeremeduu Bay Imeong mangrove area	Bul. Very important pass. Spawning area for temekai grouper Trochus sanctuary Main water source Forest ad Wildlife reserve Fish nursery Dugong feeding site and route
Ngchesar	Taoch Ngerdorch mangroves Ngerdorch River Watershed Rrai Ngersuul lagoon and reef flat Ngelukes Dibard Simizu Taberngesang mangroves	Rabbitfish spawning area; nursery Water source Dugong feeding and route Rabbitfish route Trochus sanctuary Wetland and taro area Mangrove clam and crab
Ngerwikl	Park reserve.	Club-house rest shelter to be erected on lookout at 65 m elevation
Ngiwal	Ngemai and Imolech	Mangrove area; crab, stingray spawning area, fish spawning site; clam and sea urchin on reef flat.

Given these consultations and the REA findings, a simpler, more appropriate system of Protected Area Categories has been sought for Palau. Taking advantage of the Natural Heritage Reserves System Act and its terminology, the following system is proposed:

- Category 1: Natural Heritage Area
- Category 2: Natural Heritage Preserve
- Category 3: Natural Heritage Reserve
- Category 4: Special Management Area.

Category 2,3, and 4 may have an overlay of resource descriptions. These descriptions would include: coastal, forest, marine, nature and wildlife. Thus, there may be a Natural Heritage Wildlife Preserve, and a Natural Heritage Wildlife Reserve; a Natural Heritage Forest Preserve, and a Natural Heritage Forest Reserve.

Category 1: Natural Heritage Area (NHA)

The purpose of the proposed NHA Category is to bring an area of outstanding national or international significance under specific management controls to protect that significance for posterity. Detailed management plans would be formulated following broad public consultation, and published for ready public access. The type and extent of permitted development and of activity by people would be determined on a case-by-case basis.

The NHA concept would:

- permit controlled harvesting of some resources;
- permit some forms of development including:
 - tourism/eco-tourism, under specified conditions;
 - subsistence production activity, such as gardening, fishing;
 - all other traditional uses; but
- prohibit extractive resource use, such as oil drilling, mining, commercial logging, or large-scale commercial fishing.

Specific areas may be designated within an NHA to achieve specific conservation objectives. For example, as an NHA will be chosen on the basis of its national or international significance, it is almost certain that areas within the NHA will meet Selection Criteria 1-3 and hence it would be expected that a set of Preserves and Reserves would be established within each NHA to protect those critical or peak habitats, unique species, communities or ecosystems. There may also be Special Management Areas.

Category 2: Natural Heritage Preserve (NHP)

This category is equivalent to the IUCN Strict Nature Reserve Category. Its purpose is to protect nature and maintain natural processes in an undisturbed state in order to have ecologically representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state. The concept is that people are strictly not permitted to enter a Natural Heritage Preserve without a specific permit from the Bureau of Environment, Conservation and Sanitation. In order to ensure the area is maintained in a pristine primitive condition, regular policing must be maintained. The existing Ngerukewid Islands Wildlife Preserve is a prime example of what would be a Natural Heritage Preserve. (It might more appropriately be termed the Ngerukewid Natural Heritage Nature Preserve, as much more than wildlife is being preserved).

Category 3: Natural Heritage Reserve (NHR)

This category may be seen as a combination of two IUCN Categories: the Managed Nature Reserve/Wildlife Sanctuary, and the Resource Reserve (but as a permanent rather than a 'holding' category). The purpose of the NHR is to:

- assure the natural conditions necessary to protect nationally significant species, groups of species, biotic communities, or physical features of the environment where these may require specific human manipulation for their perpetuation (IUCN Category 4); and
- protect natural resources of an area for future use and enjoyment, preventing or containing those unsustainable forms of resource use which would compromise the integrity of the resource for future generations.

Far from restricting entry, people are not only permitted but encouraged to use the reserve, although subject to some conditions to maintain the integrity of the reserve.

Category 4: Special Management Area

The purpose of the Special Management Area (IUCN Category 8) is to provide for the sustained production of fish, water, timber, pasture and tourism, with the conservation of nature primarily oriented to the support of economic activities. The designation of an SMA automatically calls for a management plan for each case and institutional resources for monitoring and management. Such a management plan, may for reef passes, for example, be couched in the terms of the traditional Bul already imposed on the pass, and the monitoring conducted by deputized local people, authorized by traditional chiefs. The SMA can embrace a broad range of sites or areas. For example, this could include tourist sites, such as the Ngemlis dive sites; watershed management areas, such as Ngerikiil, wetlands, trochus sanctuaries, and other general areas such as public parks, lookouts, rest shelters and the like.

b) Protected Areas

By combination of REA recommendations and additional information from the States the following areas have been identified as being particularly significant, ecologically representative examples of the natural environment of Palau; or having special habitat for rare, important or unique species, communities or ecosystems; or having important ecological, biological, economic or social benefit for Palau.

The list is long but will be broken down into a number of protected area categories and by a series of class actions. While the list is long, it can in no way be considered 'complete' because:

- the terrestrial survey of candidate protected areas has still to be made;
- the list does not include the many sites or areas of great cultural or anthropological significance (the Division of Cultural Affairs has this process well advanced); and
- additional sites or areas will continue to be identified in the future as the resources of Palau are studied more closely.

In terms of NHA's, the REA proposed two areas as Conservation Areas, Ngeremeduu Bay and the Rock Islands. A major fishery conservation area was proposed for the Northern Lagoon. Special comment has also been made both in the REA and in other reports about Velasco Reef, Ngerdok Lake and Helen Atoll, which would also meet most criteria. The proposed Ngeremeduu Bay area was split into two areas, one comprising the terrestrial element and the other the marine element and named Toachel Mlengui.

These seven areas are considered of major national importance and are proposed for designation as Natural Heritage Areas. Four areas are also considered of major international significance; these are the Rock Islands, Lake Ngerdok, Helen Atoll and Velasco Reef. The Rock Islands is considered by many to be worthy of World Heritage Listing. Of all the proposed NHAs, Ngeremeduu Bay is most at risk if various development proposals proceed.

The seven NHAs are presented in table 12.2 and shown in Map 5, Annex 3.

Table 12.2 Proposed Natural Heritage Areas

PROPOSED NATURAL HERITAGE AREA	REA CATEGORY	ECOSYSTEMS
1. Velasco Reef NHA, including Ngerauangel Atoll.	Fishery conservation area, ecological reserve for atoll	All marine habitats to 100 meters depth; on atoll, nesting wildlife, all marine species, island and reef ecosystems.
2. Toachel Ngkesol NHA (Northern Lagoon)	Fishery conservation area	All harvested species; three important passes with grouper spawning 'Buls'.
3. Toachel Mlengui NHA	Fishery conservation area	Marine habitat, spawning aggregation areas, dugong, turtle.
4. Ngeremeduu Bay NHA	Ecological Reserve	Mangrove and fisheries habitats; estuaries, wetlands.
5. Lake Ngerdok NHA, (with watershed)	Ecological reserve, special management area	Lake biota, crocodiles, rare waterbirds, fruit bats, watershed forest.
6. Rock Islands NHA	National Park	Dugong, turtle, megapode, giant clam, coral reefs, beaches, unique marine lakes, tourist sites, forests etc. Aesthetically one of the natural wonders of the world.
7. Helen Reef NHA	Wildlife preserve	Seabirds, green turtle rookery, giant clam.

The usage of NHAs and management strategies are shown in the 'Environmental Planning and Management Sector Report, NMDP. Velasco Reef NHA is a good example. Velasco is a reef fishery which warrants special protection controls to promote sustainable use and prohibit habitat destruction and over-harvesting. Ngeruangel Atoll with its one small unvegetated islet is a part of the same reef formation, and the most northerly in the Palau archipelago. Velasco has spectacular fish populations and is in a pristine condition. The purpose of the NHA is to manage fishing activities within its boundaries such that the NHA will retain its pristine state to protect fish stocking and recruitment. The borders of the proposed NHA would be established by the State of Kayangel.

Management strategies might include:

- Conduct a closer survey of the NHA than was possible during the REA study to confirm NHA status and define environmentally acceptable levels of utilization of its resources;
- Select practical boundaries which make for easy compliance and enforcement;
- Mark the NHA boundary and Ngeruangel with buoys and signs, as practicable;
- Define the provisions of operation and control of the NHA;
- Prepare a detailed management plan for the NHA;
- Instigate an education program on the NHA and the rules devised for its conservation;
- Enforce controls using coordinated state and national resources;
- Review annually the scope and execution of the management plan.

Similar management strategies would apply to all Natural Heritage Areas. Management controls might include:

- commercial and sport fishing vessels shall not operate inside the NHA without due joint authorization of the Governor of Kayangel State and the Bureau of Environment, Conservation and Sanitation;

- sport fishing within Velasco Reef NHA shall be on a catch-and-release basis;
- the taking of or attempt to take coral, reef rock or sponges, or otherwise degrading the coral reef habitat would be prohibited; and
- watercraft with a deadweight of 25 tons or more would not be permitted to anchor within 100 yards of the reefs.

Should the Marine Protection Bill be enacted, then the general provisions above would apply to all Palau fisheries. Specific regulations would be formulated according to the management and conservation requirements of the NHA, in consultation with the Bureau of Resources and Development and the Kayangel State Government to ensure the area of the Velasco Reef NHA is protected. Site management requirements would give due consideration to traditional and established practices.

Other protected area categories are shown in table 12.3.

Table 12.3 Sorted list of candidate protected areas by Natural Heritage category

CAT NO	NATURAL HERITAGE CATEGORY	CAT NO	NATURAL HERITAGE CATEGORY
<u>Natural Heritage Preserve</u>			<u>Natural Heritage Preserve (continued)</u>
Atolls			Reefs
2	Ngeruangel Atoll	3	Ngemelis Reef
Forests			3 Peleliu Reef
2	Ngardmau Upland Savanna	3	Seagrass Beds
Reefs			3 Denges Passage & Seagrass Beds
2	Dechor - Ngrikreker Reef Flat (Ngardmau)	3	Koror Reef Flats Seagrass Beds
2	Ngilt - Uluchel Reef (Ngaraard)	3	Malakal - Ngederrak Seagrass Beds
Wildlife			3 Ngardmau Seagrass Beds
2	Ngerkuwid Wildlife Preserve	3	Ngerechelong & Ngaraard Seagrass Beds
2	Yasumba Snake Island	3	Ngiwal Seagrass Beds
Natural Heritage Reserve			3 Peleliu Seagrass
General			3 Sar Passage & Seagrass Beds
3	Ngerduais and Ngeream Islands	3	Watersheds/Wetlands
3	Ngerchelchuus Mountain Top	3	Ngardmau waterfall and watershed
Atolls			3 Ngeremeduu Wetlands
3	Kayangel Atoll (Ulach Channel and beaches on Ngeriungs and Ngerbelas Islands)	3	Ngerkall Pond and watershed
Beaches			<u>Special Management Area</u>
Passes			4 Passes
Kloul Euchel Pass			4 Kloul Euchel Pass
Meteul Toachel Pass			4 Meteul Toachel Pass
Ngemelachel Pass			4 Ngemelachel Pass
Telebadel re Ngarael			4 Telebadel re Ngarael

3	Anguar Beaches	4	Telebadel re Ngkesol
3	Kayangel Atoll Beaches	4	Toachel Belau
3	Peleliu Beaches	4	Toachel Iou
3	Ngerechur & Ngerkekla Island Beaches	4	Toachel Mid
3	Ulong, Omekang, Kmekumer, & Ngkesiil Beaches	4	Toachel Ngel
		4	Toachel Suul
	Channels		Reefs
3	Ngilt Channel	4	Bkul a Omruchel Reef
3	Rebotel dead-end Channel	4	Lukes Reef Shoal
3	Ngererekaoul dead-end Channel	4	Mercherong Reef
3	Ngeridebaul Channel	4	Metuker Reef
3	Ongingiang dead-end Channels	4	Mutiaur Reef
		4	Mutkebesang Reef
	Forests	4	Mutremduu - Uchelbeluu Reef
3	Mercherchar Island	4	Ngedebus Reef
3	Ngeruktabel Island	4	Ngermongimb Reef (Aimeliik)
3	Ngulitel	4	Ngetbaet - Metenelteuchel Reef (Melekeok)
3	Peleliu Upland Forests	4	Olnegewaoi Reef
		4	Usas Reef
	Mangroves		Trochus
3	Aimeliik Mangrove Fringe	4	All sanctuaries
3	Airai Mangroves		
3	Ngemai-Imolech Mangroves		Watersheds
3	Ngeremeduu Mangroves	4	Ngerdorch River
3	Northern Babeldaob Peninsula	4	Ngerikiil River
3	Peleliu Mangroves	4	Ngerimel River
3	Taberngesang Mangroves	4	Ngermeskang River
3	Taoch Ngerdorch Mangroves	4	Simizu Wetland
	Passes	4	Ngerimel River
3	Ebiil Pass		
3	Erengoll - Iengel Passes		
3	Ngamegai Pass		
3	Ngedbaet Pass		
3	Ngetgnod Pass		
3	Toachel Mlengui Pass		
3	Tochlir Arnegebard		

In total, 86 areas/sites are proposed for some form of action under the Natural Heritage Systems Act. From Table 12.3 it is seen that a further 6 Natural Heritage Preserves are proposed, 45 Natural Heritage Reserves, and 28 Special Management Areas. At first glance the length of this list makes it impractical for implementation. However, by adopting a Class Protection approach, the number of separate administrative actions to have areas gazetted under the various categories could reduce to 26; a much more realistic size.

Table 12.3 suggests that a Class Protection action could be taken for sand beaches, mangroves, passes and reefs.

- All sand beaches should be protected as Natural Heritage Reserves.
- All mangrove areas should be protected as Natural Heritage Reserves.
- All reef passes other than those indicated in Table 12.3 under the Natural Heritage Reserve category, should be protected as Special Management Areas. Subsequent action could be taken as necessary to elevate an SMA to an NHR or NHP.

- All reefs, apart from the possible exception of the Ngemlis-Peleliu Reefs, should be protected as Special Management Areas. These two have received special treatment because of their intense use by tourists, calling for tighter management controls. As with reef passes, the Protected Area category for any reef can be elevated subsequently to an NHR or NHP as considered appropriate. But the first step is to gazette the whole class.

There is no legislative cover for a Class Protection action, and appropriate legislation would need to be introduced, preferably as an amendment to the Natural Heritage Systems Act. Alternatively, provision in the Palau Constitution for Law by Initiative could be invoked which gives to citizens of Palau the right to enact or repeal national laws, through the submission of an Initiative Petition, containing the text of the proposed Bill, and signed by not less than 10 percent of the registered voters. The law takes effect at the next general election through a majority of voters voting 'yes' for the initiative.

12.6 STRATEGY AND PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING

12.6.1 STRATEGY

Improve the protection of the natural environment, or at least measure and make transparent the costs of degradation, through formalizing and streamlining, environmental requirements and processes, integrating these into the decision-making process, and improving management and education of environmental issues. (Strategy 3.4.2.17)

12.6.2 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - POLICY PROCESS

12.6.2.1 Environmental Considerations Integrated in the Decision Making Process for Private and Public Sector Projects

Environmental considerations should be integrated into the appraisal and approval process for private and public sector projects. The Ministry of Administration should review evaluation processes used for the programming and budgeting of development activity to ensure environmental considerations are included along with economic concerns.

The Office of the President should require the inclusion of a statement on beneficial or adverse environmental consequences in any summary sheets attached to Cabinet Submissions on policy proposals and proposed development activity. Such an environmental statement would then be automatically considered alongside summaries of economic and social benefits, costs, employment and immigration implications, security, foreign relations, etc.

Each Bureau within the National government should task one of its officers with the responsibility for environmental matters concerning that Bureau. These designated officers would be the focal points for environmental appraisal processes. Together they would constitute an environmental technical and advisory panel to government.

Environmental aspects and requirements should be incorporated into the proposed building code, FIB processes and Bureau of Public Works processes. The Director of the Bureau of Natural Resources and Development and the EQPB should be the nominated officer for FIB referrals.

The Traditional Chiefs and representatives of women's groups should be consulted formally in the appraisal process of major projects, particularly those that impact on the natural environment and that have cultural impacts.

12.6.2.2 Appropriate User Fees Levied

In line with principles shown in Chapter 5, a number of charges should be levied, including entry fees for national heritage areas, entry fees for restored or managed cultural sites, dive site charges, efficient infrastructure service charges (including appropriate developer fees - refer Chapter 6), boat registration fees, environmental inspection fees, and bank guarantees against environmental damage. The costs of any required environmental impact statement (EIS) should be borne by the applicant.

12.6.2.3 Environmental Impact Assessment Process Strengthened and Streamlined

The process of environmental impact assessment (EIA) should be streamlined to remove the step-wise barrier between Environmental Assessment and Environmental Impact Statement categories, introducing and publishing specific Classes of Action for each of the three EIA Categories, (Exempt, Environmental Assessment, and Environmental Impact Study).

Public consultation processes on EIA should be strengthened, including distribution of reports prepared under the EIA process to the Council of Chiefs with a request to provide a copy to the Paramount Chief in the State concerned; the Bilung and the Ebilrekhai for the information of the traditional women leaders; State Office/s of the State/s concerned and relevant national agencies; radio advertisement on location of reports available for public scrutiny; public meetings within the area affected by a proposed project.

12.6.2.4 Watershed Management and Focus on Soil Erosion Improved

Funding for watershed management should be increased. Development planning for land use should be performed on a watershed basis, extending from the headwaters to stream channels, wetlands, mangroves, lagoons and the outer edge of the fringing reef. The draft Wildland Fire and Forest Management Bill should be reintroduced into the OEK. Alternatively, the Bill should be incorporated into a comprehensive environmental Bill. Soil erosion on Babeldaob should be attended to urgently and a regular monitoring program instituted. Rehabilitation of denuded and degraded areas of soil should be given priority in the forestry program. The Government should urge active reforestation efforts by the community and forestry plots should be established in schools.

12.6.3 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - INSTITUTIONS

12.6.3.1 Environmental Institutions Upgraded and Rationalized

Given the principles concerning the rationale for independent boards (refer Chapter 13), the funding constraints facing the EQPB, and the overlapping responsibilities in other areas, the President should consider the possibility of merging these responsibilities into a single ministry which would be responsible for terrestrial and marine resource conservation, including policing and surveillance. Arrangements will need to be made with the Bureau of Public Safety to continue to provide certain services in this report (refer Chapter 11).

Despite expected cost savings from economies in management and rationalization of functions, additional functions related to improved monitoring, evaluation and enforcement, will require additional resources including:

- six additional staff for monitoring and EIA administration;

- an environmental planner;
- four additional enforcement offices; and
- associated overheads and equipment.

If a new Bureau were created, or an existing Bureau restructured the Director of the Bureau would be a crucial position which should be advertised internationally to target offshore Palauans. The Bureau should develop a strategic plan, including a human resource management plan, to facilitate focus and performance measurement. The plan should be a component of the Ministry's overall strategic plan.

To ensure compliance, some delegation of enforcement authority to the States is essential. National and State enforcement officers should be cross deputized to rationalize resources.

12.6.5 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - INFRASTRUCTURE

12.6.4.1 Current Infrastructure Proposals for Environmental Impact Reviewed

A number of infrastructure proposals have been assessed for environmental impacts and requirements are outlined in table 12.4.

Table 12.4 Environmental Evaluation of Infrastructure Development Proposals

Infrastructure Project Proposal		Environmental Recommendations
Airports:	Kayangel Peleliu Sonsorol Hatohobei	Strongly opposed because much tourist appeal would be lost and therefore ecotourism economic potential. Supported as feeder airport, subject to EA. Subject to EA. Environmental concerns are directed towards the loss of up to 25 percent of the island, including important taro pits. Same as for Sonsorol.
Communications:	Babeldaob Round Island Optical Cable	In view of the imminent planned start-up of this project, EA should be undertaken as a matter of urgency. The environmental concern is more for the potential for reef damage in maintenance of finger cables connecting the main cable to the coast.
Marine Research:	Research facility on Helen Atoll	Supported subject to EA. Refer also to Protected Areas section of this report.
Mining:	Airai Angaur	Mandatory full EIS. An EA should also be undertaken prior to any gold exploratory program. EIA would be required, but whether at the EA or EIS level would depend on information supplied on the mining and factory chemical process for conversion of the phosphate to superphosphate.
Ports:	Gamliaangel Bay	The feasibility study should require a full EIS. The concern is for the fate of oil spills in this location. There is also a corollary of the fate of Malakal Harbor and its environmental resources if the pressure on its use is not relieved or more tightly controlled.
Channels:	Peleliu Ngerchelong	These channels require extensive reef blasting and the proposal should be subjected to full EIS to ensure damage to surrounding reef is contained to the greatest extent. As for Peleliu.
Power:	Babeldaob transmission lines	EA should be required. Timber which needs clearing along the route should be salvaged.

Road:	Babeldaob National Highway	EA has been completed. The alignment for the National Highway is yet to be decided. Where it does <u>not</u> coincide with the Babeldaob Road alignment, a further EA will be required for those sections of road which will be abandoned, with costings for rehabilitation. Timber along road route should be salvaged to the greatest extent. Additional EA may need to be conducted for specific new alignments options not considered in the current EA.
Solid Waste:	Relocation of the Koror dump to Babeldaob	EA would be required.
Tourist Resorts:	Melekeok, Ngerchelong, Ngatpang, Peleliu	EA would be required. Resort construction back from beach and special provisions for lighting for turtles on nesting beaches. Each resort should operate its own enclosed tertiary treatment sewerage system and supply its own water.
Water:	Ngerikiil Dam	A full EIS should be required for the construction of a dam on this watershed.

12.6.5 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - EDUCATION AND RESEARCH

12.6.5.1 Environmental Curriculum Developed and Implemented

The Ministry of Education should place special emphasis on environmental curriculum development by integrating environmental topics into existing core subjects at primary school, and developing a separate course on the natural resources of Palau for the secondary level. Within post secondary education, the Government should provide base support for the proposed Environmental Sciences Program Course at the PCC (Marine Resources Sector Report), such that the proposal can be submitted to the US for financial and technical support. The Government should investigate the possibility of the PCC being given Land Grant status, thereby bringing the PCC into line with other Land Grant universities and colleges.

12.6.5.2 Research Priorities Established

In terms of environmental research, Palau is fortunate to have an accumulated body of valuable scientific data on its natural resources, although there are still many gaps in resource knowledge. While a number of environmental research needs are identified (refer Environmental Planning and Development Sector Report, NMDP), the two top priority research needs are for:

- a study of the *circulation of marine currents* within the lagoon and pattern of lagoon flushing; and
- the development of a computer driven, interactive *Palau Resource Information System* (PALRIS), as a repository for all resource, cultural, and demographic information which is readily accessible to all planners and managers. The system allows the fully interactive analysis of resource information including soil, vegetation, geology, land form, slope, climate, census data, resource surveys, land ownership, cadastral information, traditional use information, cultural areas and historic sites, etc., and can produce hard copy output in the form of color maps and reference data sets.

Other specific research activities given high priority include the development of a mangrove management plan; a comprehensive study of Palau's flora and fauna to update earlier findings and fill major knowledge gaps; and a hydrological survey of ground water resources, particularly on Babeldaob.

12.6.5.3 Research Stations Established

There is a need for a number of research stations. An international research station on Helen Atoll should be established as a Center for atoll and marine research for this region of the Pacific, and to serve as a base to protect Palau's national interests in that region. Research effort should be decentralized with the establishment of three field research stations in the longer term (one on Peleliu, a second at Nekkeng and a third on the north-east coast of Babeldaob) to provide opportunities for coordinated research efforts in natural resources. Funding from international organizations for establishment and operations of these stations should be sought.

12.6.6 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - PROTECTED AREAS AND WILDLIFE

12.6.6.1 A System of Protected Areas Introduced

There should be four categories of protected areas - a Natural Heritage Area, Natural Heritage Preserve, Natural Heritage Reserve, and a Special Management Area. The purpose of the Natural Heritage Area is to bring an area of outstanding national or international significance under specific management controls to protect that significance for posterity, while the Natural Heritage Preserve (NHP) imposes strict controls on activities with authorization required for entry. Only five areas are proposed under this latter category in addition to the existing Ngakuwid Wildlife Preserve; two of these are reefs, one in Ngaraard and the other in Ngardmau, which were chosen to back up the permanent *Buls* which have been imposed on them. Seven areas are designed as Natural Heritage Areas (Refer Map 5). Within an overall top priority for the establishment of the NHA concept, there are varying degrees of priorities for the establishment of specific NHA's. They are:

- Priority 1: Rock islands NHA, Lake Ngerdok NHA and Helen Reef NHA
- Priority 2: Ngeremeduu Bay NHA and Velasco Reef NHA
- Priority 3: Toachel Ndgkesol NHA (Northern Lagoon) and Toachel Mlengui NHA (marine area adjacent to Klaeremasch to Metuker)

The Natural Heritage Reserve (NHR) is protected under a prepared management plan, but, far from restricting entry, people would usually be encouraged to use the Reserve. However, some conditions might be imposed on the numbers of visitors at specific sites at any one time, for example, within the proposed Ngemelis Reef NHR. For other NHRs, the perpetuation of specific groups of species or biotic communities, and physical features may require specific human manipulation.

The Special Management Area (SMA) is designed to provide for the sustained production of fish, water, timber, and tourism with the conservation of nature primarily oriented to the support of economic activities. A considerable number of areas are nominated as candidate Natural Heritage Reserves or Special Management Areas, and no doubt the list will be expanded when the terrestrial REA is completed.

Many of these NHR and SMA are reefs, reef passes, mangrove areas and sand beaches. Each of these types of resources would require a similar management plan. Therefore, it is proposed that all sites of the one resource type, for example reef passes, be gazetted as a group. This Class Protection Action approach would considerably reduce the administrative workload which will be needed if each site is treated individually.

Management recommendations for the Rock Islands NHA are:

- no permanent structures established within the NHA other than those already present and authorized by Koror State Government;
- designation by Koror State Government of those islands restricted to tourists and foreigners;
- designation of those islands reserved for Palauans or predominantly Palauan groups (a visitor would be permitted as a member of a group at the invitation of Palauans and remain under Palauan control);

- no permanent structures established within the NHA other than those already present and authorized by Koror State Government;
- designation by Koror State Government of those islands restricted to tourists and foreigners;
- designation of those islands reserved for Palauans or predominantly Palauan groups (a visitor would be permitted as a member of a group at the invitation of Palauans and remain under Palauan control);
- Koror State Government would designate and clearly mark sea lanes to be adhered to strictly to access islands designated for use by foreigners;
- the construction of temporary rest shelters only with the permission of the Koror State Government; no persons permitted to camp overnight outside of designated locations, and then only with authorization or in an emergency;
- no modification of the vegetation;
- removal of any dogs, pigs or other predators; and
- all persons using the Rock Islands, Palauan and foreigner alike, be required to ship out all their trash, with heavy penalties for breaches.

12.6.6.2 Accession to CITES Implemented

Palau's accession to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (*CITES*) is strongly recommended, together with a parallel approach to request that the saltwater crocodile in Palau be placed on Appendix 2 to the Convention rather than Appendix 1. An Appendix 2 listing would permit Palau to trade in the meat and skins of crocodiles raised in ranching programs. Crocodile ranching would then become a viable export industry as well as a tourist attraction. Rogue crocodiles should be netted and conditionally given to crocodile ranches, or released in the wild at Lake Ngerdok. Such an approach will help safeguard people while protecting the crocodile breeding population. With its accession to CITES, Palau would be obligated to uphold the regulations of countries under CITES and enforce controls over the illegal export of clam adductor muscle to non-CITES countries, such as Taiwan. Following Compact implementation, Palau could issue its own permits under CITES, overcoming the bureaucratic inefficiencies of a distant administration.

12.6.6.3 Hunting and Fishing Controls Introduced

As with *Buls* imposed for the protection of a marine resources, so is it necessary to impose seasonal controls on the shooting or trapping of birds. While the use of high-powered firearms is prohibited in Palau, hunting with airguns is a popular pastime, with the Micronesian pigeon, megapode, Nicobar pigeon, and fruit bats all falling victim. Anecdotal evidence is that there are fewer birds now than in the past. The REA Report stated that two full-time commercial hunters are living in Imeong Village in Ngeremlengui State. State Governments should institute and police controls on hunting, with the national government enacting mirror legislation so state laws can be enforced through the national court system. Among those controls should be:

- a ban on the sale and use of high-powered air-rifles;
- the extension of firearm licenses to air-rifles (low-powered);
- the restriction of hunting to local residents and specified areas;
- the imposition of a hunting season for Micronesian pigeon and the gray duck;
- stricter policing of the restaurant trade in wildlife; and
- the banning of use of spear guns by scuba divers.

12.6.6.4 Crocodile Farming Encouraged

Crocodiles are one of the oldest living reptiles and are threatened with extinction in Palau if not given protection. Crocodiles are an important part of the marine food chain and are also an excellent tourist attraction. Crocodiles which become nuisances or attempt to establish their territory in urban areas should be netted, immobilized and either transported to lake Ngerdok and released or leased under specified conditions to crocodile breeding farms.

12.6.7 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - WASTE MANAGEMENT AND POLLUTION

12.6.7.1 Sewerage Works Upgraded and Uses as Fertilizer Reviewed

The sewerage works which have been malfunctioning and allowing raw sewerage to escape into the harbor have recently been the subject to a detailed study as part of an overall master plan for sewerage needs for Palau. Consequently it is expected that, with the construction of additional capacity and greater attention to maintenance needs, the problem will be corrected. (For detailed program outputs refer Chapter 6). The soils of Palau are on the whole nutrient deficient. The sludge from the sewerage plant, properly treated, can provide a high quality organic fertilizer as a commercial venture. In this respect, the Government should support a trial program on the technical practicality and economic feasibility of the conversion of sewage sludge into high quality, non-odoriferous, fertilizer using a vermiculture technique (the use of special earth worms). The vermiculture process is not capital intensive and is environmentally friendly. A series of trials using tropical species of worms have been undertaken in North Queensland in Australia. The trials there indicated a yield of 50 tonnes of vermicast in six months.

12.6.7.2 Solid Waste Management Upgraded

Solid waste management is difficult for many insular countries. This has certainly been the case in Palau, where the continued use of a mangrove dump site on M-Dock, operated by the Bureau of Public Works, causes many pollution problems. The situation in the other states is not much different; only the scale is much smaller. Mangroves are used as dumping grounds on the whole. While an unknown high proportion of the waste material is recyclable, there is little capacity to make such activity self-funding or commercially viable. Non-biodegradable solid wastes such as plastics, rubber, cans, and bottles are a major environmental concern. The EQPB solid waste regulations require each State to develop a waste management plan, but due to a number of reasons, only a few have yet complied. One of the problems is the few EQPB staff available to advise and assist the States. The EQPB has been helping the States identify suitable options for dump sites.

The major problem with waste disposal is the selection of the dump site. States also have little technical knowledge on the operation and maintenance of a garbage tip, nor the personnel or resources to operate it. Garbage is collected free in Koror. All states should introduce a community service fee to require residents to contribute to garbage removal. Much of the rubbish could be burned providing this was done in a special high temperature incinerator. There is also scope for the private sector to be involved in, say, a joint venture arrangement with one of the States to contract waste from the other states. This will be possible once the national highway is constructed (for detailed program outputs refer Chapter 6).

12.6.7.3 Labeling, Storage and Handling of Pesticides and Chemicals

The rate of importation of pesticides has increased, although the volume cannot be clearly determined from Custom's figures. Of greater concern has been the importation of chemicals labeled in Chinese, without any translation for the user. The EQPB conducts inspections of farms, stores and importer's premises, but this has been spasmodic due to staff constraints. The targets are unregistered, banned or restricted pesticides, and foreign products.

To improve the control over dangerous chemicals, the Government should enforce registration of all commercial premises storing, or selling pesticides, require all foreign chemicals to have English translation handouts stocked with the chemical, mount another education campaign emphasizing safe practice, and tighten customs records.

12.6.7.4 Recycling Schemes Introduced

Some years ago, all beverages were packaged either in steel cans or in glass. Steel cans present only a temporary pollution problem as they quickly rust in the humid, salt-laden atmosphere. Bottles were and remain a problem as they are not recycled. Today, aluminum has largely replaced the use of steel cans. Aluminum, plastic and glass are the common types of packaging, together with some cardboard and paper packaging. Most of this packaging ends up in the refuse tips or is discarded to litter the towns and countryside.

The littering of aluminum cans is a major problem in Palau. The common answer is to set-up some collection system, with cans purchased by weight. However, the purchase price cannot be high as the venture has to support the high transport costs of shipping the crushed, compacted cans to an overseas processing destination. An alternative successful approach used in a number of countries is the deposit system. Kosrae is one of those countries which formerly had a straight can purchase system and has now swung over to a deposit system. A similar deposit system is proposed here for Palau. Each time a person buys a can of cola or beer, an extra 5 or 6 cents is levied as a deposit fee. The fee is added to the price at point of import. On return of the can, a 5 cent fee is refunded. The differential between the deposit fee and return fee, plus the proceeds from scrap sales should be sufficient to cover administration costs. The scheme could be contracted out. There would need to be some up-front funding to pay for the return of existing stocks. Alternatively, a lower initial return fee could be introduced until existing stocks were cleared. School children could be encouraged to collect cans, with funds going to the school. It is estimated that the required up-front funding could be around \$100,000. To lessen this, a lower return fee could be given initially, which could be accompanied by a community awareness program (for example, through the schools).

Other recycling opportunities exist, among them the sale of scrap metal from abandoned vehicles, where shipment is economically viable, and the use of ground glass as a powder additive to cement.

12.6.7.5 Oil Spill Contingency Plans Strengthened

The risk of oil pollution is a perpetual and very real threat to Palau's economy. Recent mishaps with fishing vessels and oil supply tankers have again reminded the Pacific region of their extreme vulnerability to such accidental or even deliberate spills. In Palau's case, where its future economy is heavily linked to a marine-based tourist economy, the risk is even greater. It is important that existing emergency contingency plans for oil spills be updated and necessary training put in place, especially in light of expected changes to the availability of the US Coast Guard, and its oil spill attack crews post-Compact.

12.6.8 PROGRAM OUTPUTS: ENVIRONMENTAL PLANNING - LEGISLATION

12.6.8.1 Comprehensive Legislation on Natural Resource Conservation and Management Drafted And Enacted

To consolidate functions, reduce overlap, clarify responsibilities and strengthen enforcement, a comprehensive umbrella environmental Act is proposed. The proposed Act would incorporate the predominate requirements for legislation recommended in Chapters 9-12 in relation to marine and terrestrial resources. The current legislation (24 PNC 101-3103) would need to be repealed. The Act could then be the main mandate for the functions of the recommended Ministry of Environment and Resources and its bureaus (Bureau of Environment, Conservation and Sanitation, Bureau of Marine Resources, and Bureau of Agriculture, Forestry and Minerals). It would bring the management, development and protection of all of Palau's natural resources under one piece of legislation, which could then be written in plain English such that the roles and responsibilities of all the agencies involved in natural resources are clear, concise and non conflicting.

The proposed Act should cover:

- the streamlined EIS process;
- a regulatory system that provides for permitting in environmentally sensitive areas;
- expanded wildlife protection;
- expanded system of preserves and protected areas;
- coastal zone management system;
- expanded agriculture protection, including soil conservation measures;
- forestry management and protection;
- mangrove management;
- watershed management;
- improved hunting and fishing controls; and
- recycling schemes.

To clarify roles, all enforcement capabilities should be vested in one agency while resource management and development capabilities could be distributed to the other relevant Divisions. Therefore, there would be a clear separation between management and conservation/enforcement. To save resource costs, the Divisions would still work together on these issues, to enable the achievement of the overall strategic goals of the Ministry. Similarly, regarding offshore marine resource enforcement, the Bureau of Natural Resources and Development should have prime responsibilities for surveillance policy. The Bureau could then contract the Bureau of Public Safety (on a performance contract basis) to undertake various duties, including provision of crew for the patrol boat, arrest and detainment, and responsibilities for firearms and their use.

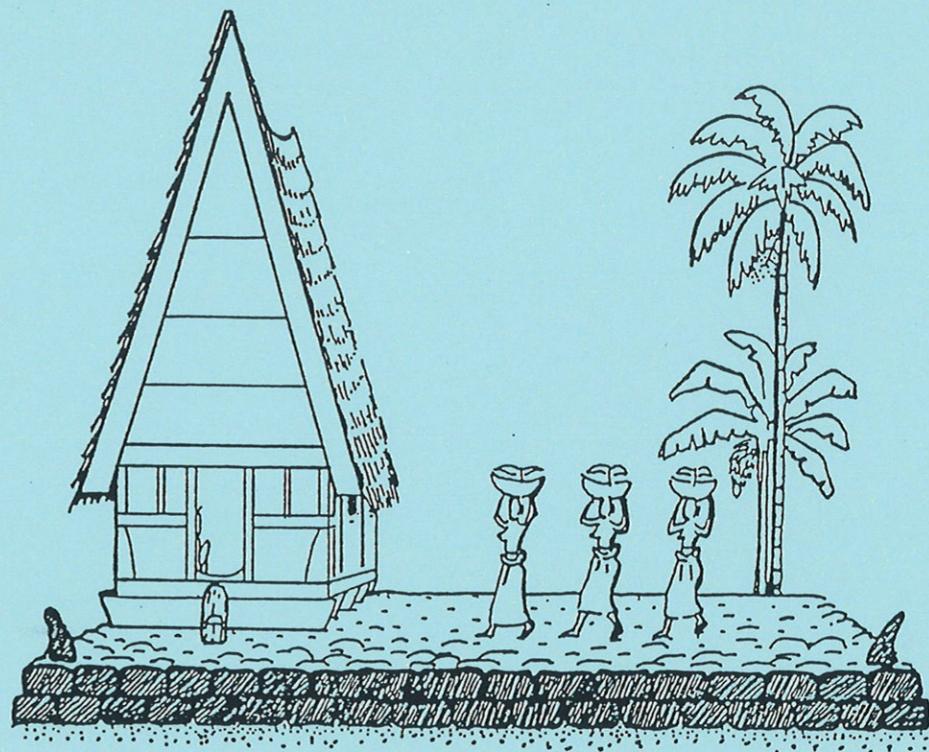
The proposed Bill should incorporate the objectives and functions of many of the current bills before Congress, such as the Bill to Amend the Endangered Species Act, the Draft Mines and Minerals Bill, the Palau Wildland Fire and Forest Management Bill, the Palau Forest Practices Bill, and the Wildlife Management Bill.

If a comprehensive Bill is not implemented, then separate legislation will still be required, as proposed in Chapters 9-12.

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 12.6.1 Improve the protection of the natural environment, or at least measure and make transparent the costs of degradation, through formalizing and streamlining environmental requirements and processes, integrating these into the decision-making processes and improving management and education of environmental issues						
OUTPUTS						
12.6.2 Policy Process 12.6.2.1 Environmental considerations integrated in the decisionmaking process for private and public sector projects	Programming and budgeting of developments reviewed to ensure environmental considerations included along with economic concerns	Environmental statements in cabinet submissions	Traditional leadership included in decisionmaking process	recurrent		
12.6.2.2 Appropriate user fees levied	Fees in place for a range of areas and facilities & developments, EIS funded by applicants	EIS, Revenues in budget papers legislation				
12.6.2.3 Environmental impact assessment process strengthened and streamlined	Public consultations including traditional chiefs, forming part of EIA process	Public advertisements, responses to development proposals, reports on EIA legislation	Community and leadership confident to participate in consultative process			
12.6.2..4 Watershed management and focus on soil erosion improved	Development based on protection of watersheds, soil erosion monitored and mitigated, reforestation resulting in improved water quality	Water quality monitoring data				
Institutions						
12.6.3.1 Environmental institutions upgraded and rationalized	Bureau of Natural Resources and Development managing terrestrial & marine resource conservation, policies in operations and enforcement strategies in place	Legislation Staffing records		recurrent	300	
Infrastructure						
12.6.4.1 Current infrastructure proposals for environmental impact reviewed	Recommendations in table 12.4 of PNMDP implemented					
Education and Research						
12.6.5.1 Environmental curriculum developed and implemented	Curricula of elementary & secondary schools & PCC being taught	Ministry and PCC records		recurrent		
12.6.5.2 Research priorities established	Research on marine currents, PALRIS , and other management plans based on research being utilized for resource management	Management plans		recurrent	200	
12.6.5.3 Research stations established	Research facilities at Helen Atoll, Peleliu, Nekkeng & north-east of Babkaob providing information to effectively manage Palau's resources on a sustainable	Research facilities. Scientific data, analysis & management plans	International scientific community will be interested in participating in research programs and publishing material			donor funds should be sought
Protected Areas and Wildlife						
12.6.6.1 A system of protected areas introduced	Four categories of protected area identified and operational with management plans providing protection of categorized sites	Legislation. Management plans				
12.6.6.2 Accession to CITES implemented	CITES regulations operational within Palau	CITES documentation. Staffing of 0.5 person		recurrent	10	
12.6.6.3 Hunting and fishing controls introduced	Seasonal controls in place for hunting of specified Palau fauna and for fishing	Legislation. Enforcement records		recurrent		
12.6.6.4 Crocodile farming encouraged	Crocodile farming operational as a tourist attraction. Crocodiles on schedule 2 of CITES Convention	CITES convention, Commercial production records		recurrent		
Waste Management & Pollution						
12.6.7.1 Sewerage works upgraded and uses as fertilizer reviewed	Sewerage utilized in a safe and effective manner to improve soils using vermiculture			recurrent		
12.6.7.2 Solid waste management upgraded	Pollution effects of solid waste reduced within States	Pollution monitoring records	States willing to cooperate on solid waste management plans	recurrent		

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
12.6.7.3 Labeling, storage and handling of pesticides and chemicals	Standards and controls operating for labeling, storage and handling of hazardous substances enforced	Standards, inspection records		recurrent		
12.6.7.4 Recycling schemes introduced	Recycling schemes operational utilizing a deposit system resulting in reduced numbers of cans littering Palau		Littering regarded by community as unacceptable behavior. Deposit encourages returns of recycling centers	2	100	
12.6.5 Oil spill contingency plans strengthened	Oil spill plan operational and providing appropriate response to marine spills	Oil spill plans, incident records	US Coast Guard will no longer undertake clean up responsibilities after the Compact	recurrent		
12.6.8 Legislation				recurrent		
12.6.8.1 Comprehensive legislation on natural resources conservation and management drafted and enacted	Legislation operational	Legislation				

CHAPTER 13
PUBLIC ADMINISTRATION



CHAPTER 13

PUBLIC ADMINISTRATION

This chapter describes the Constitution of the Republic of Palau which is the fundamental law of the land, putting emphasis on the various elements and levels of government and public administration, taking into account the Executive, Legislative and Judicial Branches of the national government, the state governments and the role of the traditional leadership. The major roles of each of the branches of the national government as they coexist and work in a check and balance system of a democratic type government are outlined. The organizational structure and functions of the Executive Branch are also described. Issues of public sector reform are raised for consideration as Palau undertakes a process of economic social and physical development.

13.1 THE CONSTITUTION OF THE REPUBLIC OF PALAU

13.1.1 GENERAL PRINCIPLES

The republic of Palau is a constitutional democracy. The most recently independent of the Pacific island nations, Palau adopted its Constitution in 1981 by referendum, creating a self-governing political entity based on democratic principles. Final independence was achieved on October 1, 1994, when the Compact of Free Association Between the Government of the United States and the Government of Palau was adopted.

In accord with the majority of emerging Pacific island states in the last thirty-five years, the people of Palau chose a governing model similar to that of their most recent occupier. The governmental structure adopted in Palau may be called a modified federal system, incorporating an American presidential model rather than a British, parliamentary system of governance.

The essence of constitutionalism is the control of power by its distribution among several state organs or offices in such a way that they are each subjected to reciprocal controls and forced to cooperate in formulating the will of the state. The Palauan Constitution conforms to the constitutional norm by formalizing a set of fundamental standards governing the political community, determining the relations between the leaders and the people, and setting forth the interaction among the centers of power.

Palau's governmental structure, set forth in its Constitution, easily meets the minimal definition in institutional terms of a constitutional democracy. The Constitution provides for a regularized system of periodic elections with a free choice of candidates, the opportunity to organize competing political parties, adult suffrage, decisions by majority vote with protection of minority rights, an independent

judiciary, constitutional safeguards for basic civil liberties, and the opportunity to change any aspect of the governmental system through agreed procedures.

As with most modern constitutional democracies, Palau's constitutional document provides for fixed limitations on the exercise of power. It further includes the three major elements found in democratic constitutions: an assignment of specified state functions to different state offices, a list of individual rights and liberties that are protected against the exercise of state power, and a statement of the methods by which the constitution may be amended. With these provisions a concentration of power in the hands of a single autocratic leader is prevented, certain areas of political and social life are made immune to governmental intervention, and peaceable change in the political order is made possible.

13.1.2 OVERVIEW

The fundamental law of Palau is contained in its Constitution. Article II states that the Constitution is the supreme law of the land and that any law, government act, or government agreement shall be invalid to the extent that it conflicts with Constitutional language. The Constitution prescribes the structure of Palauan government, provides the legal foundation on which all of its actions must rest, and enumerates and guarantees the rights due all its citizens.

Under the Constitution, the responsibilities of governing are shared between a national government and sixteen states. Unlike the United States Constitution, in which the Tenth Amendment gives the national government only those powers specifically delegated to it, the Palauan Constitution provides that all powers not expressly delegated to the states or denied to the national government are powers of the national government. In Palau, the national government may also delegate powers to the state governments. This system permits a strong, centralized national government, and also allows the option of devolving power in chosen areas to local control.

The Constitution of Palau provides a government of laws. No officer of the government may use authority unless and except as the Constitution or public law permits. The national government is separated into three branches: executive, legislative, and judicial. The legislative branch makes the laws of the nation, the executive branch executes the laws, and the judicial branch interprets the laws. The systemized tensions between the three branches of government, created by the separation of their powers and modified by checks and balances between the branches, is discussed at Part II below.

13.1.3 EXECUTIVE BRANCH

The administration of the national government in Palau falls to the executive branch. Article VIII of the Constitution sets forth the executive structure, based on a Presidential model of constitutional government. The President is the chief executive of the national government. Presidential powers and duties include enforcing the law, conducting negotiations with foreign nations, making treaties with the advice and consent of the legislature, appointing judges, granting pardons, commutations and reprieves, spending money pursuant to appropriations, collecting taxes, representing the national government in all legal actions, and proposing the annual budget. Article VIII, Section 14 permits the President to declare a state of emergency and temporarily assume legislative powers.

The President and Vice President are nationally elected for a term of four years, and no more than two consecutive terms are allowed. Any citizen of Palau who is thirty-five or older and has been residing in

Palau for the five years immediately preceding the election is eligible to hold the office of President or Vice President. The President or Vice President may be removed from office by a nationwide recall referendum (Article VIII, Section 10), or be impeached for serious crimes by a vote of two-thirds of each house of the legislature (Article VIII, Section 9).

Public administration is undertaken by the Cabinet, which consists of the heads of the major executive departments created by law. Cabinet members are appointed by the President with the advice and consent of the Senate, and serve at the President's will. No person may serve in the legislature and the cabinet at the same time (Article VIII, Section 5). Using Parliamentary language, cabinet department heads are called "Ministers". Currently, eight Ministers oversee the following Ministries created by statute: Community & Cultural Affairs; State; Commerce & Trade; Administration; Education; Health; Resources & Development; and Justice.

Oversight of the executive departments, or Ministries, is shared among the three branches of government. Within the executive branch, the President exercises control over the Ministries, Bureaus and Divisions of public administration by controlling their heads of department. The courts also exert a degree of control over the executive departments through judgments as to the legality of actions or orders compelling compliance with the laws. Oversight is exercised by the legislative branch as a consequence of its constitutional authority to enact laws, appropriate funds, and make rules for the government. Congressional oversight is conducted largely through the committees and subcommittees of the legislature.

13.1.4 LEGISLATIVE BRANCH

The legislative power of Palau, set forth at Article IX of the Constitution, is vested in the Olbiil Era Kelulau (OEK). The OEK is a bicameral body consisting of the House of Delegates and the Senate. Senators and Delegates to the OEK are elected for four year terms (Article IX, Section 2). Candidates for either house must be citizens who are at least twenty-five years old and who are resident in Palau for at least five years immediately before the election and resident in their district for at least one year immediately before the election (Article IX, Section 6). Currently including thirty members, the House of Delegates is composed of one delegate from each of the sixteen states, and the Senate composition is prescribed by the reapportionment commission as provided by law.

Broad legislative powers are enumerated at Section 5 of Article IX. The OEK may:

1. levy and collect taxes, duties and excises;
2. borrow money;
3. regulate commerce;
4. regulate immigration and naturalization;
5. establish bankruptcy laws;
6. provide a monetary and banking system and create or designate a national currency;
7. ratify treaties;
8. approve Presidential appointments by a two-thirds vote of the Senate;
9. establish diplomatic immunities;
10. regulate banking, insurance, securities, patents and copyrights;

11. provide a national postal system;
12. regulate natural resources;
13. regulate navigation and shipping;
14. regulate air space use;
15. delegate authority to the states and administrative agencies;
16. impeach and remove the President, Vice President, and Justices of the Supreme Court by a two-thirds majority of each house;
17. provide for the national defense;
18. create or consolidate states;
19. confirm or disapprove a state of emergency;
20. provide for the general welfare, peace and security; and
21. enact the laws necessary to exercise the government's constitutional powers.

The OEK may enact no law except by introducing and passing a bill. To become law, a bill must have been adopted by a majority of the members of each house present on three readings held on three separate days (Article IX, Section 14). A bill becomes law when signed by the President, or, if vetoed by the President, when two-thirds of both houses of the OEK approve the returned bill (Article IX, Section 15).

13.1.5 JUDICIAL BRANCH

The judicial power of Palau is vested in a unified judiciary, comprised of a Supreme Court, a National Court, and inferior courts of limited jurisdiction. Judicial power extends to all matters in law and equity. Article X of the Constitution sets forth Palau's judicial system. The Supreme Court consists of a trial division and an appellate division. The trial division has "original and exclusive jurisdiction over all matters affecting Ambassadors, other Public Ministers and Consuls, admiralty and maritime cases, and those matters in which the national government or a state government is a party" (Article X, Section 5). The appellate division has jurisdiction to review all decisions of the lower courts and those of the trial division (Article X, Section 6).

Palau's highest court, the Supreme Court is lead by the Chief Justice, who is the administrative head of the judicial system. In administering the judiciary, the Chief Justice is responsible for the preparation and submission of an annual judicial budget through the President to the OEK. The Supreme Court promulgates all rules governing the administration of the courts, the legal and judicial professions, and civil and criminal practice and procedure (Article X, Section 14). In addition to the Chief Justice, the Supreme Court also consists of between three and six Associate Justices, all of whom are members of both divisions. While a single justice may hear matters before the trial division, at least three justices who have not heard the matter at the trial level are required to hear appeals (Article X, Section 2).

Justices are nominated by the Judicial Nominating Commission, whose membership includes the Chief Justice, three members of the Bar elected by the Bar membership, and three members of the public appointed by the President. The President appoints Justices from the yearly list of seven nominees presented by the Judicial Nominating Commission (Article X, Section 7). No person may hold judicial office in the Supreme Court or National Court unless he or she has been admitted to practice law before the highest court of his or her state or country for at least five years before the appointment.

Supreme Court Justices hold office during good behavior, and may be impeached on proper grounds by a two-thirds majority of both houses of the OEK. Judges of the National Court and the inferior courts (the Court of Common Pleas) may be impeached for cause by a majority vote of the members of each house of the OEK (Article X, Section 10).

The smallest branch of government in terms of numbers, Palau's judiciary oversees the far larger executive branch and the elected legislature by interpreting and explaining the laws passed by the OEK and administered by the executive. No legislative act contrary to the Constitution can be valid, and the judiciary alone determines the constitutionality of those acts brought before it.

Palau's Constitution has designed the judiciary to be an intermediate body between the people and the legislature in order to keep the legislature within the limits assigned to its authority. The interpretation of the laws is the proper and peculiar province of the courts. A constitution is fundamental law; it therefore belongs to the courts to ascertain its meaning as well as the meaning of any particular act proceeding from the OEK.

13.1.7 STATE GOVERNMENTS

Article XI of the Constitution establishes Palau's state governments. Section 1 declares that the national government shall assist in the organization of state governments, and that their structure shall follow democratic principles and the traditions of Palau. Contrary to the United States Constitution, and indicative of a strong, centralized national government, Section 2 of Article XI gives all governmental powers to the national government except those which have been expressly delegated to the states by the Constitution. The national government, however may delegate its powers to the states. State legislatures have been given the power to impose taxes in Section 3 and Section 4 of Article XI permits state legislatures to borrow money for public purposes, subject to the approval of the OEK.

The Constitution addresses state issues in other areas of the document as well. Article XIII, Section 4 of the Constitution declares that no state may secede from Palau; Article IX, Section 5, Subsection 18 empowers the OEK to create or consolidate states with the approval of the states affected. Many of Palau's sixteen states are sparsely populated, but each state has a constitution which provides for a Governor and a state government.

Natural resource rights and responsibilities have often fallen to the state governments. Article I, Section 2 gives each state within Palau the "exclusive ownership for all living and non-living resources, except highly migratory fish, from the land to twelve nautical miles seaward from the traditional baselines; provided, however that traditional fishing rights and practices shall not be impaired". A Constitutionally-derived tension between the state and national governments regarding responsibility for environmental controls and resource protection can be traced to language at Article IX, Section 5, Subsection 12, which also vests power in the OEK to "regulate the ownership, exploration and exploitation of natural resources" within Palau. The Supreme Court has recently ruled that Koror State has been delegated certain natural resource protection powers, but further legal guidelines are necessary to specifically delineate state and national enforcement and oversight authority in this area.

13.1.8 ROLE OF TRADITIONAL LEADERSHIP

The Preamble to the Constitution establishes the importance of custom and tradition in the life of the people of Palau:

In exercising our inherent sovereignty, We, the people of Palau proclaim and reaffirm our immemorial right to be supreme in these islands of Palau, our homeland. We renew our dedication to preserve and enhance our traditional heritage, our national identity and our respect for peace, freedom and justice for all mankind. In establishing this Constitution of the sovereign Republic of Palau, We venture into the future with full reliance on our own efforts and the divine guidance of Almighty God.

The principal traditional entity embodied within the Constitution is the Council of Chiefs. Included as an aspect of the executive branch of national government, the Council is comprised of a traditional chief from each of the sixteen states (Article VIII, Section 6). To be eligible for Council membership, each chief must have been appointed in the traditional manner and recognized by the council of chiefs in his state. No member of the Council of Chiefs may concurrently serve as a member of the legislature or the cabinet.

The Council of Chiefs advises the President on matters concerning traditional laws, customs and their relationship to the Constitution and the laws of Palau. The advisory role granted to traditional chiefs carries no requisite for compliance.

Article V of the Constitution, titled *Traditional Rights*, assures recognition for traditional leadership. Section 1 states that the government may take no action to prohibit or revoke the role or function of a traditional leader as recognized by custom and tradition, unless such role or function is not consistent with the Constitution. The government is also prohibited from preventing a traditional leader from “being recognized, honored, or given formal or functional roles at any level of government.”

Section 2 of Article V declares that statutes and traditional law are equally authoritative. In the case of conflict between statute and customary law, the statute prevails only to the extent it is not in conflict with the underlying principles of the traditional law. This explicit declaration is tempered by language in Palau’s National Code, which resolves conflicts between custom and statute in favor of written, statutory law (1 PNC 302). The courts of Palau have not yet addressed the issue. However the courts may rule, the Palauan Constitution clearly and dramatically incorporates its citizens’ respect for traditional leaders and adherence to custom in daily life.

13.2 CONSTITUTIONAL CHECKS AND BALANCES

13.2.1 SEPARATION OF POWERS

The Constitution of the Republic of Palau adheres to two fundamental principles underlying most constitutional democracies based on a Presidential model: the separation of powers and checks and balances between the branches of government. The principles work together to prevent a tyrannous concentration of power in any one branch of government, to check and restrain government, and ultimately to protect the rights and liberties of citizens.

The American presidential system, adopted and modified by Palau, is based on the doctrine of separation of powers and distinguishes sharply between the personnel, although not between the functions, of the legislature and the executive. In contrast, the British parliamentary system provides for the integration or fusion of legislature and executive. In Palau's chosen system, the separation of legislature and executive is reinforced by their separate election and by the doctrine of checks and balances that provides constitutional support for routine disagreements between the branches. In the British system the integration of legislature and executive is reinforced by the necessity for their constant agreement, or for a condition of "confidence" between the two, if the normal processes of government are to continue. Palau's system allows a great number of reciprocal controls between the branches; in the British system, the major control device is the vote of "no confidence" in the government.

"Separation of Powers" is the division of power among the three independent branches of government; executive, legislative and judicial. In Palau's federal Presidential system, the power surrendered by the people is first divided between two distinct governments - national and state - and then the portion allotted to each is subdivided among distinct and separate branches of government. Executive and legislative force is formally divided by having the President and the OEK elected for separate terms, the tenure in office and powers of each untouched by the other.

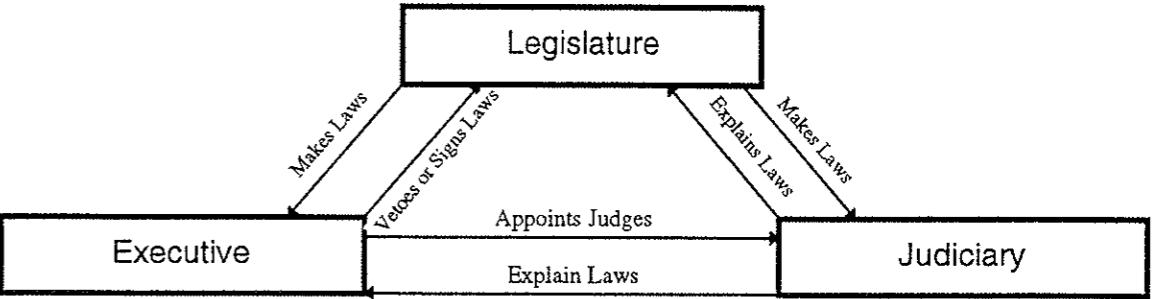
Indeed, each of the three branches of national government are constitutionally established in separate Articles, and given distinct powers and responsibilities. The legislative branch makes the laws of the nation, the executive branch executes the laws, and the judicial branch interprets the laws. In Palau, as many other constitutional democracies, to ensure the executive branch its independence, the executive has its powers conferred directly by the Constitution, and not by another branch of government. Independence of the legislature is maintained by free elections. Independence of the judiciary is preserved by indefinite judicial tenure based on "good behavior" (Article X, Section 9), and a constitutional prohibition on the diminution of a judge's compensation while in office (Article X, Section 11).

As a modifying force, those who administer each separate and independent branch of government are then given the necessary constitutional means to resist encroachment of the other through checks and balances.

13.2.2 CHECKS AND BALANCES

In addition to the separation and independence granted the three branches of Palauan national government, Palau's Constitution has incorporated auxiliary precautions that allow each branch of government to check and balance the others. Constitutional history has taught that a complete separation of powers is not feasible between the branches of government. Constitutional framers have therefore introduced checks and balances, whereby each of the three branches of government would be prevented from growing too powerful by the countervailing power of the others. By balancing the powers of each branch of government against the other two branches, tendencies toward autocratic rule may be checked and restrained.

A simplified model of the principle of checks and balances in Palau's national government is set forth below. This chart indicates one way in which each branch of the national government is authorized to check, hold back, slow down, or even change the action of each of the other two branches.



In Palau's Constitution, reciprocal controls are provided for three branches of national government. The executive branch may exercise control over the legislative branch through a Presidential veto of a bill, a Presidential line item veto of an appropriation bill (both types of vetoes may be overridden with a two-thirds majority of votes in the OEK), the President's signature on a bill rendering it law, or referring a bill to each house of the OEK with Presidential recommendations for amendment (Article IX, Section 15). The President may also initiate legislation (Article VIII, Section 12). The executive branch exercises control over the judicial branch through the President's power to appoint judges (Article X, Section 7).

The legislative branch of government oversees the executive branch in a variety of ways. Primarily, the OEK may impeach and remove the President, Vice President, and Justices of the Supreme Court by a two-thirds vote in each house (Article IX, Section 16). The OEK must consent in order to ratify treaties, and the Senate must approve presidential appointments by a two-thirds majority vote (Article IX, Section 5, Subsections 7 and 8). The congressional committee system and investigative powers balance executive branch initiative, as well. Although the President may declare a state of emergency pursuant to Article VIII, Section 14, he may not exercise those powers for more than ten days without the express and continuing consent of the OEK. Only the OEK may appropriate funds to the executive and judicial branches, and each house of the OEK serves as a check on possible abuses of power or unwise action by the other. In practice, the OEK may reverse decisions of the Supreme Court through constitutional amendments, effectively checking the power of the judiciary.

Judicial oversight of executive and legislative branch initiatives has evolved as an essential protection of the citizenry against unlawful state action. The judicial branch, acting independently of the other two branches, may declare a law enacted by the OEK or an action by the President unconstitutional and therefore invalid. The doctrine of checks and balances, supplemented by the principle of separation of powers, has strengthened the power of the courts to review the actions of the executive and legislative arms of the state.

In the Palauan Constitution, every basic grant of authority is carefully limited. In the best circumstances, these limitations allow the Constitution of the Republic of Palau to prevent any individual, interest, or governmental institution from gaining too much power, thereby maintaining Palauan citizens' security that their government is constitutionally obliged to control itself as well as the governed.

Figure 13.1

EXECUTIVE BRANCH ORGANIZATIONAL STRUCTURE

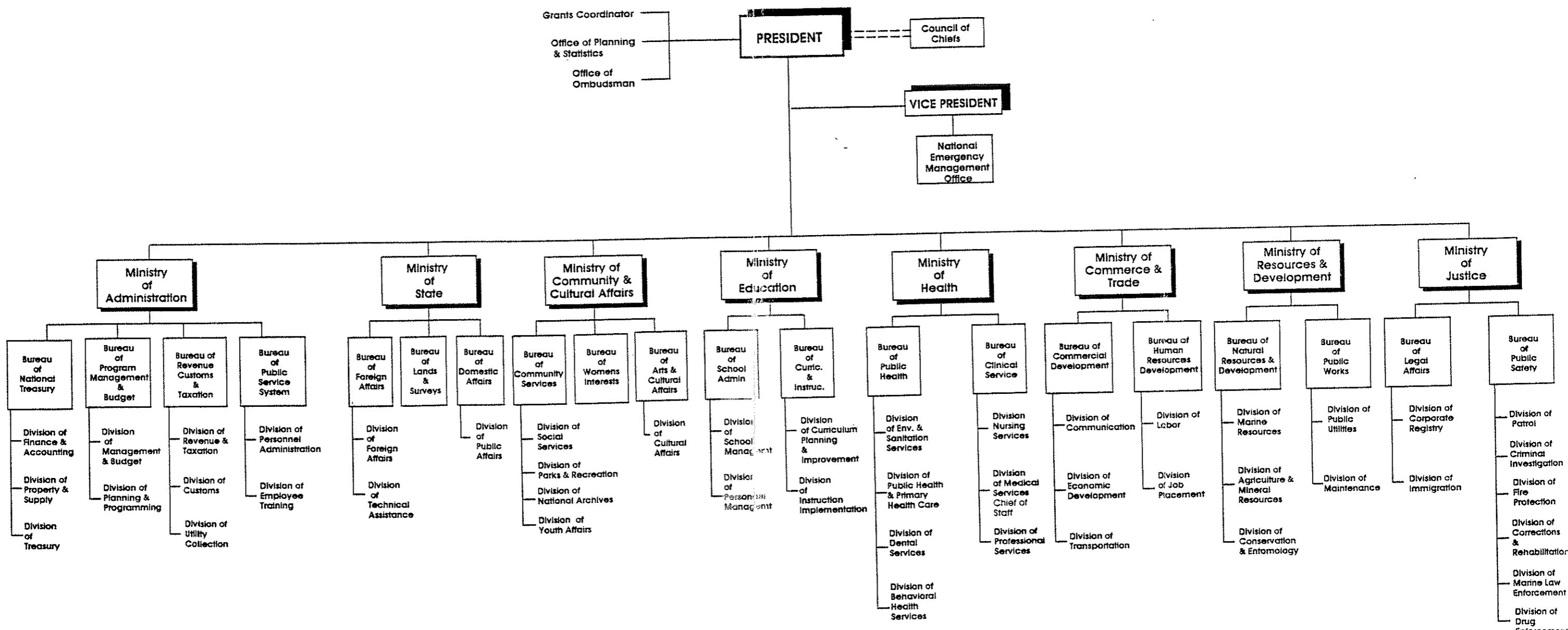
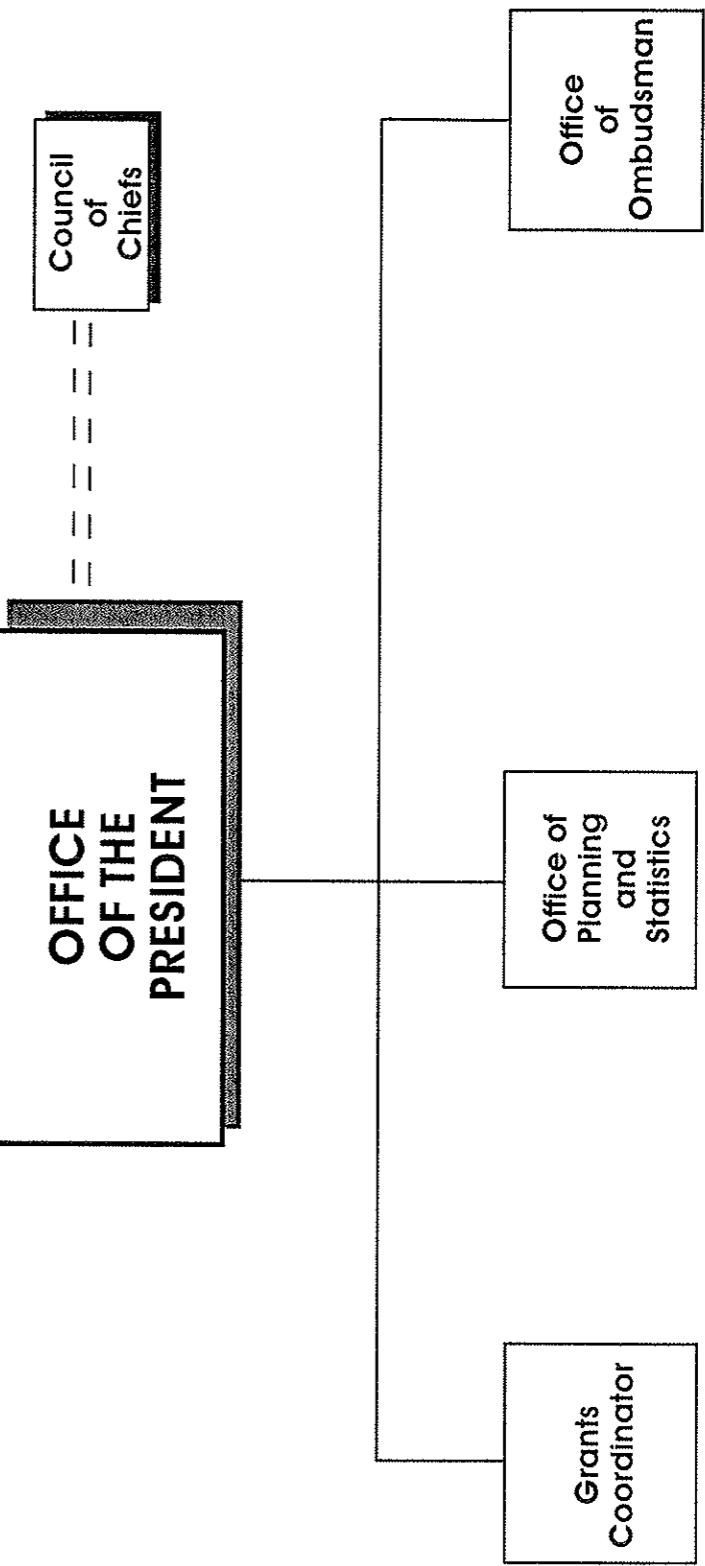


Figure 13.2

OFFICE OF THE PRESIDENT
ORGANIZATIONAL STRUCTURE



13.2 OFFICE OF THE PRESIDENT: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.2.1 GRANTS COORDINATOR

Refer Executive Order No. 98.

13.2.2 OFFICE OF PLANNING AND STATISTICS

Refer Executive Order No. 98.

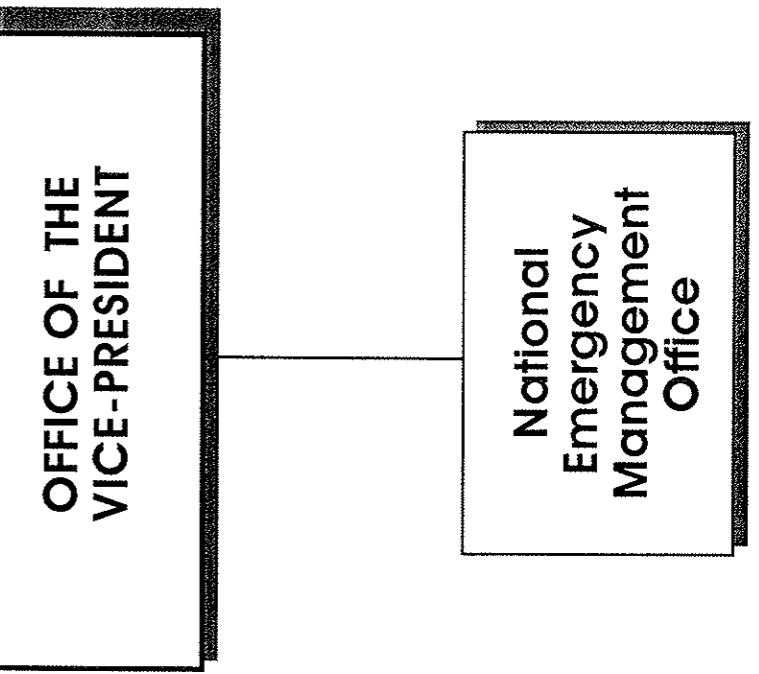
13.2.3 OFFICE OF OMBUDSMAN

The Office of an Ombudsman is to assist individuals with grievances regarding services, programs or activities of the Government. The Ombudsman shall have no decision making authority, but is empowered to have inquiry and mediation functions. The Office of an Ombudsman shall be headed by an Ombudsman Officer who, with the assistance of staff, shall be responsible for the following duties and functions:

- i) To receive regarding services, programs and activities provided by the Government and its agencies;
- ii) To review the merit(s) of each grievance and promptly seek to resolve and assist in the resolutions of said grievances;
- iii) To provide reports to the President with recommendations for improvement of government services;
- iv) To arrange and refer individuals with grievances to appropriate agencies as Ministries, Bureaus, programs and/or activities for speedier resolution; and
- v) To perform additional duties and responsibilities as established.

Figure 13.3

**OFFICE OF THE VICE-PRESIDENT
ORGANIZATIONAL STRUCTURE**



13.3 OFFICE OF THE VICE PRESIDENT: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.3.1 NATIONAL EMERGENCY OFFICE

Refer Executive Order No. 98.

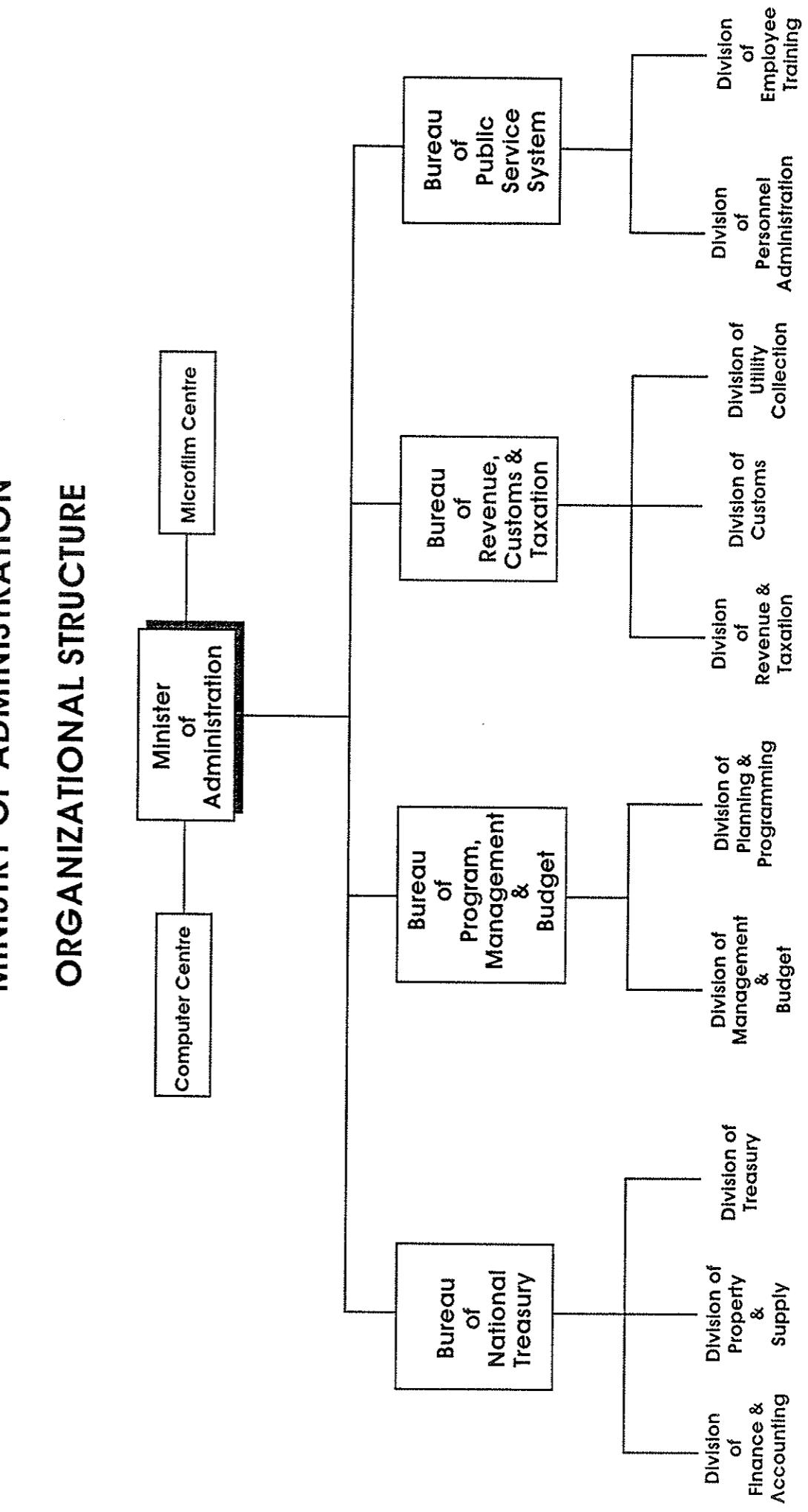


Figure 13.

13.4 MINISTRY OF ADMINISTRATION: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.4.1 BUREAU OF NATIONAL TREASURY

The Bureau of the National Treasury shall be headed by a director who, with the assistance of staff, shall be responsible for the day-to-day management of programs and activities involving the receipt, custody and disbursement of funds; the acquisition, accountability and control of properties; and general daily operations of the National Treasury. The director, with the assistance of staff, shall comply with and enforce appropriate sections of Title 40 of the Palau National Code. The director shall, with the assistance of staff, be responsible for the performance of the duties and responsibilities of the following divisions.

(a) *Division of Finance and Accounting*

Refer Executive Order No. 98.

(b) *Division of Property and Supply*

Refer Executive Order No. 98.

(c) *Division of Treasury*

The Division of Treasury shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Final receiver of all cash receipts under the Bureau of National Treasury's responsibilities, issues cash receipt forms for all such moneys received;
- ii) Maintaining all of the National government's bank checking and savings accounts under the centralized financial management system;
- iii) Being responsible for disbursement, which is the printing and distribution of all checks, including payroll; and
- iv) Being responsible for cash management, including maintaining daily records of bank account balances and making determinations of the priority of bills to be paid.

13.4.2 BUREAU OF PROGRAM, MANAGEMENT AND BUDGET

(a) *Division of Management and Budget*

Refer Executive Order No. 98

(b) *Division of Planning and Programming*

Refer Executive Order No. 98.

13.4.3 BUREAU OF REVENUE, CUSTOMS AND TAXATION

The Bureau of Revenue, Customs and Taxation shall be headed by a director who, with the assistance of staff, shall be responsible for the day-to-day management of programs and activities involving imposition of customs and duties; assessment and collection of taxes; promulgation and enforcement of tax laws and regulations; collection and compilation of trade data and statistics; and administration of utility billings and collections. The director shall, with the assistance of staff, be responsible for the performance of the duties and functions of the following divisions.

(a) *Division of Revenue and Taxation*

The Division of Revenue and Taxation shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Inspecting books and accounts of local businesses for purposes of tax assessment;
- ii) Processing individual and business tax returns;
- iii) Assisting taxpayers in maintaining compliance with the tax laws;
- iv) Collecting income and gross receipts taxes and other revenues authorized by the laws of the Republic; and
- v) Enforcing Chapters 10 through 19 of Title 40 of the Palau National Code.

(b) *Division of Customs*

The Division of Customs shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Inspecting and processing all luggage, cargo and any and all other freight entering the Republic of Palau through the Palau International Airport, the Malakal Dock, the post office and any other point of entry, for dutiable items subject to import tax and collecting said tax;
- ii) Inspecting and reviewing bills of lading, manifests and vendors' invoices for merchandise covering all merchandise arriving on any vessel or aircraft and issuing Entry Certificates to importers;
- iii) Ensuring that all cargo is retained at the place of unloading until the import tax has been paid;
- iv) Inspecting and processing the documents of all travelers and collecting the traveler's head tax (departure tax) at ports of exit within the Republic of Palau in accordance with 40 PNC 1403; and

- v) Assisting with enforcement of Chapter 13 of Title 40 of the Palau National Code
- (c) *Division of Utility Collection*

The Division of Utility Collection shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

 - i) Conducting monthly readings of electric and water utility meters of all public utility customers;
 - ii) Keeping up-to-date records and conducting ongoing reviews of each individual customer account for billings, payments and delinquencies;
 - iii) Keeping track of all delinquent accounts and reviewing overdue installment payments and taking necessary actions to receive payments and/or terminate services;
 - iv) Installing, testing, repairing or replacing any malfunctioning electrical or water meters, in coordination with the Bureau of Public Works, whenever requested and required; and
 - v) Enforcing the Utilities Rules and Regulations (many of which are related to items i through iv above).

13.4.4 BUREAU OF PUBLIC SERVICE SYSTEM

- (a) *Division of Personnel Administration*
- (b) *Division of Employee Training*

13.4.5 COMPUTER CENTER AND MICROFILM CENTER

Established within office of the Minister, the Computer Center and Microfilm Center shall be headed by a manager(s) who, with the assistance of staff, shall perform the following duties and functions.

- i) Assisting various central (mainframe) computer program users in maintaining their records and issuing reports and other documents;
- ii) Developing and enhancing computer software to meet new needs for new programs and updating/upgrading existing programs to better meet the needs of Computer Center users;
- iii) Maintaining all computer hardware within the Ministry of Administration and determining the need to replace obsolete or end-of-useful life equipment;
- iv) Providing technical assistance to users of computers outside of the central (mainframe) computer system in selecting, ordering/bidding, installing, modifying and otherwise improving their computer programs;
- v) Microfilming Ministry of Administration documents related to finances, properties, taxes, personnel and other vital areas to be retained for specific periods (generally more than one year) or indefinitely, as determined by the Minister; and
- vi) Maintaining a systematic log of documents that have been microfilmed for quick retrieval and avoidance of duplication and maintaining a schedule of priorities of order of microfilming to be accomplished.

Division of
Public
Affairs

Division of
Technical
Assistance

Division of
Foreign
Affairs

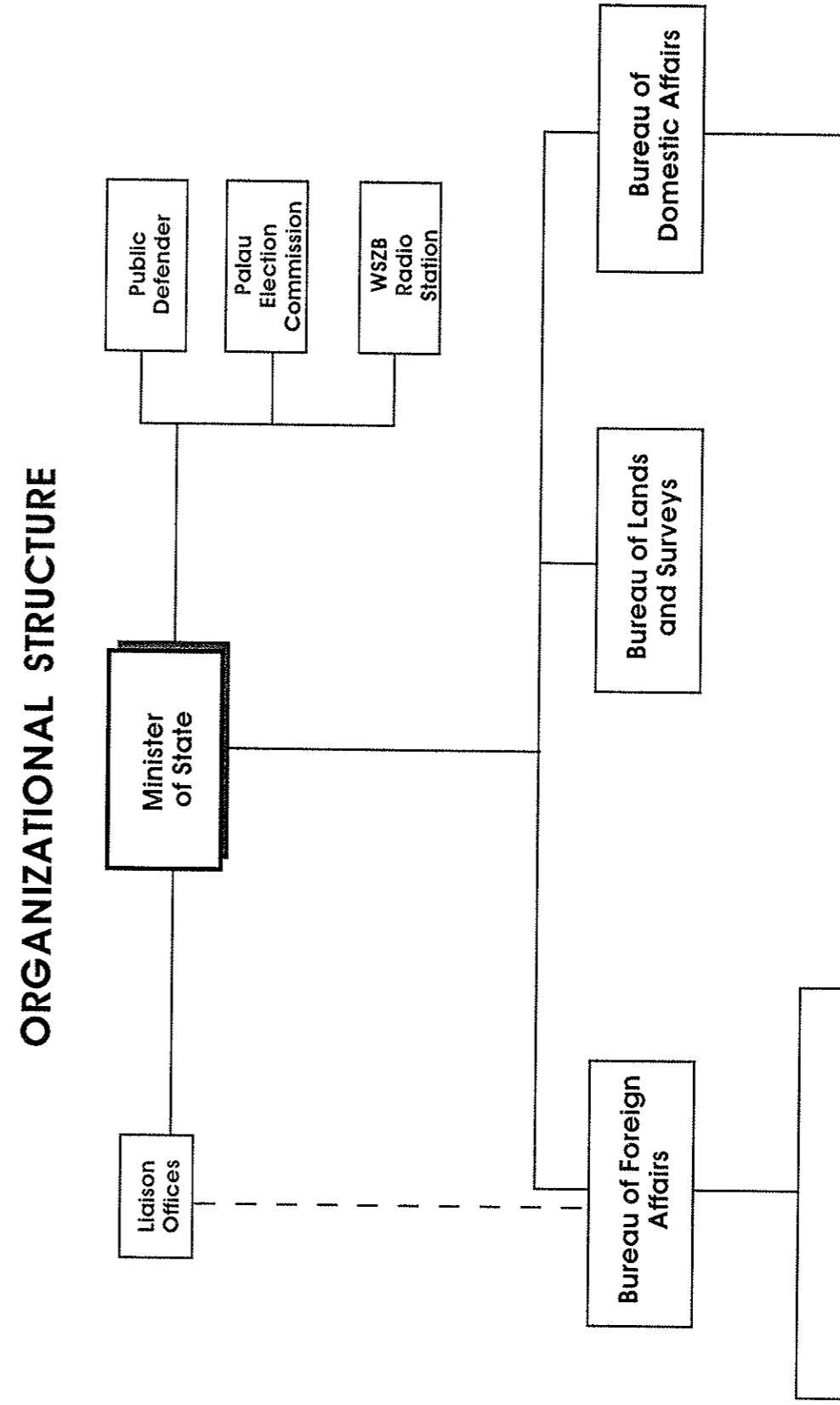


Figure 13.5

MINISTRY OF STATE ORGANIZATIONAL STRUCTURE

13.5 MINISTRY OF STATE: FUNCTIONAL STATEMENT

13.5.1 BUREAU OF FOREIGN AFFAIRS

Refer Executive Order No. 98.

(a) *Division of Foreign Affairs*

Refer Executive Order No. 98

(b) *Division of Technical Assistance*

Refer Executive Order No. 98.

13.5.2 BUREAU OF LANDS AND SURVEYS

The Bureau of Lands and Surveys shall be headed by a director who, with the assistance of staff, shall be responsible for the following duties and functions.

- i) Surveying land, mapping, providing title services and other technical assistance to the Palau National Land Commission and its land registration offices in the Commission's function with respect to land title adjudication and determination (RPPL No. 2-18).
- ii) Surveying land, mapping, providing title services and such other technical assistance in cooperation with Palau Public Lands Authority on the matter of the return of public lands; and
- iii) Surveying land, mapping, providing title services as may be required by both the national and state governments and their agencies, including implementation of Section 7 of Article XIII of the Constitution if and when it becomes necessary for the national government or a state government to exercise its eminent domain power therein conferred.

13.5.3 BUREAU OF DOMESTIC AFFAIRS

Refer Executive Order No. 98 — Division of Lands and Surveys deleted.

(a) *Division of Public Affairs*

Refer Executive Order No. 98

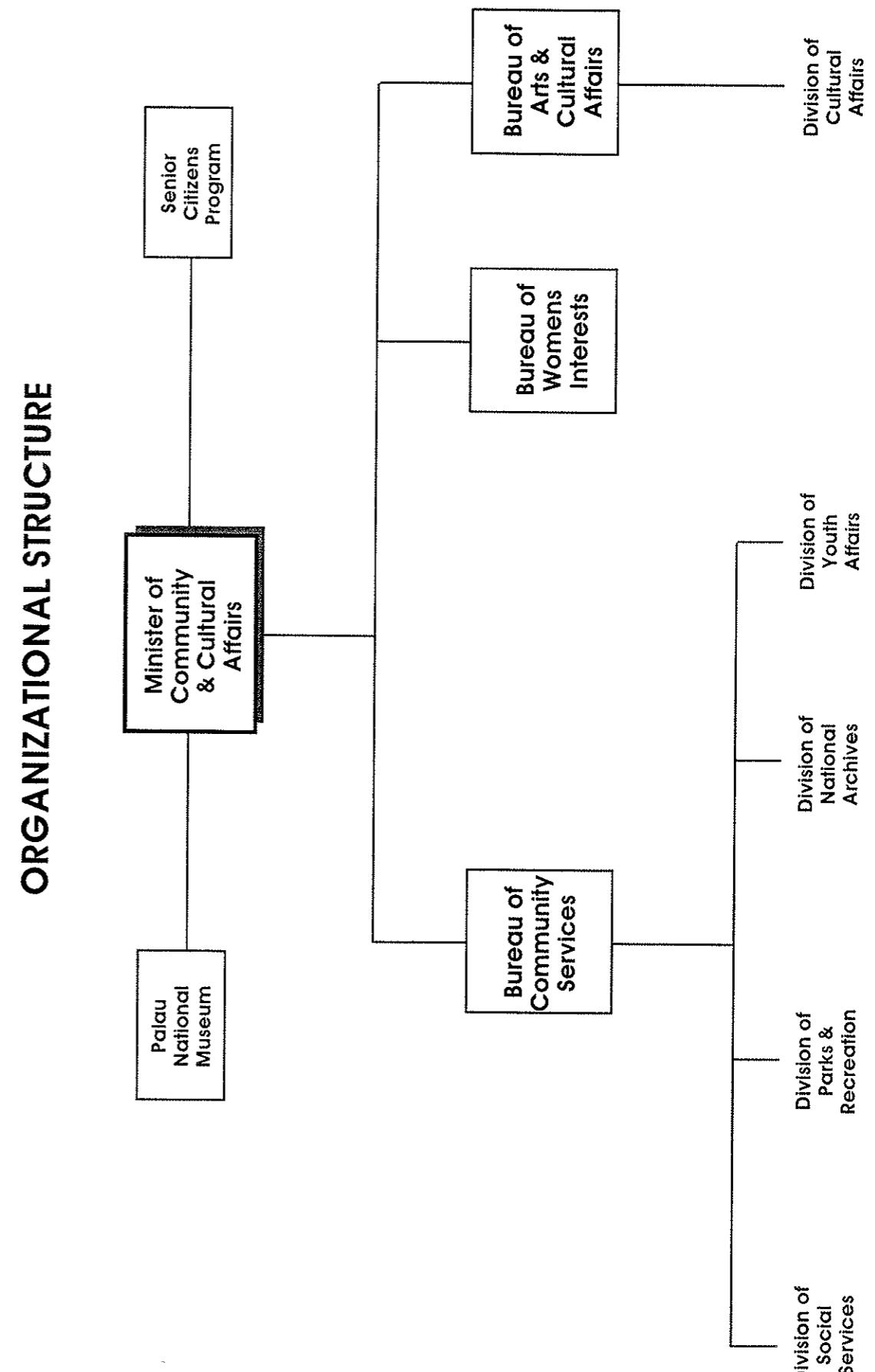


Figure 13.6

13.6 MINISTRY OF COMMUNITY AND CULTURAL AFFAIRS: FUNCTIONAL STATEMENT

Refer Executive Order 98

13.6.1 BUREAU OF COMMUNITY SERVICES

(a) Division of Social Services

The Division of Social Services shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Surveying, identifying and assessing current or potential social problems in the Republic, determining their causes and developing and implementing remedial programs;
- ii) Developing and promoting social rehabilitation programs in cooperation with civic organizations and other government agencies;
- iii) Developing and promoting other programs which will enhance the standard of living of Palauans; and
- iv) Providing programs and activities for the aged in cooperation with state Units on Aging;

(b) Division of Parks and Recreation

The Division of Parks and Recreation shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Identifying and designating, in consultation with the States, certain locations within the Republic as national parks;
- ii) Developing and maintaining public parks and recreational facilities;
- iii) Developing, coordinating and promoting recreational programs and activities for the general public; and
- iv) Assisting, wherever possible, all existing public and private institutions, organizations, associations and agencies in the Republic which are involved in recreational activities and programs.

(c) Division of National Archives.

The Division of National Archives shall be headed by a chief who, with the assistance of staff, shall administer and implement the provisions of RPPL No.3-38.

(d) Division of Youth Affairs

The Division of Youth Affairs shall be headed by a chief who, with the assistance of staff, shall be responsible for providing, coordinating and supporting national, regional and international sports events and recreational activities as well as organizing and coordinating youth fairs or other national festivities involving youth and shall perform the following duties and functions.

- i) Identifying the needs of youth and developing, coordinating and implementing youth programs to meet those needs;
- ii) Identifying problems facing Palau's youth, such as unemployment, substance abuse and poor school attendance, and developing policies and programs to address such problems; and
- iii) Organizing, coordinating and publicizing youth activities including sports and entertainment, national celebrations, and community improvement projects.

13.6.2 BUREAU OF ARTS AND CULTURAL AFFAIRS

The Bureau of Arts and Cultural Affairs shall be headed by a director who, with the assistance of staff, shall coordinate projects and programs and activities with those of the Belau National Museum and shall be responsible for the implementation of Title 19 of the Palau National Code Sections 101-183, the "Historical and Cultural Preservation Act".

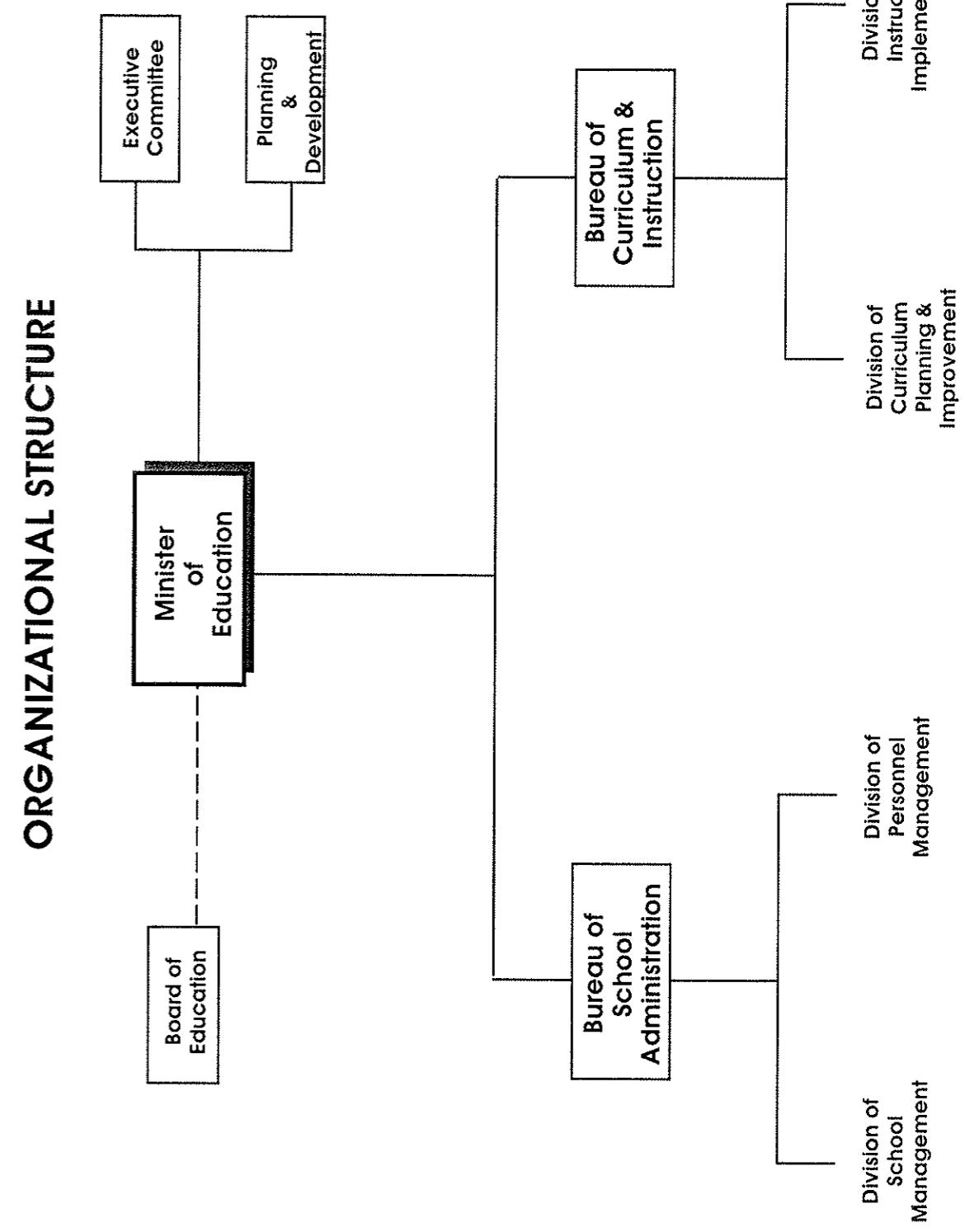
13.6.3 BUREAU OF WOMEN'S INTERESTS

The Bureau of Women's Interests shall be headed by a director who, with the assistance of an administrative officer, researcher/clerk, social worker/counselor and such other staff as may be necessary, shall be responsible for the supervision and the performance of the following duties and functions.

- i) Developing, formulating, identifying and establishing short-term and long-term goals, objectives and guidelines for women's concerns, activities and programs;
- ii) Planning, evaluating, monitoring and implementing specific and appropriate programs, projects and activities to meet the economic, educational, health and political needs and requirements of women in Palau;
- iii) Coordinating networking relationships with international or regional women's organizations, groups or individuals and establishing bilateral contacts with women's associations in foreign nations;
- iv) Facilitating the process of community awareness and education of any identifiable audience or target group in relation to women's role in society and other related family issues;
- v) Conducting, on a regular basis, women's related needs assessment surveys, recording and compiling findings regarding same and making recommendations for appropriate action based on the information received;
- vi) Creating a database on women's informational services, activities and organizations, either outside or inside Palau, including traditional and non-traditional organizations, associations or groups;
- vii) Being responsible for proposal writing, project formulation, and report writing for grant aids or funding assistance available to women's programs, projects or activities;
- viii) Collecting, disseminating and otherwise providing relevant and timely information about women's interests or newsworthy items in the Palauan and English languages through a newsletter, radio programs or other types of Media;
- ix) Developing, promoting and advancing educational programs and activities and general awareness relating to child and spousal abuse and neglect; and

- x) Assisting in developing a 24-hour networking system for reporting, identifying or otherwise making known to proper authorities incidences of spousal or child abuse and neglect while protecting the identities of the privacy of the victims.

Figure 13.7



13.7 MINISTRY OF EDUCATION: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.7.1 BUREAU OF SCHOOL ADMINISTRATION

The Bureau of School Administration shall be headed by a Director who is directly responsible to the Minister of Education. The director is primarily responsible for the operation and management of public school programs (K-12) and administrative services including, among others, facility improvement; transportation and logistics; media; public libraries; food service program; vocational rehabilitation program; budget preparation and expenditures; procurement of supplies, equipment and materials; inventory of the education system and chartering of non-public schools. This responsibility will be carried out through close collaboration with the Director of the Bureau of Curriculum and Instruction and which entails continued program planning and improvement of schools. The Director is also responsible for all personnel related matters including staff development and certification.

(a) Division of School Management

The division of School Management shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Day to day supervision and management of public school programs;
- ii) Maintain and improve education system facilities;
- iii) Maintain and repair all vehicles and boats used in providing education programs and services;
- iv) Disseminate information on education programs and services;
- v) Maintain and improve the public libraries;
- vi) Improve and expand vocational rehabilitation programs and services;
- vii) Prepare the education budget and monitors its expenditure;
- viii) Provide inventory annually for all non-exhaustible equipment;
- ix) Issue charters for non-public schools upon meeting standards; and
- x) Issue certificates.

(b) Division of Personnel Management

The Division of Personnel shall be headed by a chief who, with the assistance of staff, shall be responsible for the following duties and functions.

- i) Request for classifications of new positions for the education system and recruit personnel for vacant and newly established positions;
- ii) Establish and maintain good working relations between all activities in the education system and between all activities in the education system and between education system and other agencies of the National Government;

- iii) Seek and establish benefits to all personnel in the education system;
- iv) Evaluate performances of all personnel and, where weaknesses identified, initiate development training to strengthen the weaknesses;
- v) Issues teaching certificates to all classroom teachers and provide training for those who do not meet certification criteria;
- vi) Maintain and manage a centralized personnel record and filing system; and
- vii) Establish and maintain student assistance program.

13.7.2 BUREAU OF CURRICULUM AND INSTRUCTION

The Bureau of Curriculum and Instruction shall be headed by a director who is directly responsible to the Minister of Education. The primary responsibility of the director is to provide public school system with services that will help increase the capacity of elementary and secondary schools to meet educational needs of children of the Republic of Palau. This responsibility will be carried out through close collaboration with the Director of the Bureau of School Administration and with direct reporting responsibility to the Minister of Education. The responsibility entails continued program planning and research for effective methods and strategies for improving curriculum and instruction; development of programs that will support school improvement; continued effort to seek federal funding assistance to enhance curriculum and instruction, to supplement instructional materials, and to improve staff development and training. The Director is also responsible for the supervision and management of the special education, adult education and community education programs.

(a) *Division of Curriculum Planning and Improvement*

The Division of Curriculum Planning and Improvement shall be headed by a chief who, with the assistance of staff, shall be responsible for the following duties and functions.

- i) Develop appropriate curricula for all public pre-schools, elementary schools and secondary schools programs;
- ii) Establish and carry-out assessment process for both teachers and students of public schools;
- iii) Provide training to teachers to improve teaching skills;
- iv) Seek to supplement existing programs through other source of funding; and
- v) Responsible for educational research and development.

(b) *Division of Instruction Implementation*

The Division of Instruction Implementation shall be headed by a chief who, with the assistance of a staff, shall be responsible for the following duties and functions.

- i) Implement instructional programs at all school levels in close collaboration with the Division of School Management;
- ii) Develop and evaluate for adoption instructional materials for implementation in school curricula in all levels of education system;
- iii) Assess and evaluate validity of curricula and recommend changes when appropriate;

- iv) Recommend minimum qualifications and requirements for teachers of pre-schoolers, elementary and secondary schools; and
- v) Recommend appropriate training needs for teachers of all public institutions.

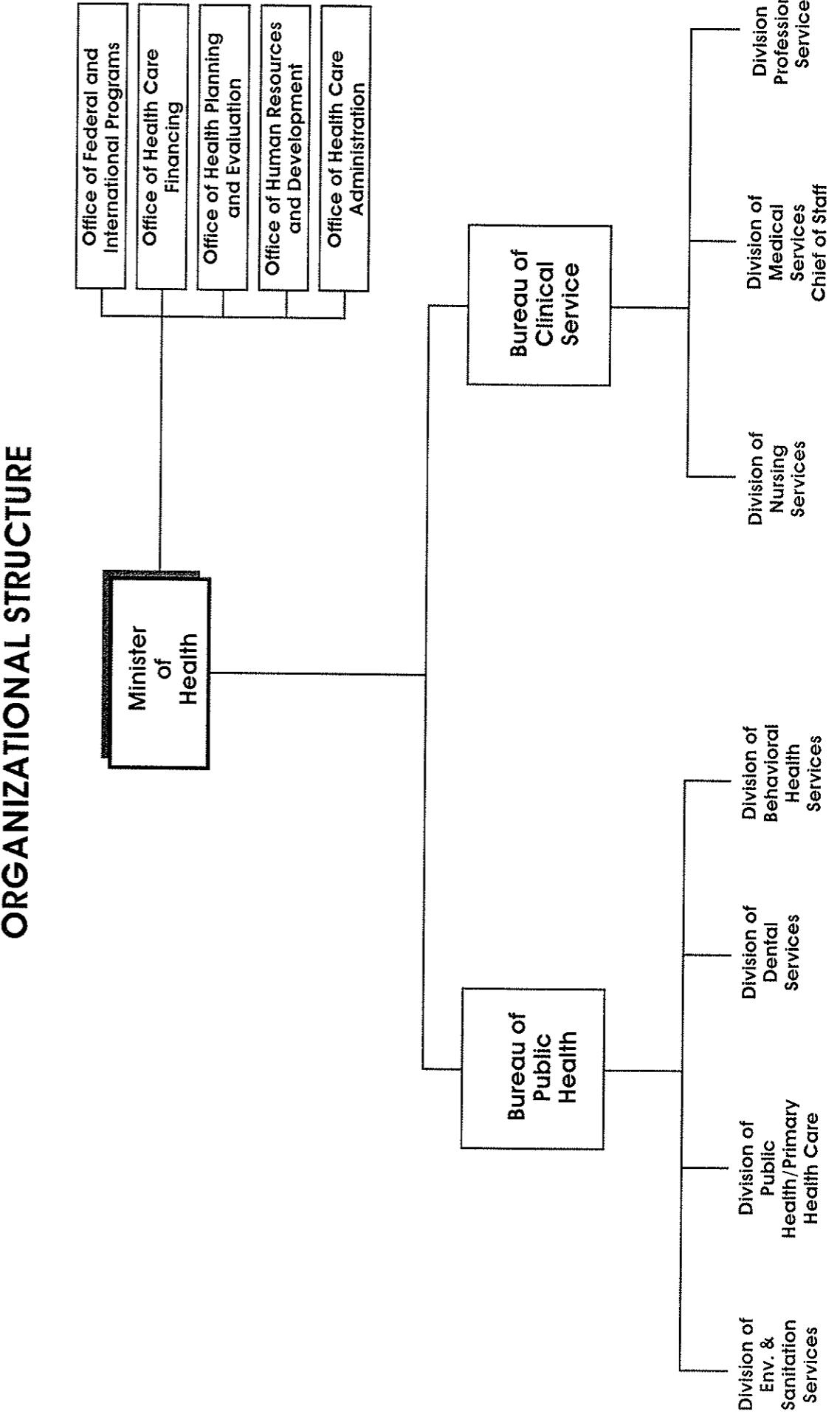


Figure 13.8

13.8 MINISTRY OF HEALTH: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.8.1 BUREAU OF CLINICAL SERVICES

(a) Division of Nursing Services

As mandated under Executive Order No. 98, the following change will be made. Except for this change, all other responsibilities will remain as they are currently structured:

- i) Responsible for providing clinical nursing services in clinical and public health services.

(b) Division of Medical Services

The Division of Medical Services will be headed by a physician who will be called the "Chief of Staff". This division will oversee all physician staffing and activities as mandated under Executive Order No. 98.

(c) Division of Professional Services

The Division of Professional Services will be headed by a chief (physician) who will be responsible for overseeing all areas of responsibilities of the following diagnostic and patient care services.

- 1) Laboratory;
- 2) Radiology;
- 3) Rehabilitation Services (Physical Therapy); and
- 4) Hemodialysis Services.

13.8.2 BUREAU OF PUBLIC HEALTH

(a) Division of Environmental and Sanitation Services

Refer Executive Order No. 98.

(b) Division of Public Health/Primary Health Care

Refer Executive Order No. 98.

Section II (b) (x) — the following responsibilities are deleted: laboratory, x-ray and emergency room.

(c) Division of Dental Services

Refer Executive Order No. 98.

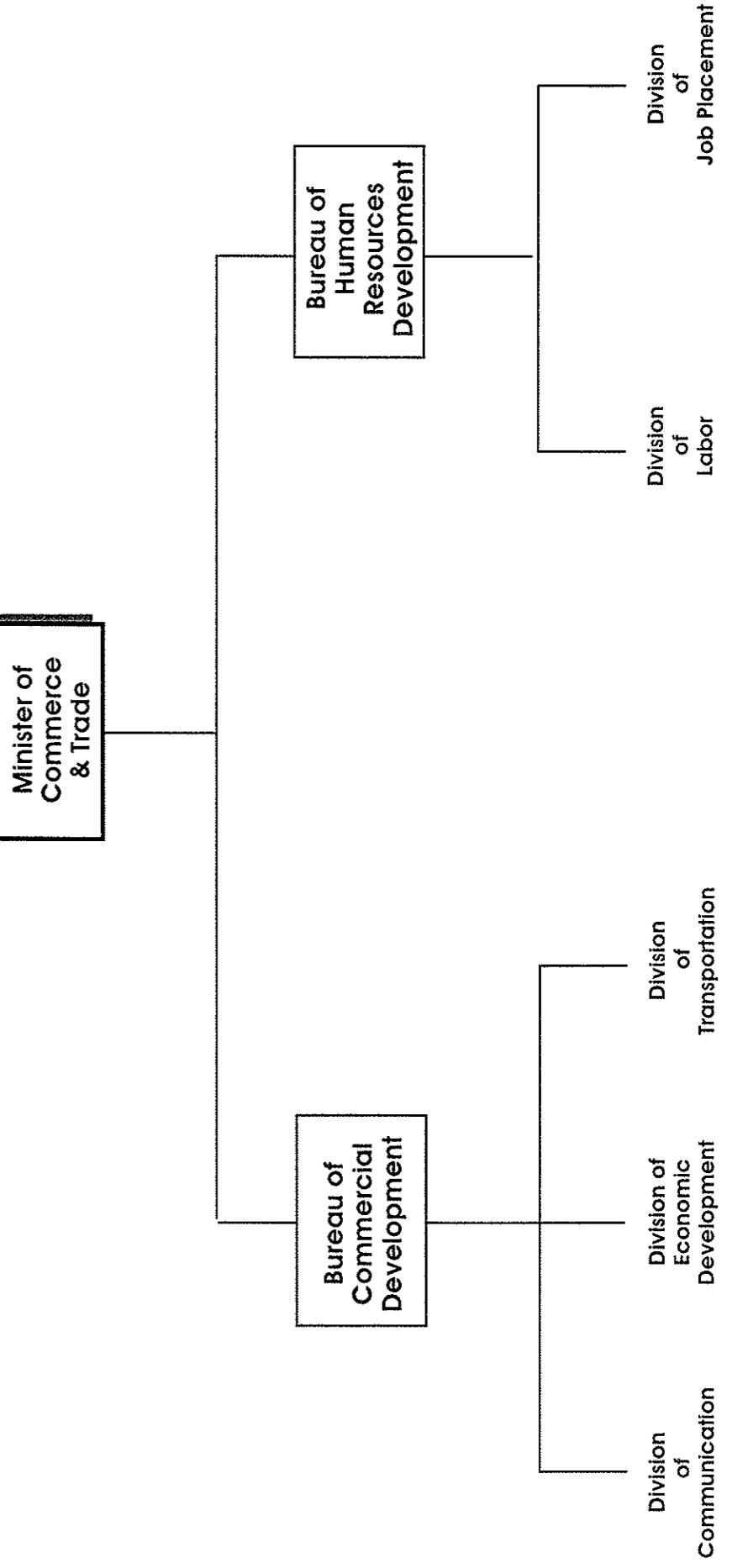
(d) Division of Behavioral Health Services

- 1) Providing all services relating to mental illness and behavioral problems.
- 2) Rehabilitation/Investigations/Therapeutic programs relating to child abuse and domestic violence.

- 3) Substance Abuse programs dealing with alcohol and all substances of abuse.
- 4) Consultation and Preventive Health Education services.

Figure 13.9

**MINISTRY OF COMMERCE & TRADE
ORGANIZATIONAL STRUCTURE**



13.9 MINISTRY OF COMMERCE AND TRADE: FUNCTIONAL STATEMENT

Refer Executive Order No. 98.

13.9.1 BUREAU OF COMMERCIAL DEVELOPMENT

The Bureau of Commercial Development shall be headed by a director who, with the assistance of staff, shall be responsible for providing technical assistance to aid in the development of domestic industry including, but not limited to, cooperatives, credit unions and the improvement of land, sea and long-range air transportation system. The director, with the assistance of staff, shall also be responsible for the collection and compilation of trade and commercial statistics. The director, with the assistance of staff, shall be responsible for the performance of the duties and functions of the division under the Bureau.

(a) Division of Communication

The Division of Communication shall be headed by a chief who, with assistance of staff, shall be responsible for the following duties and functions.

- i) To promulgate rules and regulations regarding the use of radios for general communication purposes.
- ii) To regulate and license the use of radio frequencies including frequencies for emergency use.
- iii) Work closely with other agencies to coordinate matters regarding communications.

(b) Division of Economic Development

The Division of Economic Development shall be headed by a chief who, with the assistance of staff, shall be responsible for the development and growth of domestic industry including, but not limited to, cooperatives, credit unions and the improvement of land, sea and long-range air transportation systems. The chief shall also collect and compile trade commercial statistics.

(c) Division of Transportation

The Division of Transportation shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Promulgate rules and regulations regulating the use of commercial ports in the Republic.
- ii) Work closely with Water Safety Board in the implementation of existing rules and regulations on water transportation safety.
- iii) Work closely with Bureau of Public Safety regarding vehicular safety in order to achieve an effective transportation system.
- iv) Work to promote road safety and to promote the safe use of vehicular transports.

13.9.2 BUREAU OF HUMAN RESOURCES DEVELOPMENT

The Bureau of Human Resources Development shall be headed by a director who, with the assistance of staff, shall be responsible for the effective utilization of human resources, including citizens and non-citizens, within the Republic.

(a) Division of Labor

The Division of Labor shall be headed by a chief who, with the assistance of staff shall be responsible for the implementation of Title 30 of the Palau National Code.

(b) Division of Job Placement

The Division of Job Placement shall be headed by a chief who, with the assistance of staff, shall perform the following duties and functions.

- i) Analyzing and identifying the human resources needs of the private sector and in coordination with the Division of Labor, ensuring that the public, specifically unemployed Palauan citizens, is informed of such job opportunities; and
- ii) Providing counseling regarding job placement and assisting in the organization and preparation of appropriate job placement documents including, but not limited to, job applications, school transcripts, résumés, references and skills certification.

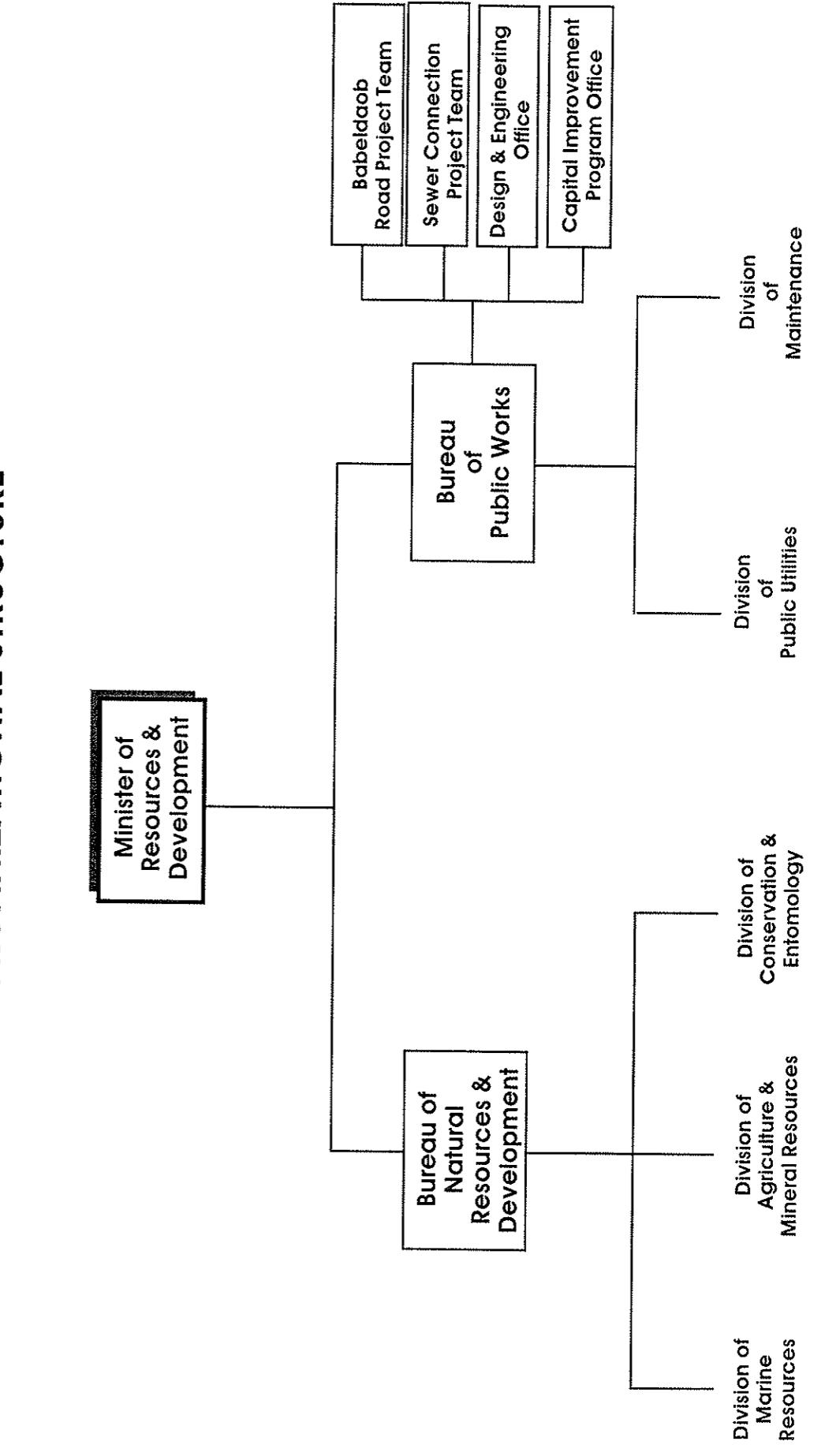


Figure 13.10

**13.10 MINISTRY OF RESOURCES AND DEVELOPMENT:
FUNCTIONAL STATEMENT**

Refer Executive Order No. 98.

13.10.1 BUREAU OF NATURAL RESOURCES AND DEVELOPMENT

(a) *Division of Marine Resources*

The Division of Marine Resources shall be headed by a chief who, with the assistance of staff, shall be responsible for the following duties and functions.

- i) Conducting a pilot program on fishery development projects with the aim of promoting and developing commercialization of fisheries and fishery products;
- ii) Maintaining and operating the Micronesian Mariculture Demonstration Center as a site for marine biological research, study and experimentation of mariculture and aquaculture fisheries;
- iii) Conducting, hatching and rearing of certain species of fish, mollusks, crustaceans and turtles to be placed back into their natural habitats at maturity as a means of preventing the depletion of these important marine resources;
- iv) Assessing and evaluating the commercial potential of reef and deep water fish, baitfish, mollusks, crustaceans, turtles, and other marine and aquatic life from catch records, census and quantitative field measurements;
- v) Formulating, establishing and implementing guidelines and conservation measures to safeguard against over exploitation and over harvesting of fish and other marine resources;
- vi) Providing technical assistance and advisory services to local fishing cooperatives in the purchasing, handling and marketing of fish and other marine products both locally and outside of the Republic of Palau; and
- vii) Providing staff support and administrative assistance to the Board of Directors of the Palau Fishing Authority upon request and on the basis of staff availability.

(b) *Division of Agriculture and Mineral Resources*

Refer Executive Order No. 98.

(c) *Division of Conservation and Entomology*

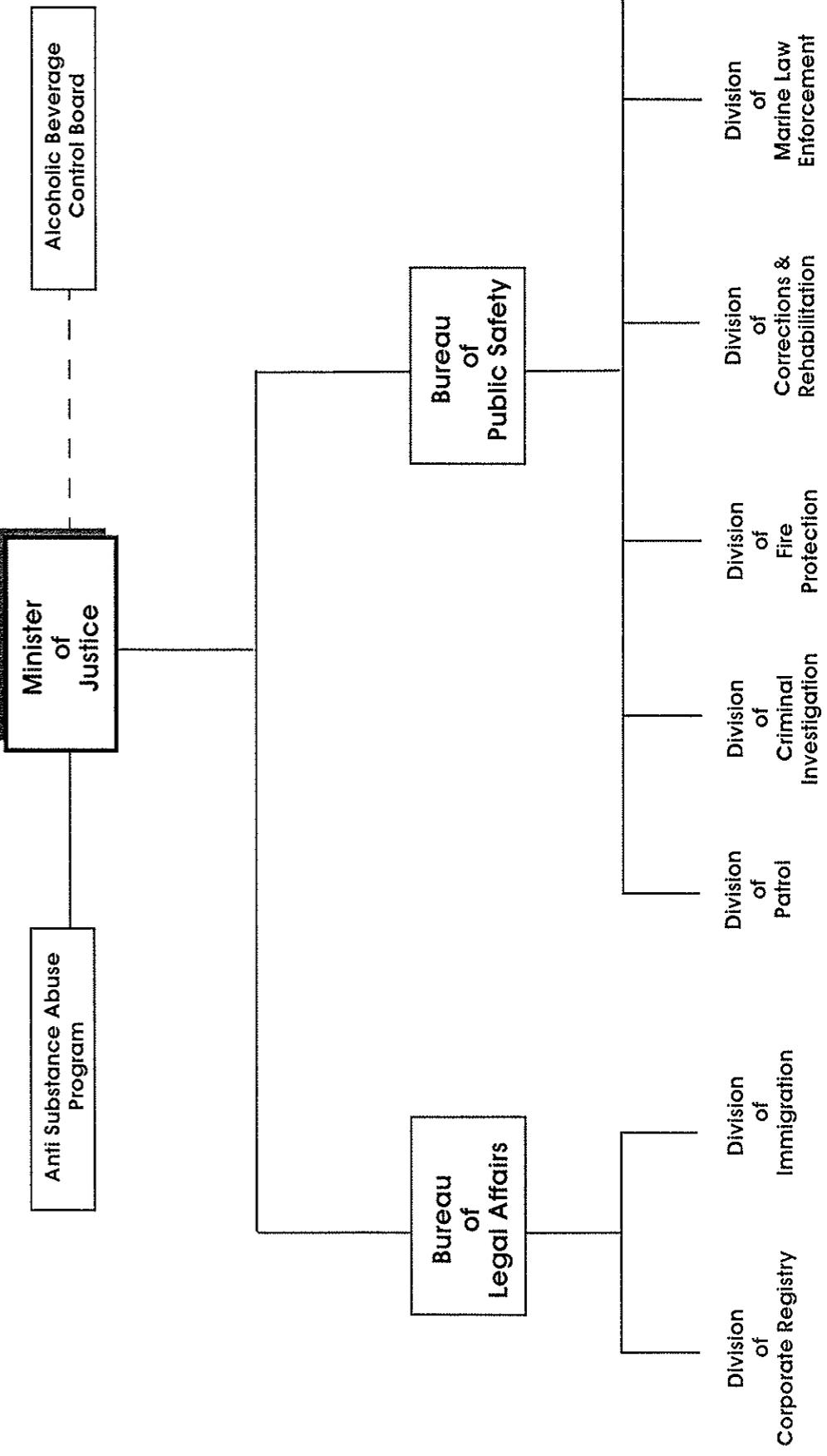
The Division of Conservation and Entomology shall be headed by a chief who, with the assistance of staff, shall be responsible for the following duties and functions.

- i) Preparing plans and directions for the Republic of Palau's conservation program which shall involve soil, water, archaeological remains, flora, fauna and other natural resources;
- ii) Preparing plans and directions for the Republic of Palau's entomological program which shall involve insects, pests, weeds and control measures for same;

- iii) Providing technical assistance and guidance to the three branches of the national government, state governments, and the appropriate agencies in matters relating to conservation, including establishment of a national scheme for the enforcement of conservation laws and regulations;
- iv) Providing technical assistance and guidance to the Division of Agriculture and Mineral Resources, state governments, other governmental agencies, or private agriculture projects on programs relating to entomology;
- v) Establishing and maintaining contacts with entomologists and other scientists and conservation-oriented national, regional or international organizations which can be of aid in solving conservation and entomological problems and needs in the Republic of Palau;
- vi) Developing and organizing education programs on the principles, objectives and practices of conservation and entomology for schools, museums, other government agencies or locally established groups and organizations.
- vii) Coordinating entomological works with the Division of Agriculture and Mineral Resources and other governmental agencies dealing with entomology and related pest control problems, including amendments to, or enforcement of, Plant and Quarantine rules and regulations of the Republic; and
- viii) Performing such other duties, functions or responsibilities as may from time to time be assigned by the Bureau Director or the Minister of Resources and Development.

Figure 13.11

MINISTRY OF JUSTICE ORGANIZATIONAL STRUCTURE



13.11 MINISTRY OF JUSTICE: FUNCTIONAL STATEMENT

13.11.1 BUREAU OF LEGAL AFFAIRS

Refer Executive Order No. 98.

(a) *Division of Corporate Registry*

Refer Executive Order No. 98.

(b) *Division of Immigration*

Refer Executive Order No. 98.

13.11.2 BUREAU OF PUBLIC SAFETY

(a) *Division of Patrol*

The Division of Patrol shall be headed by a chief who, with the assistance of police officers and staff, shall perform the following duties and functions.

- i) Providing mobile land and air police services; preventing crime; controlling traffic; providing protection at public service functions; enforcing all laws; serving criminal process; and performing other duties that may be assigned;
- ii) Providing manpower needed in case of fires and operating emergency ambulance services;
- iii) Conducting investigations of traffic and misdemeanor offenses; and
- iv) Providing patrol service throughout Koror State and other states as appropriate.

(b) *Division of Criminal Investigation*

Refer Executive Order No. 98.

(c) *Division of Fire Protection*

Refer Executive Order No. 98.

(d) *Division of Corrections and Rehabilitation*

Refer Executive Order No. 98.

(e) *Division of Marine Law Enforcement*

The Division of Marine Law Enforcement shall be headed by a chief who, with the assistance of staff, shall be responsible for marine surveillance of the Republic's territorial waters and its 200-mile Exclusive Economic Zone (EEZ) and the enforcement of laws and regulations related thereto including, but not

limited to, laws and regulations regarding fishing, environmental protection and illicit narcotics trafficking. The chief shall coordinate his activities with other appropriate agencies of the government.

(f) *Division of Drug Enforcement*

The Division of Drug Enforcement shall be headed by a chief who, with the assistance of staff, shall be responsible for enforcing all laws related to illicit drugs including the cultivation, distribution, transport and sale or use of same as well as all laws related to the purchase and consumption of alcoholic beverages. The chief shall coordinate his activities with other divisions of the Bureau of Public Safety and other appropriate agencies of the government. The Division of Drug Enforcement shall be under the direct supervision of, and shall report to, the Minister of Justice and in the Minister's absence to the President of the Republic of Palau.

13.3 PUBLIC SECTOR REFORM PROCESSES

The structure and functions of Ministries which have been outlined in the previous sections of this Chapter will inevitably change over time as the process of taking on additional activities consistent with the needs of government of an independent country occurs.

The President has both the discretion and the prerogative to restructure the Executive Branch from time to time, as needed, through established procedures. The process of making any changes in the Executive Branch should be gradual having regard for the changes in functions that occur within Ministries, brought about by those recommendations in the Master Plan which are implemented, and other changes in the functions undertaken by Ministries that may occur.

Consideration of those functions that are outlined in Executive Order 116 and its addenda, and the earlier Executive Order 98 could be undertaken as part of a strategic planning process conducted by each Ministry. A strategic planning process should attempt to formalize individual Ministries' goals and strategies consistent with the Government's announced economic and social priorities, and seek to define outputs and performance measures which could indicate achievement of those goals and strategies.

From each Ministry's strategic plan should flow human resource development plans identifying the numbers and skill base of staff required to achieve agreed goals and strategies. Prioritized programs could also developed to frame an implementation plan supporting a Ministry's strategic plan, such prioritized programs could also be utilized in the formulation of annual budget estimates, and forward estimates for medium term planning activities (typically over a 3 to 5 year period).

In other Chapters of the Master Plan reference is made to the potential for duplication of functions, and the lack of clarity regarding different roles and responsibilities which may result in some essential functions not being undertaken. Furthermore, some Ministry functions may remain unfulfilled because of lack of adequate resources, either in terms of numbers of employees, staff with appropriate skills and experience, operating budgets, capital equipment or appropriate infrastructure. Additionally, there are a number of instances where there are overlapping functions between State and National governments which could be addressed in a cooperative manner to ensure the most effective use of Palau's resources.

Key areas in which this may be the case are:

- management and monitoring of the environment; and
- management and monitoring the inshore and offshore marine resources.

The need to maintain certain administrative structures to meet requirements of some US Federal grant funding, or the Compact of Free Association also leads to lack of clarity of responsibilities, and in some instances potential for duplication between Ministries and the respective Boards or other entities established for the purpose of meeting US Government requirements. As some US Government recurrent grant funding is phased out, it will be essential for the government to review, on a regular basis, the need for such boards or other entities to continue in their present form.

Key areas in which this may be the case are:

- health;
- education;
- environment; and
- trust funds.

In some instances, the private sector and the community could play a greater role in a partnership with government to mobilize more resources toward a common goal. In such a small country as Palau, the ability to achieve this type of outcome will be essential to containing the cost to Palauans of achieving equitable and sustainable economic growth.

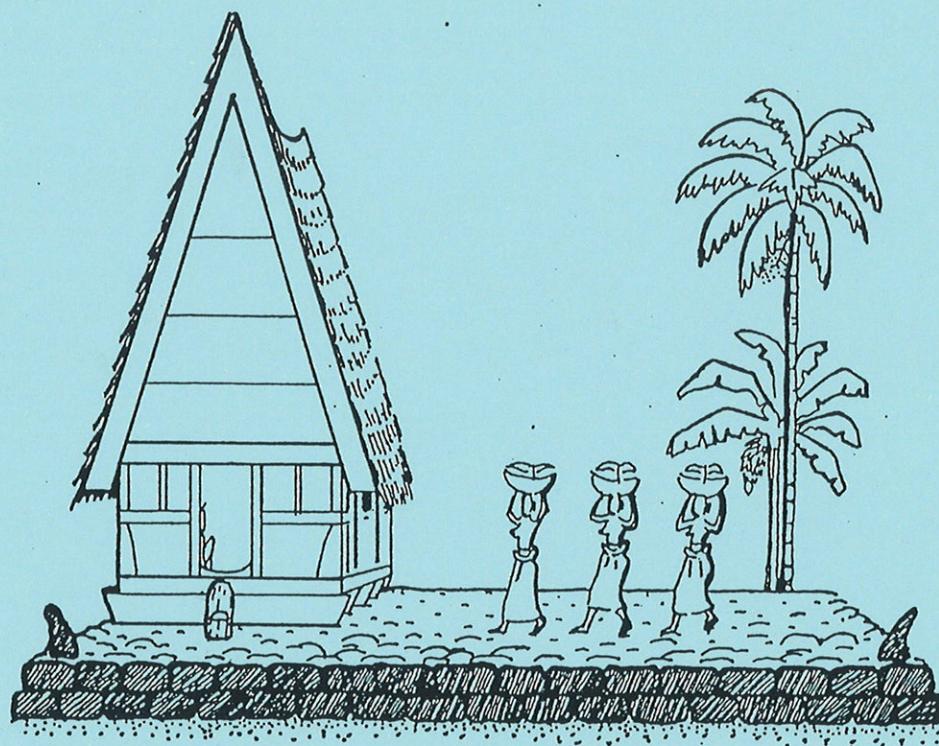
Key areas in which a partnership approach could be utilized are:

- health;
- education;
- environment;
- marine resources;
- tourism promotion; and
- business development/entrepreneurship.

Some form of privatization of certain government functions could be considered during any strategic planning process that might be undertaken by Ministries. The type of privatization strategy, its impact on employees, the costs and potential benefits for Palau must also be carefully considered. Any such strategy for a certain government function should take account of social as well as financial and economic costs and benefits, and be implemented in a phased manner over an appropriate period of time.

CHAPTER 14

HUMAN RESOURCE DEVELOPMENT



CHAPTER 14

HUMAN RESOURCE DEVELOPMENT

Without doubt, human resource development (HRD) is the key to sustained economic and social development. With much focus on Compact spending, concern over HRD has had relatively low priority, despite its budget significance. Access to good health care and post-secondary education in US institutions have downplayed the importance of HRD in Palau. Similarly, a relatively large civil service supported by US assistance has lessened the need for consideration of labor market issues. Independence, however has forced a reassessment of these issues and role of the Government in this respect. Given Palau's high income and quality of life expectations, these can only be sustained if Palau improves the use of its limited resources. To achieve this, Palau will need to develop its skill and education base and take a more comprehensive approach to labor market considerations. This chapter examines ways to enhance the development of human resources in Palau.

14.1 POPULATION AND THE LABOR MARKET

14.1.1 POPULATION TRENDS

In 1990 the population of Palau was 15,122 (1990 Census). Table 14.1 shows the growth in population on an annual basis between census years and estimates for the early 1990s. The table shows declining growth rates in the 1970s and an acceleration in the 1980s averaging around 2.3 per cent per annum. Foreign citizens in Palau have increased from around 11 per cent in the mid 1980s to over 20 per cent in the 1990s. The majority of foreign workers are from the Philippines (74 per cent in 1993), and Taiwan and China (10 per cent in 1993).

Table 14.1 Total Population for Selected Census Years

Census Year	Foreigners		Local		Total	
	No	% Change p.a.	No	% Change p.a.	No	% Change p.a.
1958					8,884	
1967					11,365	2.8
1970					12,015	1.9
1973					12,673	1.8
1980					12,116	-0.6
1986	1,528		12,244		13,772	2.2
1990	2,377	1.1	12,745	1.0	15,122	2.3
1991	3,142	32.2	12,862	1.0	16,004	5.9
1992	4,480	42.6	12,991	1.0	17,471	9.2
1993	4,006	-10.6	13,121	1.0	17,127	-2.0

Source: Various Census reports, Trust Territory reports, Annual Reports Division of Labor, Consultant's estimates.

Note: Growth of local population for 1990 - 93 period assumed to be the same as for the 1986-90 period.

Of the total population of 15,122 in 1990, 6,983 were female and 8,139 were male. However, this imbalance is predominantly accounted for by the dominance of males amongst the foreign worker group.

Females comprised 48.6 per cent of the Palauan population, whereas for foreign workers the proportion was 35.7 per cent (1990 Census).

The median age of the population has steadily increased and in 1990 was 25.7 years - relatively high compared with other developing countries, but around 8 years younger than the US. This mainly reflects a decline in the birth rate, which was around 22 per thousand in 1990, compared to 32-35 per thousand in the early 1970s. The decline is considered a consequence of the family planning program that was started in 1974, as well as increased out-migration of predominantly fertile age groups. The current total fertility rate of 2.8 children is one of the lowest in the Pacific. However, the low birth rate of foreign workers due to the female/male imbalance and their increasing numbers could also be a contributing factor to the rise in the overall median age of the population.

About 30 per cent of Palau's population in 1990 was less than 15 years old, down from about 40 per cent in 1980 and 45 per cent in 1973 (EDP, 1994). This compares with around 40 per cent for developing countries and 20 per cent for established market economies (World Development Report, 1993). This decline will impact on planning for health, education and training programs. However, the effect of large inflows of foreign workers will need to be accounted for given the lower requirement of these workers for educational expenditure, but similar level of demand for health expenditure. Census data should categorize local and foreign persons separately to enable more meaningful analysis.

Projections of a variety of demographic measures utilizing a program developed by the US Bureau of Census are presented in the EDP (1994).¹ The projections were based on the extrapolation of 1990 fertility, mortality and migration trends. If migration (Palauan and foreign) is excluded, fertility and mortality trends in 1990 produce an underlying population growth rate of 1.5 per cent. As the population changes over time, fertility and mortality also change, with the former expected to decrease slightly and the latter increase as the population ages. These trends indicate that births will increase to more than 500 per year, although the birth rate drops from 22 to 17 per thousand. Deaths increase to more than 320 per year with the crude death rate increasing from 7 to 11 per thousand.

Based on these trends, the projected annual population growth rate shown in EDP projections declines from 3.3 per cent in 1990 (15,122 persons) to 3.0 per cent in 1995 (17,679 persons), 2.6 per cent in 2000 (20,314 persons), and 1.5 per cent in 2020 (30,300 persons). These rates equate to an average annual growth rate of 2.3 per cent over the 30 year period. In terms of age distribution, in 1990 around 30 per cent of the population was aged less than 15 years and around 9 per cent was 60 years and older. The projections for Palau in the EDP have these percentages declining over time, resulting in the median age of the population increasing to 30.8 years in the year 2000, more than 5 years older than in 1990. This compares with an average for developing countries of 35-40 per cent below 15 years and 5-7 per cent above 60 years, and for established market economies of 19 per cent and 18 per cent, respectively. The projections also show that the male-female mix increases further to 56 per cent males and 44 per cent females by 2020.

Palau's geographic distribution is unevenly distributed among the States, with Koror having 69 per cent of the population in 1990 (up from 40 per cent in the late 1950s). This reflects the in-migration from other States and the concentration of foreign workers in Koror. The second highest populated State is Airai with 8 per cent of the population. Apart from Peleliu (4 per cent) and Aimeliik (2.9 per cent), the other States average around 1.3 per cent (200 persons). The EDP projections assume that the States grow in line with the national trend. This will mean that by the year 2000 Koror's population will reach 14,106 - still 69 per cent of the population. The growth in population in Koror will have urban planning

implications. In 1990 there were 1,479 persons per square mile in Koror - 17 times as dense as that of Palau as a whole. The Compact road and relocation of the capital to Melekeok State should reduce urban concentration in Koror, although growth in tourism services centered in Koror and uncertainty over the timing and effect of the road and capital relocation will cloud estimation of the net effect. The Census data do not show the number of people in employment in Koror who come from other States.

The difficulty with the EDP projections is that they are based on extrapolation of past trends and not on any econometric model showing causal variables. The extrapolation approach may be appropriate if past trends had low standard errors, but this is not the case in Palau. The in-migration of substantial numbers of foreign workers with specific demographic features such as concentrated age distribution within the 20-35 range, very high male to female ratios, and low birth rates distort the projections substantially. This will have ramifications for education expenditure because foreign workers do not tend to utilize education facilities, and health expenditure planning where foreign workers and their families have a higher impact. Net foreign worker in-migration is also heavily dependent on the fishing, construction and tourism industries which tend to be volatile in Palau causing substantial swings in worker numbers. Some of these factors will be affected by Government policy changes. The Compact Agreement also allows unrestricted access to the US labor market and this will also impact on out-migration trends of Palauans. The Constitutional requirement to move the capital to Melekeok State and construction of the Compact road will also have major impacts on the distribution of the population throughout the States.

These causal factors need to be modeled to ascertain more relevant population projections. The current lack of data makes accurate modeling and, therefore, projections difficult. At a minimum, it would be beneficial if the current projection method excluded foreign workers, thereby removing some of the large distortions. Foreign workers could then be modeled utilizing knowledge of future labor demand resulting from proposed construction projects, fishing trends and tourism growth, as well policy induced changes. In general, if these factors are taken into account, then it is likely that the local Palauan population will grow somewhat faster than the current projections indicate. This reflects the higher birth rate (which will occur if foreigners are excluded) and impact of greater economic opportunities over the next five years or so, while foreign workers and their families will continue to grow on a trend basis but be highly volatile around this trend depending on labor demand. This appears to be the case from anecdotal evidence for the years 1990-94 (refer table 14.1). Master Plan population projections are shown in table 14.4.

14.1.2 LABOR MARKET

(a) Structure

Differing concepts and definitions of information collected on the labor market and the subsistence sector make it difficult to obtain consistent labor market information. Table 14.2 shows data on labor force participation reproduced from the EDP. It also shows EDP projections for the year 2000 which have been made utilizing extrapolation of 1980s trends.

Table 14.2 Labor Force Participation by Birthplace: EDP Projections

1980				1990			2000		
Participation	Total	Palau Born	Other	Total	Palau Born	Other	Total	Palau Born	Other
Total Potential	6,966	6,387	579	10,238	7,874	2,364	13,510	9,361	4,149
In Labor Force	2,896	2,494	402	6,072	4,161	1,911	9,248	5,828	3,420
Per Cent	41.6	39.0	69.4	59.3	52.8	80.8	68.5	62.3	82.4
Employed	2,745	2,372	373	5,599	3,711	1,888	8,453	5,050	3,403
Unemployed	143	122	21	471	448	23	799	774	25
Per Cent	5.0	4.9	5.3	7.8	10.8	1.2	8.6	13.3	0.7
Unemployed									
Not in Labor Force	4,070	3,893	177	4,166	3,713	453	4,262	3,533	729

Source: EDP (1994)

In 1980, 39 per cent of the potential Palauan work force were not in the labor force (that is, 61 per cent were predominantly in subsistence activities). By 1990 participation in the formal work force had increased to 53 per cent and by 2000 is expected to reach 62 per cent. Participation rates are highest in Koror. As expected foreign workers have much higher participation rates - over 80 per cent. The high participation rate is expected to continue for foreign workers. New Palauan jobs have not kept pace with the rising participation rate which has resulted in higher Palauan unemployment rates - 11 per cent in 1990, up from 5 per cent in 1980. EDP projections show the unemployment rate increasing to over 13 per cent by 2000, and presumably even higher by 2020.

Importantly, there are marked sectoral differences in the distribution of foreign and Palauan workers. Palauan workers are the vast majority of workers in the public sector (apart from US citizens under continuing Federal Programs), whereas foreign workers increasingly dominate the private sector. There is no readily available formal data on the decomposition of these trends. According to Trust Territory reports, in 1990 non-resident foreign workers in the private sector numbered 2,242 compared with 964 Palauan born workers. With the number of foreigners increasing to 4,480 and 3,458 in 1992 and 1993, respectively, the ratio of foreign workers to Palauan workers in the private sector is likely to have increased further. A continuation of current policies, coupled with the construction of the Compact road connecting the States of Babeldaob to Koror (resulting in higher participation rates), is likely to mean continued strong growth in foreign worker numbers and higher unemployment rates for Palauans - particularly among the young and unskilled Palauan group. If experience elsewhere is any guide, these trends are likely to result in a considerable increase in social and racial tensions.

In terms of private sector employment, the growth areas over the 1980s have been in tourism related activities (increasing from 3 per cent to 13 per cent of the employed work force), retail trade (8 per cent to 12 per cent), and agriculture and fishing (3 per cent to 8 per cent). Given the expected continuing growth in tourism activities, tourism occupations should become the largest category by the year 2000 (17 per cent of the employed work force).

From Census data, the number of Palauans employed in administrative capacities increased from 24 per cent to 29 per cent over the 1980s, whereas the number employed in production and crafts declined from 12 per cent to 9 per cent, and as operators, fabricators and laborers from 16.4 per cent to 13.5 per cent. In the service sector the number of Palauan workers constituted 92 per cent in 1980 but only 57 per cent in 1990. Further, Palauan workers made up 82 per cent of private household workers in 1980, but only 5 per cent in 1990 which reflects the increasing demand for Filipino domestic workers (EDP

1994). Regarding foreign workers, in 1993 the largest groups were fishermen (1,887), domestic workers (579), carpenters (190), waitresses (153), farmers (109) and masons (84).

The reasons for the decline in private sector participation by Palauan workers were discussed in Chapter 4 and relate to public-private sector wage differentials (underpinned by generous US aid contributions), relatively comfortable village life (subsistence affluence), low productivity levels of the local work force, lack of skilled Palauan workers, unrestricted access to the US labor market and, in practice, relatively easy access to low-paid foreign labor.

In terms of labor supply, the Palauan work force (15-64 years) is expected to increase over the Plan period reflecting higher participation rates, aging of the population and lower out migration rates - the latter dependent, among other things, on Government policies to increase skills, remuneration and private sector opportunities.

(b) Labor Costs and Conditions

Labor costs are low relative to neighboring Guam and Saipan, but are high relative to other Pacific islands and Asia, particularly the Philippines and People's Republic of China. There is a minimum wage for Government employees in Palau, but no minimum wage for the private sector. With Government hourly wage rates significantly higher than the minimum, it is not seen as a constraint on Government employment. Holders of foreign investment permits are required to pay workers at least the Government minimum wage, although this does not occur in practice and there is little attempt at enforcement. Table 14.3 shows average wages in Palau compared with those received in Guam and CNMI, together with a decomposition in terms of class of worker.

Table 14.3 Mean Wages for Class of Worker by Birthplace (US\$ 1990)

Class of Worker	Palau			Guam			CNMI		
	Total	Palau	Phil	Total	Palau	Phil	Total	Palau	Phil
Employed 16+	3.11	3.35	1.56	10.04	7.61	8.60	4.55	4.93	2.44
Females	2.79	3.17	1.16	8.38	6.54	7.34	3.93	4.74	2.53
Males	3.30	3.47	1.78	11.25	8.57	9.52	5.02	5.12	2.39
Private (Profit)	2.38	2.59	1.48	9.11	7.07	7.71	3.86	5.56	2.33
Private (Non Profit)	2.64	2.61	1.41	8.01	6.34	7.69	4.80	4.78	2.13
Local Government	4.02	3.85	4.42	11.95	10.47	12.38	8.47	9.07	6.75
National Government	5.56	4.62	4.25	11.44	9.89	11.02	11.14	7.67	5.73
Self Employed	5.81	5.59		13.55		9.15	15.09	10.05	5.07

Source US Bureau of Census unpublished tabulations

The table shows that:

- Average hourly wages paid to Palauans in Palau (\$3.35) were less than half those received by Palauans working in Guam (\$7.61) and around two thirds of those paid to Palauans working in CNMI (\$4.93). Average hourly wages received by Palauans in the private sector in Palau were \$2.59 in 1990 - well below those of Guam and CNMI. Similarly, average hourly wages of self employed Palauans in CNMI (\$10.05) were twice those of self employed Palauans in Palau. The wage differential is a major determinant of out migration of Palauans.

- Palauan female wages in Palau are only modestly lower (9 per cent) than average male wages, although the differential widens in Guam and CNMI. This reflects the higher proportion of Palauans in the public sector where there are standardized classifications.
- Palauan average hourly Government wages (\$4.62) are nearly twice average wage rates in the Palau private sector (\$2.59), although are less than wages received by self employed Palauans in the private sector (\$5.59). This underpins the attraction in working for Government, and the difficulties faced by employers in attracting Palauans to work in the private sector.
- Average hourly wages received by Philippine workers in Palau were \$1.56 in 1990 (females \$1.16, males \$1.78), less than half the average Palauan wage rate. Such low wage rates show why the demand for labor from the Philippines is so high. While the supply of Philippine workers at these rates would appear plentiful, such workers at these rates are likely to be in unskilled categories. Philippine wages in Guam, CNMI and elsewhere in the region are considerably higher. Dependence on Philippine labor may not be so advantageous as Palau develops and increasingly requires higher skill levels.

Overall, it is clear that if higher skilled and professional public sector workers are to be retained, wage rates for these categories will need to be increased. However, this should not occur until improved contractual arrangements are established with well defined performance criteria aimed at lifting productivity. Lesser skilled public sector wages should be held constant which will result, over time, in lower real rates, thereby reducing the attractiveness of these categories as well as containing overall wage expenditure.

If employment of Palauans in the private sector is to increase foreign labor must be made less attractive to Palauan employers. This is best achieved through increasing annual work permit fees which will adversely affect unskilled foreign workers more than higher value-added skilled foreign workers which are likely to be more essential for economic development. Wage rates will need to increase in the private sector - but this can only be achieved by increasing the productivity of Palauans. This will require changes to work ethics and additional vocational and professional training.

Policies to establish minimum wages will not succeed, resulting instead in a contraction of business activity and lower overall levels of employment. There is a Bill to enact minimum wages currently before Congress (Senate Bill No 4-152). The Bill proposes a minimum wage of \$2.00 hour for all non-national Government employees. However, the Bill does not apply to salaries and there are numerous exemptions including the fishing, manufacturing and construction industries, domestic workers, and many service industries. As such most foreign workers would be exempt.

Program outputs on these issues were discussed in Chapters 4 and 13.

In terms of working conditions for Palauans:

- much of the work is labor intensive with little utilization of qualifications;
- there is no mechanism for settling grievances at the work place;
- there are no industrial organizations like trade unions;
- contract arrangements are minimal;
- there is no workers compensation or occupational health and safety laws; and
- there are no minimum wage laws in the private sector.

For foreign workers, there are added burdens, including:

- low standard, often unsafe, barrack type accommodation;
- long hours and poor work place conditions;
- no refund of social security contributions on leaving Palau; and
- no institutional mechanism to ensure grievances are settled and human rights are not violated.

In February 1993 a 7 member Palauan Wage Advisory Group was appointed to undertake research into a range of labor issues including policies toward alien workers, the bonding of students awarded overseas scholarships, training requirements of employers, and minimum wage laws. The report recommended a number of policies including:

- improved education and training with a re-evaluation of the school system, a strengthening of curricula and vocational programs at Palau High School and the PCC;
- improved supervision of the job training Partnership Act Program to ensure youth are provided with real work situations and training;
- greater controls on foreign workers through limits on admittance of dependents, restrictions on occupational categories and skill tests, requirements for employers of domestics to show proof of financial capability, restriction of remittances, increased user charges for services such as hospital care and marriage licenses, increased work permit fees, and enforcement of existing labor laws and regulations.

In general, none of the recommendations of the Advisory Group have been implemented to date.

(c) *Labor Market Institutions and Regulations*

Responsibility for labor conditions and employment issues rests with the Bureau of Human Resource Development (Division of Labor and Division of Job Placement) in the Ministry of Commerce and Trade. Duties of the Bureau include the promotion of human resource development, establishment of a plan to provide an integrated approach, coordination of assistance, and encouragement of the private sector to participate in human resource development.

Chapter One of Title 30 of the Palau National Code provides the policy imperative for the Ministry. The Section states that:

"...it is essential to a balanced and stable economy that workers who are citizens of the Republic be given preference in employment in occupation and industries in the Republic and that the public interest requires that the employment of non citizen workers in such occupations not impair the wages and working conditions of citizen workers."

Achievement of the policy aims stated in the Code have not been successful. While all vacancies proposed to be filled by foreign workers have to be advertised locally in an attempt to obtain Palauan workers, in reality few, if any, Palauan applications have been received by the Division of Labor. This reflects the low wage rates and the adverse conditions of employment offered. In addition private sector employers tend to prefer foreign workers because of greater worker control, higher work ethic, and higher productivity levels.

While wage rate control is not recommended, improved regulation of labor conditions will assist Palauan employment, as well as reduce many of the negative features in the recruiting, administration and treatment of foreign contract workers. In this respect a uniform national labor code should be developed by the Division of Labor and enforced for all workers in Palau.

In addition, there is no clear system of job classifications, and classifications differ between the Division of Labor and other Ministries. The duties of the Job Placement Division include analysis and identification of human resource needs of the private sector, ensuring vacancy information is provided to unemployed citizens, and counseling on job placement. These are important functions to facilitate an improved labor market for Palauans. However, the main focus of both Divisions is on administering the work permit system.

14.1.3 POPULATION AND LABOR MARKET PROJECTIONS

Population and labor force projections have been estimated by the Master Plan, taking into account a number of influencing variables, particularly expected economic growth rates and demographic factors. These are shown in table 14.4.

Table 14.4 Population and Labor Market Projections

	1990	1995	2000	2005	2010	2015	2020
Population							
Palauan	12,745	13,384	14,849	16,155	17,233	18,656	20,598
Growth Rate p.a.		1.0	2.1	1.7	1.3	1.6	2.0
Foreign	2,377	4,024	6,334	5,814	6,050	6,518	7,161
Growth Rate p.a.		11.1	9.5	-1.7	0.8	1.5	1.9
Total Population	15,122	17,408	21,183	21,969	23,283	25,174	27,759
Growth Rate p.a.		2.9	4.0	0.7	1.2	1.6	2.0
Age Group							
Less than 15 years (%)	30.3	28.5	27.5	26.8	26.2	25.9	25.7
15-64 years (%)	63.7	65.6	66.7	67.4	68.1	68.5	68.7
65 years and over (%)	6.1	5.9	5.8	5.8	5.7	5.6	5.6
Labor Market							
Potential Palauan Labor Market	7,874	8,276	9,182	9,989	10,656	11,535	12,736
Palauan Labor Force	4,161	4,709	5,766	6,892	7,896	8,916	10,163
% of Potential Labor Force	52.8	56.9	62.8	69.0	74.1	77.3	79.8
Employed Palauans	3,712	4,229	5,276	6,093	7,091	8,105	9,370
Unemployed Palauans (%)	10.8	10.2	8.5	11.6	10.2	9.1	7.8
Palauans Not in Labor Force	3,713	3,567	3,416	3,097	2,760	2,619	2,573

Source: Various Census reports, EDP 1994, Consultants Estimates and Projections

Based on the 1990 census data, table 14.5 shows the distribution of employees in the industry categories projected to year 2000.

Table 14.5 Employees in Industry Categories

INDUSTRY	1980	1990	2000
Total	2665	5599	8533
Agriculture, forest, fishing, mining	81	446	811
Construction	476	861	1246
Manufacturing	79	93	107
Transportation	164	335	506
Comm/Public Utility	64	142	220
Wholesale Trade	115	130	145
Retail	221	670	1119
Finance, Insurance & Real Estate	45	119	193
Business and Repair	62	178	294
Personal Enter. & Recreation	77	750	1423
Professional and Related	812	1045	1278
Public Administration	469	830	1191

Source: 1990 Census monograph, Table 12.2 and NMDP, Chapter 2

Note: 1980 excludes 80 persons doing subsistence. Some discrepancy in data provided with data presented in Table 14.4.

The population and labor market projections are based on the following assumptions:

(a) *Palauan and foreign population growth will be influenced by the economic cycle*

It is assumed that the Government will adopt and implement the main policies of the Master Plan. This should result in robust growth in public and private investment over the 1995-2000 period, then somewhat slower growth in public investment over the 2000-2020 period, although private investment and output are expected to remain strong throughout the period. This will result in the economic growth cycle shown in Chapter 4.

Palauan net out-migration should be negatively related to economic growth, particularly the public investment and expenditure components. Consequently, Palauan net out-migration should decline over the higher public spending period 1995-2000 resulting in higher Palauan population growth. If this higher public spending is coupled with an expansion of private investment, particularly in tourism construction and related activities, then this period should also experience strong demand for foreign labor. However, as public investment spending slows and recurrent spending is constrained over the 2000-2010 period, public sector Palauan employment opportunities will decline and Palauan out-migration should increase. Net foreign labor inflows should also be curtailed sharply, particularly with the completion of the Compact road. As the private sector expands over the 2010-2020 period, Palauan employment opportunities and foreign labor demand should increase moderately.

(b) *Palauan employment opportunities will depend on education and training policies*

Palauan out-migration trends, particularly over the 2010-2020 period will depend on the extent of labor switching between Palauan and foreign worker positions. The success of education and training schemes that target the needs of the private sector will be a critical factor. The projections assume that educational institutions in Palau are able to turn out a significant increase in qualified Palauans targeted towards private sector demands that are attracted to working in higher skilled positions in the private sector. This issue is discussed in section 14.3.

(c) Median age of the population will continue to increase

The birth rate is projected to continue to decline but not to the extent estimated in EDP projections. This reflects expected lower net Palauan out-migration trends and higher increase in foreign labor in the earlier 1995-2000 period. Overall, it is estimated that there will be moderate increases in the median age of the population to 28.5 by the year 2000 and 31.0 by 2020.

(d) Labor force will continue to expand with the decline in subsistence activities

While the participation rate will continue to increase moderately over the 1995-2000 period, it should increase significantly as the Compact road connects all the States on Babeldaob - thereby providing easy access to the formal economy. While access to markets could increase the mixed cash-subsistence livelihood, this is not expected to be substantial because of the high relative wage rates in the formal economy.

(e) Some areas of foreign labor demand should decline

Areas of foreign labor demand that have had strong growth rates in the past but which should slow in relative terms are domestic workers and workers in the offshore fishing industry. The use of foreign domestic workers expanded rapidly in Palau to reach over 80 per cent of all domestic workers by 1990. Currently, around one in four families have a domestic worker. Demand for such workers should be nearing capacity and should slow significantly over coming years, particularly with the increasing acceptance of labor saving devices in the home and establishment of formalized child care facilities. The proposal in the Master Plan (refer Chapter 4) for a foreign labor fee with no exemptions will tend to reduce demand at the margin, particularly for unskilled, low-paid domestic workers. Similarly, demand for foreign fishing workers is not expected to increase significantly further than demand in the early 1990s, given current stock levels and measures proposed in the Master Plan directed at sustainability of marine resources.

(f) Capital relocation not included

The projections have not included any effect of the proposed relocation of the capital to Melekeok State. Given the cost of relocation and the likelihood of a funding shortage, the relocation is not expected to proceed in the near or medium terms.

The Master Plan projections show an overall average annual population growth of 2.0 per cent over the 1990-2020 period, which is comprised of a Palauan growth rate of 1.6 per cent and a foreign rate of 3.7 per cent. This compares to a projected EDP growth rate of 2.3 per cent per annum, with a 1 per cent Palauan rate and 5.9 per cent foreign rate.

It must be noted, however that the EDP population growth projections assume a continuation of previous economic trends, including Government spending trends. If Government policies are not altered and given current public expenditure trends, then it is likely that Palauan and foreign population growth rates will be somewhat higher over the 1995-2000 period. However, given the likelihood of substantial funding shortfalls after the year 2000 (refer Chapter 4), the resulting sharp contraction in Government spending will cause a substantial slowing in Palauan population growth and a substantial increase in foreign labor demand as the Government attempts to force the pace of private development to compensate for the decline in the public sector. The aim of Master Plan policies is to alter labor

trends such that more Palauans can be employed with less reliance on foreign labor and the tensions that this may create.

The projections in the Master Plan also show that the population in the 15-64 age bracket will increase from around 64 per cent in 1990 to 69 per cent in 2020, resulting in the median age increasing from 26 years to 31 years. The aging of the population will slow somewhat over the 2005-2020 as the Palauan population growth rate increases. The proportion of the population in the 65 years and older category is projected to decline modestly due to a slight increase in the crude death rate.

The Palauan labor force is expected to continue to expand in line with a decline in the proportion of workers in subsistence activities and population growth trends. Importantly, Palauan employment is projected to rise as a proportion of the labor force, resulting in a decline in the unemployment rate to under 8 per cent by 2020. The decline reflects improved employment opportunities for Palauan workers and a significant level of switching between foreign and Palauan worker jobs due to higher skill levels of Palauans. Strong employment growth is projected in the construction and services sectors, particularly related to tourism activities, and to a lesser extent in the agriculture and marine resource sectors. Public administration is expected to decline in proportional terms after the year 2000.

14.2 STRATEGY AND PROGRAM OUTPUTS - POPULATION AND LABOR MARKET

14.2.1 STRATEGY - POPULATION

Collect and analyze comprehensive population information to assist the development of policies and programs, particularly in relation to the labor market, education and health planning, disadvantaged groups, and family welfare programs. (Strategy 3.4.2.19)

14.2.2 PROGRAM OUTPUTS - POPULATION

14.2.2.1 Collection and Analysis of Population and Labor Market Data Improved

Full utilization should be made of census data compiled with US assistance by separation of the more relevant data series, including unpublished tabulations. It is essential that foreign workers be categorized separately for analysis purposes. In between census years, data series can be updated using information that can be regularly supplied from the Ministries, particularly the Ministries of Commerce and Trade (Division of Labor), Health and Education. Population and labor force projections should be compiled using econometric techniques rather than extrapolations of previous trends. The results should be published at quarterly intervals to assist planning. Responsibility for this output should be with the Office of Planning and Statistics.

14.2.3 STRATEGY - LABOR MARKET

The strategy for the labor market was stated in Section 4.7.1 and is to:

Reorient labor market incentives and manage the inflow of foreign labor to achieve sufficient growth in employment levels in the private sector in Palau, particularly in more highly remunerated and skilled positions, to limit unemployment and the attractiveness of emigration, support a higher quality of life and a more competitive private sector, and reduce social conflict (strategy 3.4.2.3).

14.2.4 PROGRAM OUTPUTS - LABOR MARKET

14.2.4.1 Labor Market Statistical Base Improved

The Division of Labor should develop a comprehensive labor market information system for evaluating wages, conditions, trends and constraints. The annual Labor Force Survey will assist in providing some of the required information. Additional surveys will be required. These should be coordinated with the Office of Planning and Statistics to limit the demands on employers. The Division should provide information on a quarterly basis on wages, employment and unemployment levels (by occupational category and for Palauan and foreign workers), work force participation rates, and compile projections of future demands by skill and sector which can be utilized by education and training policy makers, as well as for planning purposes in the private sector.

14.2.4.2 Labor Market Policies Implemented

Labor market outputs shown in Sections 4.7.2.1 - 4.7.2.4 involving a restructured system for public sector salaries and conditions, taxation incentives for the private sector, improved training, foreign worker fees and promotion of capital investment should be implemented (refer Chapter 4).

14.2.4.3 Uniform National Labor Laws Established and Enforced

The Bureau of Human Resources Development should draft a uniform national labor code establishing minimum working conditions for all workers - both Foreign and Palauan. In achieving this, assistance should be sought from the International Labor Office (Fiji). The Code should utilize standard occupational categories. The Code should not include a minimum wages policy. Occupational health and safety standards should be covered under separate legislation (refer Chapter 10).

In the interim, the Division of Labor needs to play a much more visible role regarding enforcement of Title 30 of the PNC. In the absence of formal industrial organizations, written employment contracts setting down wage and salary rates, hours of work, conditions, workers compensation etc should be the basis of employment in Palau. Grievances can then be settled in the court system. The Division needs to work with employers and employees to facilitate improved conditions without sacrificing productivity.

14.2.4.4 Employment Services Improved

The Division of Job Placement should establish an improved employment services system which should plan to have national coverage within 5 years. The scheme would provide vacancy information, offer counseling advice, assist in advice and placement on available training schemes, and coordinate activities with employers.

14.2.4.5 Education and Training Improved

Education and training needs to focus much more on the needs of the labor market in Palau. This will require a cooperative effort between the Government as an employer, private sector and education and training authorities. Program outputs in this area are shown in Section 14.3.

14.3 EDUCATION AND TRAINING

14.3.1 SITUATION ASSESSMENT

(a) Historical Influences

Palau has a rich cultural history which has been affected by a number of major influences, including European and Asian contact and the resulting introduction of differing cultures, religions and forms of government. Palau did not have a written language or formal schools prior to European influence. Traditionally, emphasis was on oral communication, and learning and teaching were based on highly honored and respected community expectations and followed precise social mores.

The early European contact brought Catholicism but did not result in any schooling. The 15 year annexation of Palau by Germany (1899-1914) saw the establishment of the first formal school in Palau which began the conversion of oral learning to book learning. In 1914 Japan took control of all German colonial holdings and in 1920 gained full legal authority via the League of Nations. This brought various obligations including the promotion of material and moral well being. The first schools were soon replaced by four elementary schools with a curriculum of Japanese language, singing, arithmetic, ethics, weaving and carving. By 1927, 86 per cent of children were receiving schooling, although Palauan culture and language was taboo. At the end of the Japanese occupation, there were no "Palauan" schools, no teacher training programs for Palauans, and no educational programs oriented towards the professions, although there were some vocational courses in carpentry, auto mechanics, electronics and surveying.

Following the end of World War II the US Naval Administration took control and began assisting Palauans to establish schools. Teacher training was begun by sending students to Guam, new school buildings were constructed, and vocational education commenced. In the early 1960s the Accelerated Elementary School Program was initiated and all education responsibilities shifted to the Trust Territory Government. In the late 1960s secondary education was commenced and the Palau Intermediate School became Palau High School, and the system moved towards the American model in terms of policies and staffing. Federal funding for education programs increased through the 1970s and 1980s in both amounts and program areas. Mission statements, goals, objectives, curricula, technology and governance are distinctly Western/American.

(b) Current Governance System

Under Article VI of the Constitution, the National Government is required to take positive action to provide public education for citizens which shall be free and compulsory as prescribed by law. Under the Trust Territory Bill of Rights (41 TTC 409), there is a requirement for free elementary education throughout the Trust Territories. As secondary education in the Republic is not mandatory and as fees

are levied for attendance at the Palau Community College (post-secondary education), it is assumed that the Constitutional clause pertaining to education is directed at elementary education.

Responsibility for education matters is provided in Title 22 (PNC) which calls for a National Board of Education appointed by the President with advice and consent of the Senate. The functions of the Board include responsibility for:

- development and approval of education plans and budgets for the Republic, including matching funds, in consultation and with assistance of the Bureau of Education for submission to the President (although currently the Ministry of Administration approves the education budget);
- changes to rules and regulations of public and private (fulfillment of charters) educational institutions;
- curricula development; and
- granting charters for state or community boards of education upon petition.

Title 22 also calls for a Director of a Bureau of Education as the Chief Executive Officer of the Republic's education system. More recently, a separate Ministry of Education was established which comprises two bureaus - Bureau of Curriculum and Program Development (with a Division of Elementary Education and Division of Secondary Education), and Bureau of Public Schools (with a Division of Curriculum and Instruction, and a Division of Program Development and Support services).

With respect to post-secondary education, the Micronesian Occupational College was established in 1969 in Koror. In 1977 the College became part of the newly created College of Micronesia system, a public corporation with its own Board of Trustees. In 1993, the College of Micronesia treaty was terminated, and the College became an independent college called the Palau Community College (RPPL 4-2) with its own governance structure. The College provides post-secondary occupational and academic training. The College of Micronesia continues to exist as an umbrella organization for the administration of the Land Grant Program in Micronesia.

The Board of Trustees comprises five voting members, including the chairperson, all appointed by the President of the Republic and two non-voting members appointed by the Board of Trustees who are required to be education or economic development specialists. The legislation also includes scope for the inclusion of one member from the Marshall Islands and one from FSM should these jurisdictions decide to participate in governance of PCC. A president is appointed by the Board and functions as the chief executive officer. Staff at the College do not come under the Public Service Act and Regulations and are appointed on individual contracts.

(c) *Education Structure*

The Government does not operate any pre-elementary schools, although there are some private preschools run by a number of churches, and a larger scheme run by the Palau Community Action Agency (PCAA). The PCAA runs the Palau "Head Start" Program which is supported by US federal grants. These grants amounted to \$839,000 in FY1993 (41 per cent of which is allocated to the educational component). The program provides services for the 3-5 year old age group in the areas of health and education, with emphasis on parental and community involvement. The purpose of the federal program is to prepare children from economically disadvantaged families for elementary school. The program has 22 centers which are located throughout the States. In 1993 total enrollment reached 486.

The Government provides free compulsory elementary education to all Palauan children aged 6-14 years through an 8 year elementary program. Elementary education is largely provided by the Government which runs 18 public elementary schools - at least one of which is in each State. In addition there are two church elementary schools. Elementary enrollments have declined by 11 per cent (from 2,830 to 2,505) between 1985-86 and 1993-94, although elementary school students as a proportion of the population remains high. In terms of the public-private mix, private school enrollments have increased from 347 (12.3 per cent) in 1985-86 to 370 (14.8 per cent) in 1993-94.

Despite the decline in enrollments, the number of elementary teachers has increased, resulting in a steady decline in the student-teacher ratio. By 1993, the ratio for public schools was 10 and for private schools 13. This reflects very low student-teacher ratios in the smaller States where elementary schools have to be maintained because of transport difficulties. It also reflects difficulties within the public service system of varying the number of teaching staff.

Secondary education is not compulsory, although the Government encourages all Palauans to complete the full 4 year (grades 9-12) course. The Government runs one public secondary school, the Palau High School in Koror, which had 64 per cent (579) of total secondary enrollments (912) in 1993-94. There are 5 private high schools in Palau, all of which are church-based institutions. High schools are located in Koror, Airai, Ngaraard and Ngatpang.

Enrollment levels in secondary education currently are broadly the same as in the mid 1980s, although the levels have declined significantly since the late 1980s. In 1993-94, enrollments in secondary schools were 912, down from 1,035 in 1989-89 (a decline of 11.9 per cent). Private school enrollments have declined the most, falling by 25 per cent over this period. As with elementary schools, the student-teacher ratio has declined over this period to 8 for the public school and 10 for private schools. The public student-teacher ratio is very low, given the central location of the Palau High School and its relatively large number of enrollments.

The trend decline in enrollments is likely to reflect low population growth and the declining birth rate in the Republic (refer section 14.1) and, to a lesser extent, the high drop-out rates from high schools in the 1990s. The rate has increased from 7.7 per cent in 1991 to 10.3 per cent in 1992. Around 10 per cent of eighth graders have not gone on to high school in the 1990s. In 1994-95 total enrollment numbers in elementary and secondary schools increased marginally for the first time in 10 years.

There are 350 teachers employed in public and private schools. Around 13 per cent of elementary teachers and 43 per cent of secondary teachers are employed in private schools. The certification of teachers and administrators is currently the responsibility of the Bureau of Public Service and the Civil Service Board process. There are 5 classification levels for teachers and 4 for principals. A major national goal has been to ensure that all teachers have bachelor's degrees. Through a combination of programs by the US International University and the University of Guam around 80 per cent of teachers now hold a bachelor's degree, although most degrees are not in education.

Post-secondary education and occupational training is predominantly the responsibility of the Palau Community College. Other providers of training include:

- Small Business Resource Center which is a US funded program within the PCC offering short-term business training and related seminars.

- Belau Science Demonstration Center (supported by the Ministry of Education and the PCC) which provides opportunities for students to participate in laboratory experiments, and assistance to teachers.
- Palau Community Action Agency (PCCA) which is funded under a US program grant for general public training and related services in the areas of primary child development (Head Start Program), Small Business Program for ex Koror, Garden and Nutrition Program which provides assistance to farmers and training to the community, and other PCAA programs on child care, village projects, family development.
- Palau Visitors Authority offers training in tourism related areas such as for waiters and general hospitality training.
- Adult Education Program which provides assessment and certificates to those who did not complete high school. The program is currently inactive.
- Bureau of Personnel and Program Development, Ministry of Administration which organizes training courses for government personnel. Under the National Public Service System Act, the National Civil Service Board has a number of responsibilities for civil service training.

The PCC is structured into three departments - Administration, Education and Training, and Cooperative Research and Extension. A number of objectives have been achieved since the establishment of the new Board in 1993. These include:

- The adoption of a Protocol Manual;
- An updated Personnel Manual including position classifications, definition of responsibilities and accountabilities, staff contract scheme, performance evaluation and a merit based salary system;
- Development of a Student Life Improvement Plan;
- Development and implementation of a repair and maintenance program;
- Commenced the development of teaching standards and evaluation of instruction and programs;
- Renewal and distribution of guidelines for articulation agreements for General Education, Development Programs, Teacher Training Program, Nursing and other specific programs;
- Commenced development of guidelines for the implementation of the "Tech Prep" Program with local high schools;
- Development of a comprehensive employment survey with the Bureau of Human Resource Development to identify critical employment training needs;
- Commercialization of College services and training programs; and
- Establishment of an Office of Development to obtain additional funding, improve marketing and develop strategic planning.

PCC enrollments declined substantially between 1993 and 1994 from 509 students to 403 students, to be 13 per cent below 1990 levels (462). Part-time student enrollments have fallen the most, down from 121 in 1990 to 69 in 1994. The decline in total enrollments has been totally due to dramatic declines in students from FSM and the Marshall Islands (307 in 1990 down to 79 in 1994). This reflects the ease of access to the US labor market that Compact implementation in these countries has secured, which has redirected many students from the Micronesian colleges directly to the US labor market. The decline in non-Palauan students, however has been offset partially by an increase in Palauan enrollments (up from 155 in 1990 to 324 in 1994). These trends are expected to continue, although the rate of decline in the number of non-Palauan students is expected to moderate as numbers approach minimal levels within 2-3 years.

However, of concern is the low rate of graduations from Palauan students at the College. Given 1,281 enrollments between 1990-1994, and allowing for part-time students and average length of course of 2-3 years, only around 20 per cent of Palauan students enrolled are graduating. Data limitations prevent any conclusion as to whether the trend has improved or deteriorated further in recent years. The graduation rate of other Micronesian students is five times that of Palauans. This appears to reflect the College's "open door" policy which may disguise substantial numbers of otherwise unemployed people.

Total instructional staff at PCC numbered 25 in 1994 resulting in an enrollment/teacher ratio of 16. Average cost per enrollment was around \$10,000 in 1994 (excluding the restricted budget, the majority of which is not directed towards student education). This compares with \$8,000 in 1990, although some upward adjustment would need to be made due to the increased administrative costs following the establishment of an independent College in 1993. These costs are high by international standards, but are broadly in line with costs elsewhere in Pacific island countries.

(d) *Curricula and Testing Programs*

The Bureau of Curriculum and Program Development, Ministry of Education has developed curriculum frameworks for elementary and secondary education in each of the subject areas in an attempt to provide a consistent focus for students across all schools in the Republic. Currently work is being done to develop improved ways of assessing outcomes specified in these curriculum frameworks and a contract has been let to develop benchmark test items in Mathematics and English.

The elementary school programs include 4 basic subject areas of language (Palauan, English, and bilingual), mathematics, social studies, and science. In addition, health, agriculture, community education, population education, and special education programs are offered at elementary and secondary levels. At high school level, all students in the first and second years take the same subject matter courses, apart from one elective in the second year. In the third and fourth year, students choose one of seven educational programs, which include core subjects (English, mathematics, science and social studies) and a vocational theme (agriculture, business, home economics, trades, and open programs).

Current testing programs include:

- High school entrance examination - a locally developed exam used to determine eighth grader's level of readiness for the high school program. All students are required to undertake this exam whether planning to proceed to high school or not. Between 1982-93 results indicate that average scores are declining.
- There are no local high school leaving examinations. Those students planning to go on to post-secondary studies can sit for a number of standard US testing exams. These are the:
 - Scholastic Achievement Test (a testing program offered by a US commercial test company) required for entrance to US universities and colleges. Results in 1989 (latest data) show that only between 17-28 per cent of Palau students (depending on subject area) were above the US average rate (this is a common problem in the Pacific islands where a high proportion of youth are in the schooling system, but performance levels are low - refer UNDP, 1994);
 - Language Assessment Scale and Degrees of Reading Power tests for English proficiency. On the latter test, results from 1990 and 1991 show that only 17 per cent of seventh and eighth graders,

and 39 per cent of ninth to twelfth graders were able to read English at or above the first grade level. At the fourth grade level, only 4 per cent of 7-8th graders and 12 per cent of 9-12th graders could perform at this level.

With respect to post-secondary education, the PCC has full accreditation of the US Western Association of Schools and Colleges. The College's mainstream vocational curriculum provides for a two-year program of career oriented training and basic skills instruction in communications, mathematics, liberal arts and sciences. For the 1992-93, the following programs were offered (numbers of students expected to graduate are shown in brackets):

- Auto Mechanics Technology (2)
- Business Accounting (10)
- General Office Clerk (8)
- Secretarial Science (2)
- Construction Engineering Technology (4)
- General Electrical Technology (3)
- Occupational Home Economics (5)
- Liberal Arts (11)
- Police Science (6)

In response to a decline in student demand, 5 programs have recently been withdrawn (Appliance Repair, Auto Body Repair, Clothing Construction and Design, Food Service, Masonry Technology and Welding Technology).

The College recently renewed its articulation of 17 core courses with the University of Guam. Articulation criteria among Pacific Post-secondary Education Council member institutions is being used in standardizing and facilitating the articulation process.

(e) *Enrollment Projections*

Information from the 1990 Census and from the analysis contained in Section 14.1 show the following trends and demographic features:

- The average age of the population is increasing. In 1980 the average age was 19 years and in 1990 it was 26 years. Master Plan projections show a continued increase to 28.5 by the year 2000 and 31 by 2020 - somewhat lower than the EDP. The projections for population, including age distribution, are shown in table 14.4.
- The fertility rate (number of children per woman) is declining. In 1980 it was 3.8 and by 1990 it had declined to 2.8, to be one of the lowest in the Pacific. Part of the decline is due to the inclusion of foreign workers who have a low birth rate due to the very high foreign male/female ratio. Master Plan projections have the fertility rate declining only marginally further to 2.2 by 2020 due to a decrease in Palauan out-migration and natural limits of the family planning program. Based on past trends, the EDP has projected a decline in the fertility rate to 1.7 by 2020, which would appear too low.
- The mortality rate (numbers of deaths per thousand people) is decreasing reflecting improved health care. The mortality rate, however is expected to increase over the next two decades. EDP

projections show the death rate increasing from 7 to 11 per thousand by 2020. This reflects the aging of the population. Master Plan projections show an increase in the death rate to around 9 per thousand by 2020 - which is more in line with Pacific island averages (UNDP, 1994).

- The increasing percentage of males to females in Palau is mostly accounted for by the very high male/female ratio of foreign labor. The male to female ratio for Palauans is much lower, at around 106 males per 100 females. This differential is expected to continue, although should narrow over time as the proportion of females obtaining occupational skills and tertiary education increases.
- The percentage of people gaining educational qualifications is increasing. In 1980 almost 93 per cent of Palauans had completed elementary school. This rate has risen to 98 per cent by 1990. The percentage of those that had completed 4 years of high school education has increased from 34 per cent in 1980 to 58 per cent in 1990. College graduates have increased from 5 per cent to 10 per cent over the 1980s.
- Palauan language is the primary language spoken at home by almost 94 per cent of Palauans. Usage of the English language as the primary language at home is very low by Micronesian standards.
- Over the 1980s, pre-school enrollments have declined by 60 per cent (due to the declining birth rate and the substantial increase in employment of the Filipino domestic worker). Over the 1985-93 period, public elementary enrollments are down 14 per cent, and public high school enrollments are down 1 per cent. In contrast, private elementary enrollments are up 6 per cent, while private high school enrollments are down 14 per cent over the same period (refer table 14.6).

Based on the assumptions contained in the EDP, the Palau 2000 Education Master Plan has projected enrollments for the period 1994-2004 utilizing the "cohort survival" technique (results shown in table 14.6).

Table 14.6 Projected Enrollments - Public and Private Schools

Grade	1985-86		1990-91		1993-94		1997-98		2000-01		2003-04	
	Public	Private	Public	Priv								
1	266	43	302	68	300	65	286	44	356	53	328	49
2	281	49	263	49	286	38	254	38	279	42	297	45
3	314	34	263	45	261	47	241	42	262	40	286	43
4	312	37	271	54	285	38	263	57	250	38	311	47
5	342	48	248	48	249	43	266	57	244	24	254	54
6	343	46	208	52	269	52	260	36	227	39	247	37
7	326	47	255	51	246	43	241	43	248	13	235	37
8	311	43	248	32	239	44	248	32	228	49	209	107
9	154	109	187	116	143	102	122	103	136	104	119	97
10	178	122	187	82	150	94	141	97	129	85	132	65
11	141	89	118	89	131	61	115	79	127	77	116	86
12	113	68	125	79	155	76	117	73	103	65	115	64
Total	3,069	735	2,677	774	2,714	703	2,554	700	2,589	729	2,649	731
TOTAL	3,804		3,451		3,417		3,254		3,318		3,380	

Source: Palau 2000 Education Master Plan

Education Plan projections in the table show that enrollment numbers are expected to be around the same levels in the year 2004 as currently. This reflects the declining birth rate and low Palauan population growth rates projected in the EDP. The private-public mix is expected to remain around current levels.

Given the Master Plan demographic analysis shown in section 14.1, these enrollment projections are likely to underestimate actual outcomes. The Master Plan has a higher birth rate and a higher Palauan population growth rate (1.6 per cent per annum compared with the EDP's 1.0 per cent growth rate). The Palauan population growth rate is expected to increase over the 1997-2005 period reflecting lower out-migration due to stronger economic activity in Palau. This will impact on demand for elementary school places over this period which could be expected to add 2-3 per cent to the projections shown in table 14.6. This will have a flow-through effect on secondary schooling in later years. However, regardless of which assumptions are used, only zero to modest growth in enrollments can be expected over the forecast period. (Note: Master Plan population projections shown in table 14.4 are different from the earlier draft projections provided to the Education Task Force which are reproduced in the Education 2000 Plan.)

The low expected growth in secondary student flows will impact on the post-secondary potential intake. Based on these outcomes, the recent significant upward trend in enrollments of Palauans at PCC should slow, although the general increasing trend to obtain higher level skills could keep the enrollment intake at buoyant levels. Of concern, however is the possibility that PCC will attract a number of enrollments from students who are undertaking courses in place of seeking employment rather than to assist with employment prospects. The low current graduation rate supports this contention. PCC are targeting growth in enrollments to around 500 by the year 2000 which could be somewhat overly optimistic.

(e) *Education Expenditure and Funding*

In terms of fiscal resources, the Ministry of Education expenditure has amounted to around 12 per cent of the total Government budget in recent years. In 1994 the Ministry's appropriation from the Government amounted to \$4.3 million, an increase of 4 per cent over 1993. The Ministry also received around \$5 million in grants from the US. In addition to providing opportunities for private schools to participate in federally funded activities (eg participation in staff development sessions, instructional materials etc), the Government provides direct support to private schools which amounted to \$221,500 in 1994 through a formula for each school.

There are no school fees for elementary or secondary schooling, including boarding, in the public system. Fees are levied by the private schools, although these are insufficient to recover costs, even if account is taken of the Government's contribution. The private schools have recourse to outside financial support.

In 1993-94, the PCC had an operational budget of around \$4.7 million. This was funded by \$1.5 million appropriated from the OEK, \$1.6 million from tuition fees and auxiliary services (eg bookstore, cafeteria, printing), and \$1.5 million from federal programs. These programs included the Student Financial Aid and Assistance Program, Land Grant Program, Upward Bound Program, Student Support Services, and Institutional Development Program. Many of the programs are on a matching grant basis.

A significant proportion of the tuition fees of post-secondary students are paid for through the US Student Financial Aid program and the Government's scholarship program. Loans are available to students (maximum \$5,000 per year up to 5 years) under the Government's scholarship program to cover the cost of tuition, board and expenses. Students must maintain a grade point average of at least 2.0 to continue to qualify. Loans are required to be guaranteed by a resident of Palau. Loans have to be repaid

upon completion of studies, but a credit can be gained (\$3,000) for each year the recipient is subsequently employed full time in Palau. For scholarship recipients, the predominant areas of study are in business and liberal arts courses. In 1993-94, there were 173 loan recipients who were attending nearly 50 different institutions of higher education. The budget allocation in 1993-94 was \$551,100.

14.3.2 ISSUES - PALAU 2000 EDUCATION MASTER PLAN

The Palau 2000 Master Plan for Education was issued in late 1994 by an Education Task Force. The Plan provides an analysis of many of the important issues facing elementary and secondary education in Palau, and proposes detailed recommendations and action plans for the next 10 years. The Education Plan does not cover post-secondary education and, as such, does not develop proposals for the Palau Community College. The Education Plan states the following objective:

"The Mission of the Republic of Palau's Ministry of Education, in partnership with parents and community, is to ensure that our children and youth preserve Palauan culture and become contributing citizens and productive workers in a changing world. This will establish a high quality of life and security for future generations of Palauans."

The National Master Development Plan (NMDP) concurs with the thrust of the Education Plan's mission for education in Palau, although would also emphasize performance requirements in the statement (refer 14.4.1).

The Education Plan addresses a number of issues and makes the following recommendations:

(a) Professional Personnel and Certification System

Currently the Republic does not have a professional certification system for its educators. Teachers and administrators are licensed by the Bureau of Public Service and the Civil Service Commission based on possession of a required degree and number of years of experience. The system does not ensure that the person is in fact a competent professional. The National Code (Section 151 of Subchapter V) contains authorization for a certification system that is the stated responsibility of the Director, Bureau of Education in consultation with the Board.

The Education Plan recommends the following certification system:

- The system should be based on the "Standards for Prospective Teachers" and "Administrator Standards" developed in the Republic in 1990. Assessment should be based on knowledge and ability to perform, should include different levels of certification, and be undertaken periodically.
- A Human Resource Development System should be developed for the education sector and managed within the Ministry of Education rather than the public service structure. The system should have a strong recruitment and incentives program, including higher salaries, priority scholarship funding for those entering teaching, a program to encourage young children to become teachers, a staff development program, professional performance evaluation, and retirement counseling system. The system will have a formal data base.
- Every certified professional should be placed on contracts delineating the conditions of employment.
- The Ministry would be guided by a Professional Certification Board (comprised mainly of practicing educators in Palau) which take a program approval approach. This would entail approval of certain

teaching training programs that would result in automatic certification, or if trained outside the approved institutions and courses, assessment would be through individual review.

These recommendations will require legislative amendments. The program is targeted to commence in 1997-98 and would include private school teachers - a condition that could be part of the granting of a charter to the private school. The program will require legislative change and will take 5 years to implement fully (1995-2000). A detailed action plan is shown in the Education Plan. The estimated costs are \$10,000 in FY1995, and \$75,000 per annum from FY1996. In addition there will be the increased cost for salary increases from the proposed contract arrangements.

The NMDP endorses the recommendations on the need for a professional personnel and certification system for Palau. The recommendation for professional staff contracts structured towards performance is in line with the NMDP proposals for contracts for all senior staff in the public service. However, the expected increase in remuneration under the proposal (which has not been costed) should be offset by savings elsewhere in the portfolio (refer section 14.3.3 (b)).

(b) *Partnerships with Families and Community*

The Education Plan aims to strengthen the relationship between family, community and education. The strategy is to organize a "partnerships" planning group composed of representatives of various levels of school administration, teachers, parents, and community leaders. The planning groups would then be involved in developing and funding certain activities, scheduling training and workshops to strengthen the partnerships, have an input into policies and schooling plans, and monitor developments. The estimated costs are \$7,250 for a part-time coordinator in FY1995, with \$20,000 annual costs for FY1996 and beyond.

The NMDP is fully supportive of the proposal to encourage the community to become more involved in their children's schooling. This will also provide scope for the community to be involved in meeting some of the school's funding needs, particularly for the smaller capital projects. To encourage involvement, the Government, through the Ministry, could offer a matching grant system up to a budget limit. Also, the US funded "School Lunch" program could be replaced with a lunch service based on nominal fees and voluntary community service.

(c) *Standards, Curriculum and Instruction*

The aim of education in the Education Plan is seen as preparing students for work and lifelong learning and, as such, work notions and work ethics should be introduced into the school system at the 7-8th grade levels. This should be coupled with an early age assessment of student vocational aptitudes and interests to guide students towards life after school. There needs to be a change from "seat time" requirements for graduation (completing a certain number of courses) to "performance" requirements for graduation (having students actually demonstrate that they can perform real world tasks that are required to be productive workers and effective citizens and family members).

The following steps are recommended:

- Develop a set of revised graduation standards and assessment benchmarks using the existing curriculum frameworks as the foundation.
- Establish mandatory school attendance through 12th grade or age 17.

- Conduct an assessment at the 7-8th grade using career planning instruments, and develop a career and educational planning portfolio to guide each student's career planning.
- Establish industrial arts or technology education at the exploratory level at the 7-8th grade.
- Programs should be clustered at the high school level with the possibility of engaging in the "2+2" "tech prep" programs and other forms of better articulation between the high school and the PCC.
- Establish a "certificate of mastery" necessary for graduation at the 12th grade level to ensure the students are certified to work at entry level positions and/or enter post-secondary education. This certificate should be the end product of the career portfolio provided for each student.
- Establish a set of core requirements for all students to help ensure equitable education and facilitate future accreditation.

The Education Plan has a detailed action program for the next 10 years. The estimated costs are \$50,000 in FY1995 for staff development, and \$75,000 per annum for FY1996 and beyond.

These recommendations are endorsed fully by the NMDP. The focus on performance and career planning are clearly in the right direction.

(d) Pre-school and Kindergarten Education

There is much evidence to suggest that pre-school and kindergarten expenditures are wise investments. The Education Plan recommends that kindergarten attendance at age five be made mandatory and that every Palauan 4-5 years old have the opportunity to attend a pre-school program with an organized curriculum. An expansion of the Head Start Program is one element. This will require legislative change and a significant increase in resources. The Plan calls for the commencement of the program in 1997-98.

The estimated cost is \$10,000 in FY1995, and \$200,000 per annum thereafter (\$50,000 for coordination, curriculum, staff development and instructional materials; \$150,000 for operation of kindergarten program). It is assumed that Head Start federal resources will continue to support the pre-school program and to expand pre-school access.

The NMDP supports this recommendation, although because of cost implications and the difficulties in levying fees in this area, the program should be delayed and then phased in gradually, with the kindergarten program started initially.

(e) Facilities

The Education Plan recommends the following facilities program:

- Continuation of the program to upgrade and expand school buildings, costing \$2.67 million, comprised of:
 - Classrooms at Harris, Koror, and Aimeliik Elementaries, and renovation of the classroom building at Palau High School costing \$900,000 in total;
 - Fencing at Koror, Harris and Meyuns Elementaries, and Palau High School costing \$150,000;
 - Sports facilities at Kayangel, Anguar, Ngeremlengui, and Aimeliik schools costing \$120,000;
 - Dormitory and cafeteria at Palau High School costing \$1.5 million; and
 - Kindergarten facilities as needed (not costed).
- Once the Compact road is built, consolidation of school facilities, thus creating cost savings (savings not quantified).

- Construction of a new administration center to achieve improved management, costing \$1 million.

In Chapter 6 (section 6.11.4) of the NMDP, there are program outputs for education structures. These have been proposed in the EDP as part of the Government's prioritized list. The projects have not, however had any rigorous evaluation to estimate returns. Given the Government's funding constraints, such evaluation will be essential. In particular, the need for the proposed dormitory complex for the Palau High School should be reassessed in line with proposals for full user fees for boarding (refer section 14.3.3 (a)) and the construction of the Compact road which will greatly increase daily access to the High School. Further, consolidation of facilities once the Compact road is built is essential to enable cost savings. With the road alignment close to finalization, a school consolidation plan should be developed before major new works are undertaken. The relocation of the capital to Melekeok State has created a great deal of uncertainty for education planning. This issue will need to be resolved, or at least the location of the education administration center should be confirmed before any decision is made on the new \$1 million building.

(f) Governance

In the past, education systems have tended to be based on "inputs" of schooling (costs, facilities, materials, staff) rather than "results" of schooling (what students know and can do). To refocus education efforts along these lines, the Education Plan recommends that the policy role of the Board of Education be strengthened and that a stronger partnership be formed with the Ministry of Education. This is to be achieved by:

- Empowering the Board with responsibilities for education policies.
- Making the Board fully accountable to the public through public elections.
- Clarifying the policy setting role of the Board and the administrative role of the Minister.
- Increasing the number of Board members from 5 to 7, with the Minister an ex-officio member.

The recommendations will require legislative amendments. The estimated costs are \$15,000 in FY1995, and \$25,000 per year for FY1996 and beyond. This does not include the costs of public election of Board members. The NMDP supports the orientation of the system towards output-based performance measures, but has concerns regarding the establishment of an independently elected board. These issues are addressed in section 14.3.3 (b).

14.3.3 OTHER ISSUES

(a) Funding

The Ministry of Education is one of the largest Ministries in the Government, with appropriations in 1993-94 amounting to around \$4 million (around 12 per cent of total appropriations). A further \$5 million is received through various federal programs. The phasing out of a number of US federal programs under the Compact will have a substantial impact on current activities and the funding of those activities. The Education Plan does not address the issue of loss of federal funds or propose any new funding mechanisms to finance these losses or its expansion plans, other than from additional OEK appropriations.

There is still considerable uncertainty regarding which federal programs will be affected. In some programs, Palau will lose eligibility in FY1995, in others there will be a phased down process, and in others there will be continuing eligibility. The programs affected under these categories are shown in Table 14.7.

Table 14.7 Federal Programs for Education Post Compact

Programs in phasedown (Palau receives FY1995 allotment, 75 per cent in FY1996, 50 per cent in FY1997, 25 per cent in FY1998, zero thereafter):

- School Improvement Programs (Education for Homeless Children and Youth, Christa McAuliffe Fellowships)
- Rehabilitation Services and Disability Research (Vocational Rehabilitation State Grants, Client Assistance State Grants, Supported Employment State Grants)
- Adult Education (State Literacy Resource Centers)
- Student Financial Assistance (State Student Incentive Grants)
- Higher Education (Douglas Teacher Scholarships)
- Libraries (Public Library Services, Public Library Construction, Interlibrary Cooperation)
- Special Education (Grants to States, Preschool Grants, Grants to Infants and Families, Personnel Development Grant - formula portion)
- Education Reform (Goals 2000 - if Palau applies and participates in 1995)

Programs where eligibility is lost:

- Education for the Disadvantaged (State grant under ESEA) (Grants to LEAs, Capital Expenses for Private School Children, State Administration, State Program Improvements Grants, Even Start)
- School Improvement Programs (Eisenhower Professional Development State Grants, Innovative Education Program Strategies State Grants, Drug Free Schools and Communities state grants)
- Vocational Education (Territory Grant, State Councils)
- Student Financial Assistance (State Post Secondary Review Program)
- Adult Education (State Programs prorated share)
- Special Education (Section 632 Discretionary Grants)
- Student Loan Programs (no new student loans)

Programs for which legislation continues Palau's eligibility

- Vocational and Adult education (Voc Ed Basic State Grants, Adult educ State Programs)
- Student Financial Assistance (Pell Grants, supplemental Educ Opportunity grants, College Work Study)
- Higher Education (TRIO Programs, Title III Programs, Byed Honors Scholarships)
- Education Reform (School to Work Program)
- Education for the Disadvantaged
- School Improvement Programs (eligible to compete beginning FY1995 for discretionary grant programs)
- Bilingual Education (eligible to compete beginning FY1995 for discretionary grant programs)

Source: Ministry of Education

To offset some of the loss of these programs, under the Compact, there is a Special Education Grant (Section 221 (b) (2)) of \$4.3 million in FY1996, \$2.9 million in FY1997, and \$1.5 million in FY1998. The funds can be used for current purposes to finance education programs similar to those programs of the US that applied to Palau prior to the Compact. Over the planning horizon, these funds will not be sufficient to replace the federal grants lost. Given the likelihood of very tight fiscal constraints facing the Government over the coming decade, the Education Ministry must examine measures to raise additional funds and rationalize existing activities, without sacrificing the quality of learning.

Palau's public expenditure on education as a percentage of GNP (around 13-14 per cent in 1990) is the second highest of all the Pacific islands, and well above the average for Pacific islands of 8.5 per cent and for developing countries of 3.5 per cent (UNDP, 1994). Despite high spending on education, Pacific island countries continue to experience difficulties in achieving an appropriate quantitative and qualitative performance in education. A number of recent surveys have shown that basic literacy skills in Pacific island countries are considerably less than reported by school attendance data. This appears to be the case in Palau.

Given the NMDP projections (refer Chapter 4), over the next 5 years, it is recommended that the Government's appropriation to the Ministry be maintained at about the current level in real terms, while the Ministry should seek to replace the loss in federal program funds and meet the costs of new programs and capital works through increased funding efforts by its own means and through rationalization of existing resource use. Maintenance of the current appropriation should, however be tied to the achievement of improved education outputs. Such outputs should be developed under the recommended testing system proposed in the Education Plan. Appropriations may also need to be adjusted depending on enrollment numbers.

There is much evidence in the literature to show that the higher the level of education the greater the private benefits and the lower the public benefits (UNDP, 1994). Costs per unit also increase with higher education levels. There is little justification, therefore, in heavily subsidizing tertiary education. Student loans and scholarships are better tools to cater for equity concerns than subsidized fees. Consequently, the OEK appropriation per student for PCC should be gradually reduced over time. This would be more in line with PCC's independent status. In this respect, the establishment of a Development Office in PCC to develop revenue proposals, including the establishment of a permanent foundation is clearly in the right direction. The development of specialized training programs from the evaluation of training needs carried out in conjunction with the Bureau of Human Resource Development should be developed on a basis which seeks a commercial rate of return on expenditure involved. Student financial aid from US grants up to \$2,300 per student per year should continue. The Government's scholarship program should be increased, but should be targeted more on the basis of course relevance and student assessment levels, as well as be means tested against family income. If the Government desires the PCC to maintain its open door policy, then a separate subsidy arrangement should be agreed.

In terms of rationalization, following an assessment of school locations in light of the proposed alignment of the Compact road, the number of elementary schools should be reduced significantly. The very low student-teacher ratios would indicate that there are substantial savings in a reduction in the number of required teachers. The current student-teacher ratio for the High School of 8 is far too low and compares poorly with the already generous average ratios in Pacific island countries of 18 (UNDP, 1994). International evidence shows that relaxing generous student-teacher ratios like those in Palau will have little adverse effect on learning quality (UNDP 1994).

Any imposed funding constraints should avoid reductions in school maintenance and instructional materials. In many countries, reductions in education budgets have often fallen on the non-salary components such as instructional materials and school maintenance. It must be emphasized that the international evidence suggests that the returns to instructional materials and basic maintenance of facilities in education are very high, compared with much lower returns from generous student-teacher ratios or elaborate buildings.

The Ministry should begin the process of introducing school fees. Fees should be structured such that the higher the education level, the greater the cost recovery. In this respect, there is a better case for free elementary schooling than for secondary and post-secondary schooling. It is well established in the literature that the returns to elementary education are greater than the returns to secondary and post-secondary education. Publicly funded resources and subsidies should, therefore, be targeted more towards elementary education because the difference between private and social rates of return is greater at the elementary level. That is, at higher levels of education, the more the benefits accrue to individuals in the form of higher earnings.

Therefore, to ease funding constraints, high school fees should be gradually introduced. The payment of school fees also instills a sense of ownership in education services, both in terms of increasing interest from parents (and demands for school performance) and in terms of the school itself which would benefit, in part, from the increased funding.

In addition, full cost boarding fees should also be introduced, particularly for students who have easy access to their homes. To ease the burden on families from more distant locations on Babeddaob, boarding fees could remain subsidized until access is facilitated by the Compact road. Boarding fee subsidies could remain for students from the other Palau islands, although some contribution from the parents should be sought.

Further, if the community can be involved more in education (as recommended in the Education Plan), there is scope to obtain funds from the community to cover school capital expenditures. To provide additional incentives, the Ministry could offer matching grants up to certain budget limits.

(b) *Governance*

To refocus education along more performance lines, the Education Master Plan recommends the strengthening of the powers and responsibilities of the Board of Education for education policy. The Plan recommends increased accountability through public elections of the Board and restriction of the Ministry's role to one focused on administration.

The NMDP cautions against this approach. A general efficiency principle in public administration is that responsibility for policy outcomes and expenditure should be accompanied by responsibility for revenue raising to fund those outcomes. In the Education Plan model, the Board would be responsible for policy and expenditure, but not have authority over revenue raising. This would remain with the Government and, therefore, the Ministry. Having control of the Board's budget, the Ministry is likely always to be involved in policy matters. This is because the Government would be held accountable for its taxing actions. Clearly, responsibilities and accountabilities would be blurred. Further, selection of the Board via public elections would result in considerable conflict between the Board and the Government which would most likely end up in a contraction in the overall education budget.

The high costs of managing the education portfolio in Palau result from administration by many different agencies including a Board of Education, a Ministry of Education, a Scholarships Board, State Education Boards, Board of Trustees, Civil Service Commission and Bureau of Public Service System

The following changes could be made to improve management and efficiencies:

- The education portfolio could be restructured along corporatization lines which would mean a structure similar to the PCC.
- The Board would be independent of Government, but would need to adhere to broad Government policy guidelines and specified medium term education outputs that would be negotiated periodically with Government. Government funding should be conditional on adherence to these policies and outputs, thereby making funding subject to performance.
- The Board would have the flexibility to manage its allocated budget within the normal accountabilities.
- The Board should be required to be responsible for self financing an increasing proportion of its funding requirements through introduction of school fees, other community revenue raising schemes, federal program grants and other donor grants.
- Education staff would be contracted to the Board and, therefore, would not fall within the jurisdiction of the National Public Service System Act and its promulgated rules and regulations.
- If the option of public elections of the Board is adopted (as recommended in the Education Plan), then members should not be elected on a regional basis which would likely retard programs for the regional rationalization of education facilities. Ideally, the Board should be appointed by the President with the advice and consent of the Senate, and members should be appointed on the basis of their expertise.

In terms of post-secondary governance, the Board of Trustees for the PCC should be retained in its current form. An independent board is required to maintain accreditation under the US system. A number of standards are required to be met, including academic autonomy. Accreditation is important as it facilitates articulation to US colleges and universities, and is required for eligibility for US grants.

(c) *Vocational Training*

Vocational training in Palau is predominantly the responsibility of the PCC. There are a number of problems that will need to be addressed. While total enrollments at PCC as shown in section 14.3.1 have declined significantly in recent years, Palauan enrollments have increased, however the graduation rate remains relatively low. The costs per student enrolled have increased as enrollments have declined. In 1994, costs were around \$10,000 per enrollment. Cost per graduate is \$60,000. At these levels, comparison of returns from secondary education might question the appropriateness of additional funding to PCC. PCC's open door policy should be re examined. There may be better (and lower cost) alternatives to the absorption of unemployed young people by the College. The policy is also likely to have adverse effects on the quality of education outputs. PCC will need to place even more emphasis on management of costs and raise additional revenues (refer 14.3.3 (a)). The NMDP supports the PCC strategy to establish a foundation, whereby contributions would be tax deductible.

In terms of curricula, the courses that have had declining demand and have been withdrawn are in those areas where there is strong private sector growth - clothing construction and design, masonry and welding technology, auto body repairs, food service, agriculture, air conditioning and refrigeration, small engine and outboard motor technology. These are the areas where growth in foreign labor utilization has been the strongest and where it appears Palauans cannot compete. However, much of the foreign labor used is still relatively unskilled and the quality of output quite low. Highly skilled foreign labor is expensive, particularly if labor on-costs and allowances are included.

Consequently, if graduates from the PCC do not have reasonably high skill levels, then they will not be able to compete against relatively unskilled foreign labor, no matter what the category of employment.

The aim should be to focus on skilled education outputs to high international standards, even if this means much lower enrollment levels. Curricula should focus on those areas which require substantial skill levels. The labor market reforms recommended in Chapter 4 will also assist in altering the current imbalance. But in the end, Palauans will need to compete against low-wage foreign labor and they can only be successful if Palauan skill levels (and work ethics) are raised to a level whereby it is productive for business to recruit Palauans.

Overall, vocational education and training is showing signs of a decline in priority and the number of vocational areas in which training is offered. Palau High School divides students into vocational and academic streams. The vocational stream emphasizes carpentry and other traditional trade skills. However, the PCC has withdrawn these vocational streams from its curriculum because of lack of student interest. Graduating from the High School vocational stream would not enable a Palauan to compete against more productive foreign workers. There is a serious lack of coordination between all sectors and organizations which have a responsibility for education and training.

The strategy should be to achieve much greater coordination between the Ministry of Education, the PCC and other training providers. In this respect, an Education Advisory Committee (EAC) could be established which would have representation from the various levels of education, industry associations, the civil service and other relevant experts. The vocational curricula of the High School and PCC should be brought into articulation and targeted towards the skill needs of the economy, particularly the lead sectors. The curricula of elementary, secondary and post-secondary education should have a longitudinal sequence through all systems in order that one system takes over where the previous one ends. Environmental education is an example where this sequencing is needed. Because of resource constraints, PCC should be utilized as the focal point for most vocational training, which should be conducted on a cost recovery basis.

(c) *Scholarships*

The Palau National Scholarships Board is established under the Code (22 PNC 221) to administer assistance to post-secondary students in Palau and at overseas institutions. The cost of the scholarship scheme is around \$0.5 million per annum. Scholarships are awarded to about 50 per cent of graduating high school students each year and average between \$2,000-3,000 per scholarship per year. There is a subject priority system which is prescribed in the legislation that limits expenditure to 50 per cent for areas other than agriculture, marine resources, or other technical fields not normally classified as liberal arts. However, this prescription appears ineffective in directing students to needed areas of the job market. The majority of scholarship recipients are either studying liberal arts or business administration.

An additional problem is that very few graduating students return to Palau for employment. The success of the current loan program with credits for return employment is uncertain due to the lack of available data. The scheme is in the right direction although enforcement of guarantees needs to be improved.

The granting and administration of scholarships should focus more on priority areas of the economy, particularly in the leading sectors - tourism, marine resources, agriculture, business management, and public administration. Consideration should be given to granting full scholarships, although less in number, establishing ceilings on study majors, seeking nominations from all interested groups, and awarding scholarships to other areas and other post-secondary institutions. If PCC's appropriation is reduced, the amount targeted to PCC could be increased.

14.3.4 YOUTH DEVELOPMENT, WOMEN AND THE AGED

(a) Youth Issues

The 1990 census shows that 37 percent of the population is aged between 15-35 years. The unemployment rate for the age group is 12 percent. Two organizations are involved in youth programs in Palau. These are the Division of Youth Affairs in the Ministry of Community and Cultural Affairs, and the Palau Community Action Agency (PCAA). The Youth Affairs Office has national responsibility, but runs on an annual budget of less than \$20,000, of which the majority is salary related. The PCAA is an autonomous organization with the ability to seek operational funds from any source. It has a budget of over \$2 million per year and was established to identify and diagnose areas of poverty, develop constructive solutions towards community needs and services, and coordinate services with governmental and private agencies.

The PCAA is dynamic, well funded and has staff in the States actively implementing programs. The chief of Division of Youth Affairs is constrained by a lack of funds, has little authority and no staff.

The delivery and coordination of human programs to reduce youth unemployment should be improved. Entry level job training, retraining and opportunities for youth in the existing public and private agencies should be increased. The control of planning and coordination should be shared at both national and state levels of Government. The removal of many labor market distortions and other macroeconomics policies, together with improved educational and skilled training as recommended in the Master Plan should provide improved incentives and opportunities for youth employment.

(b) The Aged

In Koror, issues concerning Palau's aged community can be coordinated through the State Agency on Aging. There is a wide range of projects which can include Palauan senior citizens. A number of these are being implemented currently. Arising from the sector reports of the Master Plan, a number of projects involving senior citizens are considered valuable, including the documentation of traditional conservation methods which should be used in community awareness programs and curriculum development for schools. Recommended improvements in the social security and pension funds (Chapter 5) should assist in retirement security.

(c) Women

There is a Bureau of Women's Interest within the Ministry of Community and Cultural Affairs, however a Bureau head has not been appointed in either of the most recent Governments. The impetus to fill this position does not seem to have come from Palauan women's groups nor has it apparently been a priority. Women are not well represented in the OEK and hold few senior positions in the civil service. The situation is not inconsistent with the experience of a number of developed countries in the past 20 years. The obligations of women as wives, mothers and daughters in an emerging economy which offers many opportunities for participation have an inevitable impact on the social fabric of Palau. While Palauan women have considerable traditional authority and Palauan society is matrilineal, this does not appear to have been reflected by active participation in the policy making areas of society.

To address these concerns and promote the participation of women more in the economy and particularly in the civil service and OEK, the Bureau should be appropriately staffed. The Bureau should be proactive in recommending policies that encourage fuller participation of women as policy makers and decision makers.

14.3.5 SECTORAL HUMAN RESOURCE REQUIREMENTS

(a) Tourism

The tourism sector is one of the lead sectors of the Palau economy and is expected to show strong growth over the next decade. It is estimated that around 90 per cent of gross receipts of the sector are repatriated offshore. The estimated number of people directly employed in the sector in 1994 was 1,355. This number is expected to rise significantly in 1996-97 with the construction of two new hotel complexes in Koror. Employment is expected to increase to about 3,300 by the year 2000 and could double by 2020. There is substantial potential for increasing the value-added and employment of Palauans in this sector. Policy guidelines for human resources development in the tourism sector have not been established to date.

With the exception of on-the-job training provided by employing organizations such as the Palau Pacific Resort and a course for tour guides conducted by the EQPB in 1994, no tourism-related courses have been on offer in recent years. The PCC has not conducted any tourism-related courses, such as the Food Service Course, since 1991. With expected growth in employment opportunities in the sector, it is essential that the PCC and the tourism industry coordinate efforts in setting up training programs to begin to supply Palauans for this sector.

If an Education Advisory Committee (EAC) were established it should consider the human resource implications of industry growth and recommend to the PCC the introduction of curricula to meet the considerable required training needs of the sector over the next 15-20 years. Given the importance of the industry, the PVA should form an industry sub-committee to facilitate assessment of training needs and be involved in training programs. In this respect, a longitudinal strategy needs to be established to meet the present and future skill requirements of the sector (shown in Table 14.8).

Table 14.8 Tourism Longitudinal Strategy

Sector Activity	Tourism HR Process Action	Enterprise Level Activity
Develop industry strategic plan and HR plan	PVA and Education Advisory Committee	Develop strategic plan and HR plan
Analyze sector training needs	EAC and PVA advisory Sub Committee (BTAAC)	Analyze enterprise training needs
Analyze existing skills	BTAAC	Analyze existing skills
Set goals and objectives of training	BTAAC	Set goals and objectives of training
Design training programs	BTAAC and Training Provider	Select appropriate training programs
Pilot test and validate materials	BTAAC and Training Provider for pilot courses	Provide Participants
Advertise training programs available	EAC/BTAAC	Select individuals for training

Sector Activity	Tourism HR Process Action	Enterprise Level Activity
Conduct/arrange training programs	BTAAC and Training Provider	Conduct employee performance appraisal
Evaluate training and review	BTAAC and Training Provider	Select employees for further training & counseling.

(b) Agriculture and Forestry

The long-term goal of higher economic growth requires an agricultural development program to increase national production to meet local demand, reduce food imports and increase exports. Agriculture usually is a lead sector in small island and other less developed countries. Palau is unusual, in that agricultural is a minor sector, with its contribution to GDP declining from 9.8 percent in 1983 to 2.9 percent in 1992. Growth in this sector is expected to expand with the construction of the Compact road and implementation of a number of policy changes recommended in the Master Plan which could result in more commercial production. Skills required in the sector will tend towards management of commercial operations and technical expertise, rather than subsistence expertise.

In terms of human resource management in the Division of Agricultural and Mineral Resources, there needs to be:

- training needs analyses for all staff of the objectives of the Bureau and job descriptions for each post;
- sourcing suitable courses and attachments for officers in counterpart Government extension agencies in other Pacific nations and perhaps the Philippines;
- the appointment of an international agroforestry extension specialist (including counterpart funding), a research scientist, an adviser and Palauan counterpart in farm management, planning, budgeting and marketing, and an adviser to women's groups; and
- coordination and input into the EAC to increase the status of agricultural and forestry courses in secondary and college curricula.

(c) Marine Resources and Environment

There are many opportunities for an increase in Palauan involvement and monetary returns in the marine sector. However, very little is expected to take place unless there is a strong linking mechanism to pull the disparate threads together, reduce overlap and ensure adequate coverage.

There are a number of areas where staffing skills can be enhanced to lift the performance of public policy for marine resources. The recruitment of additional fisheries and conservation staff to monitor the dynamics of the sector will increase the scope for training other staff. The recommended acquisition of a purpose-designed surveillance vessel will result in a requirement for the training of crews which initially will be supported by the Australian Government as part of the donor assistance package. Additional training should be coordinated through the EAC. In particular, focus should be on the need for Palauans to become more involved in the managerial, inspectorial and technical aspects of the tuna industry. With membership of the Convention of International Trade in Endangered Species there will be a requirement for two highly motivated and trained personnel to undertake inspection, prosecution and community education, and one administrator. Identified training needs of the Ministry include management and accounting, customer relations, packaging and marketing, and environment and conservation.

Despite the significance of the marine environment to Palauan culture and lifestyle, the education system does not provide a satisfactory tertiary program on marine issues. There is a need for a college course that would:

- help Palauan youth realize that employment in the natural sciences is a viable career option, especially in the fields of coastal resource management, environmental education, enforcement, scientific research and mariculture;
- heighten community awareness about human impacts on the environment and foster a sense of stewardship towards Palau's resources;
- help re-establish a Palauan environment ethic and encourage the maintenance traditional Palauan environmental values; and
- assist National and State agencies in conducting environmental research.

Guidelines for an Environmental Sciences Program for college students, covering the marine environment, have been developed and are outlined in the Human Resource Sector Report, NMDP. It is proposed that a science and youth partnership program be established in which interested and able students are teamed up with visiting researchers for short periods. This would require ratification by the Government agency coordinating the research work.

(d) Civil Service

The Government Reorganization Plan (ARIES) Report to Government in 1989 provided the Government with the opportunity to facilitate the process of civil service reform. Palau has demonstrated some reticence to build effective institutions which have a planning outlook and which are geared towards national welfare. There is a lack of strategic planning, performance measurement, coordination and accountability. There are few sanctions on poor performance and low skill levels and motivation. Many employees attend overseas courses and workshops, but are unable to implement change because of the constraints imposed by existing structures and incentives within the civil service organization.

The development of management and policy skills will be an important aspect of lifting the performance of the civil service. The Government together with other employers in the economy should be a part of, and committed to the coordinating role of the EAC. The directors of the Bureau of Human Resource Development and Public Service System should be members on the Committee. The EAC would facilitate and coordinate training programs from the various aid agencies through the Bureau of Foreign Affairs and be in a position to involve both private and non-government organizations as well as the civil service. Information about overseas course offerings presently comes through the civil service and is kept within government circles.

A number of reforms are recommended for the civil service in Chapter 13, including the development of a senior executive service, and a strategic planning process for all Government entities. The Bureau of Public Service System should begin the framework for job analysis, job evaluation, contract design, and meeting job performance targets and standards. Recruitment should not take place for positions identified as being redundant. Procedures need to be developed for redundancy schemes. Gender bias in statements should be removed and policies of equal access and equal opportunity established. Training courses should focus on public administration generally, and particularly on the areas of public finance, economics, accounting and commerce.

(e) *Private Sector*

In many countries of the world it is small business which is the largest contributor to economic growth. Many governments underestimate the importance of small business not only in terms of output, but in providing the competitive dynamism necessary for an expanding economy. Governments generally choose between an active business promotion, development and training role against a more passive one which provides advice and assistance on demand. The Small Business Center in the PCC currently conducts training courses and provides advice and assistance on application.

The work of the Small Business Center should be continued and extended to provide advice and assistance to potential entrants and existing business. Provisions need to be made for the creation and funding of counterpart positions for Palauans to take up roles in the Center. The Center could provide special assistance to ex-government employees wishing to establish themselves as contractors as part of any change in policy. A suggested course outline has been developed and is included in the Human Resources Sector Report, NDMP. The Center has been staffed by Peace Corps volunteers, however there is an opportunity for the Palauan counterparts to run the Center on a fee-for-service basis. The Center staff should work towards this objective. The Center staff could be expanded by the recruitment of a specialist industrial adviser for which a Palauan counterpart position also would be required.

The National Development Bank of Palau should provide a leading role with the commercial banks and the Division of Economic Development to develop a project evaluation program with available literature to assist small business in formulating viable projects for financing.

The private sector, through its two business associations, should be represented on the EAC and should articulate the sector's education and training needs to the Committee. The sector should support the PCC in its endeavor to make the College the focal point of vocational training schemes in Palau.

14.4 STRATEGY AND PROGRAM OUTPUTS

14.4.1 STRATEGY - EDUCATION AND TRAINING

In partnership with parents and community, ensure that Palau's children, youth and citizens are educated and trained in a cost-effective manner to achieve their maximum individual potential and become contributing citizens and productive workers in a changing world, while at the same time protecting Palauan cultural attitudes and ways. (Strategy 3.4.2.20)

14.4.2 PROGRAM OUTPUTS: EDUCATION - PRIMARY AND SECONDARY EDUCATION

14.4.2.1 Rationalization of Education Services Implemented and Self Funding Mechanisms Established

The Ministry of Education should develop a rationalization plan of education services and structures, taking into account the construction of the Compact road which will connect all the States of Babeldaob. There is considerable scope for cost savings in the education portfolio. Currently, unit costs are very high, even compared with the high regional standards, and the quality of outputs only reasonable. Student/teacher ratios are very low. The number of teachers needs to be reduced and a number of elementary schools rationalized. The PCC must address its very high unit costs and its low graduate outputs.

In terms of Government appropriations, the Ministry's allocation should be held constant in real terms at around the 1994 level. New programs, capital improvements and funding losses due to the reduction in federal program grants should be funded from internal savings or from own-sourced funds, which should include the levying of school fees and assistance from other donors. The Government's appropriation should be contingent on the achievement of negotiated performance goals, with adjustment for enrollment numbers if in excess of expectations.

In line with the Constitution, elementary school fees for tuition should remain free of charge, although the Ministry should implement a policy of gradually recovering any auxiliary services in this area related to, for instance, instructional materials and meals. For secondary schooling, the Ministry should begin the process of introducing school fees. Fee levels should be graded according to level and increase as the grade level increases. A matching grant system should be introduced to encourage community contributions to schools under the proposed "Partnership Planning" groups (refer section 14.4.2.4). The school lunch program should be phased out and replaced by meal charges and community volunteers within the "Partnership Planning" groups.

Full-cost boarding fees should be charged to students with families in easy distance from the Public High School, unless there are exceptional circumstances. The Compact road will allow most students in Babeldaob easy daily access to the High School. Subsidized boarding could be provided to students that are unable to access the High School on a daily basis (that is students from other islands). The changed boarding fee and other fee arrangements should be phased in gradually.

14.4.2.2 Improved Professional Personnel and Certification System Established

The recommendations of the Palau 2000 Education Master Plan for an improved professional personnel and certification system for elementary and secondary teachers and education administrators should be adopted. This will include development of a human resource system for the education sector that would be managed by the Ministry outside the current Public Service Act. The system will include individual contracts for staff tied to a certification system based on standards related to knowledge and ability to perform. It will require the establishment of a Professional Certification Board.

The estimated costs are \$10,000 initially in FY1995, then \$75,000 per annum thereafter. Increased remuneration likely in the establishment of staff contracts will be funded by internal savings and rationalization of resource use. The changes will require legislative amendments.

14.4.2.3 Partnership Planning Groups Established

The recommendations of the Palau 2000 Education Master Plan for the establishment of partnership planning groups should be adopted. The groups will strengthen the relationship between family, community and education, and should be composed of representatives of school administration, teachers, parents, and community leaders. The groups would be involved in developing and funding certain activities, and have an input into education policies. To encourage community involvement, the Ministry should offer a matching grant system for capital items up to a specified budget limit (refer section 14.4.2.1).

The cost is \$20,000 per annum for administration, and any grant amount should come from within the ministry's existing appropriation and internal revenues.

14.4.2.4 Standards, Instruction and Curricula Improved

The recommendations of the Palau 2000 Education Master Plan for improved standards, instruction and curricula should be adopted. These changes include the development of a revised set of graduation standards and assessment benchmarks, mandatory school attendance through 12th grade or age 17, development of a career planning

portfolio for each student, improved articulation between high school and PCC, establishment of a certificate of mastery for graduation at the grade 12 level, and set of core requirements to facilitate future accreditation.

The changes to mandatory attendance will require legislative change. The estimated costs are \$50,000 in FY1995 and \$75,000 per annum thereafter.

14.4.2.5 Formal Kindergarten and Pre-school Education Implemented

The Palau 2000 Education Master Plan recommends that kindergarten attendance at age 5 be made mandatory and that every Palauan 4-5 years old should have the opportunity to attend a pre-school program with an organized curriculum. The recommendation should be adopted, but because of cost implications (estimated at \$200,000 per annum) should be delayed until 1998 and then phased in gradually beginning with the kindergarten proposal utilizing the Ministry's own-source funds.

14.4.2.6 Facilities Upgraded

A number of capital improvement projects have been put forward in Chapter 6 (section 6.11.4) which are contained in the Government's EDP as both prioritized and unprioritized projects (total estimated cost \$19.95 million). The Palau 2000 Education Master Plan has also put forward a number of projects which include the upgrading of existing buildings and structures (classrooms, fencing, sports facilities, and dormitory and cafeteria at the Palau High School) costing \$2.67 million, and the construction of a new administration center at a cost of \$1 million.

The projects will need to be resubmitted through a more rigorous evaluation process (refer Chapter 6) to assess returns and priorities. In this evaluation process, there should be consideration of the impact of the Compact road and capital relocation - the former will allow scope for the rationalization of elementary schools and lessen the need for boarding, and the latter will impact on the siting of the administration center. The rationalization of facilities and development of the human resource development system should allow considerable cost savings to be achieved. If these are included with the recommended own-sourced funding proposals, sufficient internal funds should be able to be generated to fund any required capital expenditure.

14.4.3 PROGRAM OUTPUTS: EDUCATION - POST-SECONDARY EDUCATION AND TRAINING

14.4.3.1 Palau Community College Self Sufficient in Funding

The long-term objective of the PCC should be to be self sufficient in terms of Government appropriations. The PCC should aim to reduce its unit costs per graduate by both controlling costs and expanding its services. There is little rationale for not charging user fees in post-secondary education that are more in line with costs. The scholarships system should remain and be improved to assist students (refer section 14.4.3.4). As such, the Government appropriation to the PCC should be gradually reduced over time and tied more to performance outputs. In terms of governance, the Board of Trustees for the PCC should be retained in its current form.

14.4.3.2 Palau Community College Performance Targets Improved

Palauans will need to be able to compete against low-wage foreign labor and can only be successful if Palauan skill levels (and work ethics) are raised to a level whereby it is productive for business and Government to recruit Palauans. To assist in this strategy, the PCC should focus on skilled education outputs to high international standards, even if this means much lower enrollment levels and a restriction in the number of full-time courses offered. The Curricula should focus on those areas which require substantial skill levels.

Research should be conducted into the reasons for the low graduation levels and high drop-out rates from the College. The results of the research should be made available to organizations involved in youth and small business programs. The education and counseling system must be geared to steering young people towards the higher skilled areas of the economy, particularly in the leading sectors. If the Government wishes the PCC "open door" policy to remain, a special subsidy should be negotiated with the Government.

14.4.3.3 Education Advisory Committee Established

An Education Advisory Committee (EAC) should be established to assist in defining the education and training needs of the economy, and to coordinate programs to address these needs. The EAC would have representation from the Ministry of Education, PCC, Bureau of Human Resource Development, Bureau of Public Service System (and/or National Civil Service Board), private sector business associations, and other community leaders.

The Committee should ensure that vocational and academic streams of the High School articulate into the vocational and academic streams of the PCC, and that both sets of curricula are geared towards supplying productive and skilled citizens, particularly focused on the leading sectors and administrative demands of new policies.

Through its representation on the Committee, the private sector should establish industry sub committees to conduct training needs analyses, and assist the EAC in formulating training programs, securing suitable courses and attachments in counterpart agencies. These are particularly important for the tourism, marine resources and agricultural sectors. The Bureau of Human Resource Development should complete the detailed assessment and projection of skill requirements for the economy which it commenced in 1994. To elevate the importance of environmental issues and develop the required improvement in expertise, an environmental sciences program should be established at the PCC. (Guidelines are shown in Annex II Marine Resources Sector Report, NMDP.) The PCC should be the focal institution used to conduct training courses.

A substantial number of reforms are required to be implemented by the Government over the coming years. This will require additional expertise and the upgrading of civil service administration skills. The Bureaus of Human Resource Development and Public Service System should develop the framework for job analysis, job evaluation, performance targets, and required expertise. Training needs should be coordinated through the EAC. Overseas courses and workshops offered by donors should be available to the private sector and nominations should be coordinated through the EAC.

The work of the Small Business Resource Center should be continued and expanded to provide a wider service for existing and potential business entrants. The proposal for the National Development Bank to take the lead role in developing and coordinating a project evaluation program with available literature to assist small business in their applications for finance should also be coordinated through the EAC.

14.4.3.4 Scholarship Scheme Upgraded and Targeted

The Government's scholarship scheme for post-secondary study should be continued and allocations increased. The scheme should target priority areas of the economy. Consideration should be given to granting full scholarships even if less in number, establishing ceilings on study majors, seeking nominations from all interested groups and awarding scholarships to other areas, as well as post-secondary institutions. The Scholarship Board should improve its enforcement of the student loan and guarantee arrangements to ensure adequate incentives are established for recipients to return to Palau for employment.

14.4.4 PROGRAM OUTPUTS: EDUCATION - GENDER AND YOUTH ISSUES

14.4.4.1 Profile of Women's and Youth Issues Enhanced

To address concerns over problems specific to young Palauans and women, the Ministry of Community and Cultural Affairs should ensure those functions are adequately resourced to play an active policy role and coordinate their activities with the various youth and women's groups in the community.

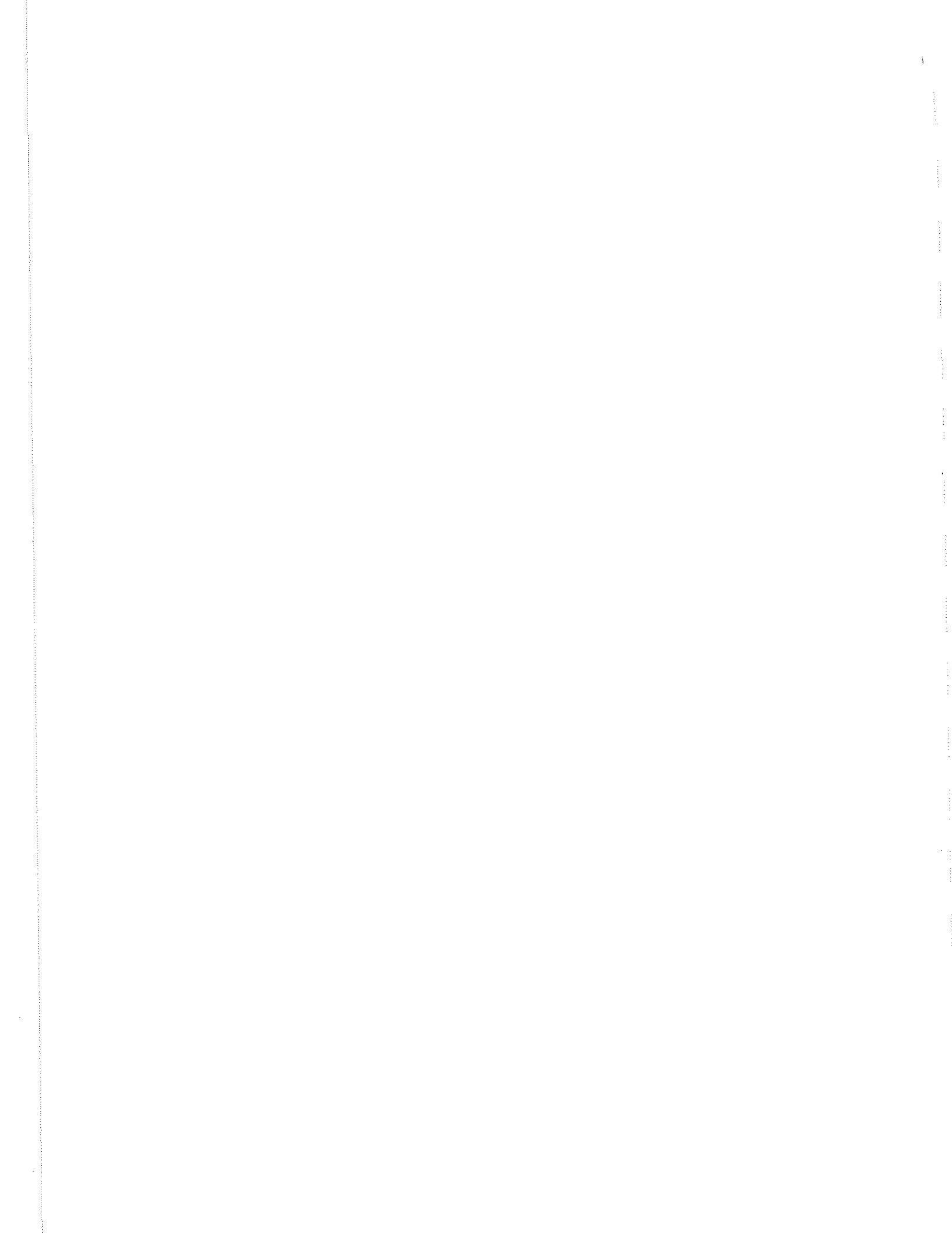
CHAPTER 14: HUMAN RESOURCE DEVELOPMENT LOGFRAME

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
OUTPUTS 14.4.2.1 Education services rationalized and self funding mechanisms established.	Operational plan to rationalize education services and structures taking into account Compact Road alignment. Ministry appropriation at 1994 levels achieved in line with performance criteria. New programs funded from savings within Ministry and/or charges. Funding to PCC stepped down, achieving self sufficiency by 2020. Operational system of secondary school fees, subsidy declining with higher grades. Full cost boarding fee operational.	Strategic plan for Ministry. Ministry teaching staff numbers. Fee system in secondary schools.				
14.4.2.2 Governance of education strengthened and streamlined	Governance system selected and operational	Legislation	Leadership understands the benefits of clarification of governance structure.	recurrent	\$50,000	
14.4.2.3 Personnel and certification system established	Operational human resource system, including professional staff contracts tied to certification system . Operational certification system based on standards relating to knowledge and ability to perform.	Professional Certification Board records. Staff contracts.	Leadership accepts and adapts the reforms recommended for civil service staff contract arrangements	recurrent	\$75,000	
14.4.2.4 Partnership Planning Groups established	System of PPG operational with participation by family, community and educators.	PPG activities	Community and Ministry prepared to give the time required to work with these groups	recurrent	\$20,000	
14.4.2.5 Standards, instruction and curricula improved	Revised graduation standards and assessment benchmarks operational. Compulsory school attendance through 12th grade or age 17 achieved. Operational career plan for each student.	Graduation standards, and certification Legislation on school attendance. Career plan portfolios.	Leadership understands the benefits of improved standards and education to 12th grade	recurrent	\$75,000	
14.4.2.6 Formal kindergarten and pre-school education implemented	Mandatory kindergarten system for children aged 5 years operational. Pre-school system for children aged 4-5 with organized curriculum operational	Legislation for kindergarten system. Preschool structure & curriculum	Leadership supports a system of formalized education for young children	recurrent	\$200,000	
14.4.2.7 Education facilities upgraded	EDP and NMDP recommended program of facilities construction & upgrade implemented (refer Section 6.11.4)	Ministry budget submission. Budget appropriations. Site inspections	Evaluation of capital expenditure shows acceptable returns. Leadership is prepared to consider increased appropriations for capital spending in the education sector	EDP 10 yrs, Educ Plan 3 yrs	Educ Plan \$2.7m	EDP (refer section 6.11.4)
14.4.3.1 PCC budget appropriations reduced	Funding for PCC from budget stepped down to achieve self sufficiency by 2020. Programs developed by PCC to lower unit costs and/or increase revenues	Budget appropriations. PCC annual reports	Leadership recognizes the benefits of encouraging PCC towards self sufficiency		savings to Govt	
14.4.3.2 PCC performance targets improved	PCC objectives refocussed on increasing skill levels to higher international standards targeting required expertise in the Palauan economy, research conducted into reasons for low graduation levels and high drop-out rates at PCC. Upgraded education counseling system operational	Graduate outcomes evaluation. Annual reports	PCC Board recognizes the need to enhance skill levels rather than focus on numbers of enrolments	5	0	
14.4.3.3 Education Advisory Committee established	Educational Advisory Committee operational. Analysis of education & training needs conducted in consultation with private sector & government agencies. Advice provided on articulation of vocational and academic streams, of the high school and PCC.	EAC records	Importance of focusing training on needs of the economy is recognized by public and private sector	recurrent	0	ODA resources likely to be available for training schemes

CHAPTER 14: HUMAN RESOURCE DEVELOPMENT LOGFRAME

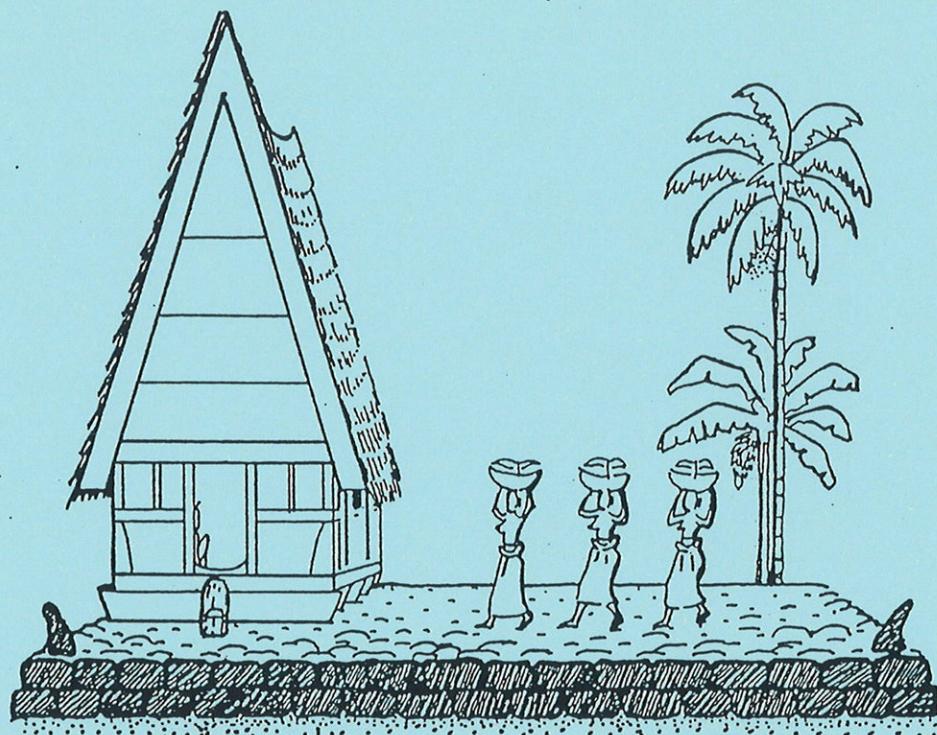
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 14.2.1 Population <i>Collect and analyse comprehensive population information to assist the development of policies and programs particularly in relation to the labor market, education and health planning, disadvantaged groups and family welfare programs</i>						
OUTPUT 14.2.2.1 Improve collection and analysis of population and labor market data	Allocation of resources in Statistics Office to population analysis. Information processes developed with Ministry of Commerce & Trade (Division of Labor) and Bureau of Public Service System. Processes established to reformat census data. Skills developed in econometric forecasting techniques.	Strategic plan of Ministry. Publication of quarterly & annual data and projections. Surveys.	Leadership understands the benefits of population analysis and projections, and requires regular outputs. Suitably qualified person assigned to task.	recurrent	recurrent	
STRATEGY 14.2.3 Labor Market <i>Reorient labor market incentives and manage the inflow of foreign labor to achieve sufficient growth in employment levels in the private sector in Palau, particularly in more highly remunerated and skilled positions. To limit unemployment and the attractiveness of emigration, support a higher quality of life and a more competitive private sector and reduce social conflict.</i>						
OUTPUTS 14.2.4.1 Labor market statistical base improved	Development of a comprehensive labor market statistical system by the Division of Labor. Annual labor force survey in operation showing wages, employment, unemployment, participation rates. Labor force projections utilized.	Annual labor force survey & projections	Suitably qualified person is assigned the task in the Division of Labor	recurrent	recurrent	
14.2.4.2 Labor market policies implemented	Refer Chapter 4 (sections 4.7.2.1 - 4)					
14.2.4.3 Uniform national labor code established and enforced.	Legislation amended and enforced covering minimum working conditions for all workers in Palau	Legislation	Leadership understands the benefits of implementing non-discriminatory labor laws.	recurrent	recurrent	
14.2.4.4 Employment services improved	Operational employment services system with national coverage, providing vacancy information, counselling advice, placement on training schemes, and coordination with employers.					
STRATEGY 14.4.1 Education and Training <i>In partnership with parents and community, ensure that Palau's children, youth and citizens are educated and trained in a cost effective manner to achieve their maximum potential, and become contributing citizens and productive workers in a changing world, while at the same time protecting Palauan cultural attitudes and ways.</i>						

CHAPTER 14: HUMAN RESOURCE DEVELOPMENT LOGFRAME						
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
14.4.3.4 Scholarship scheme upgraded and targeted	Scholarship scheme targeting priority areas in economy, student loan repayments enforced	Scholarship allocation records. Loan repayment data	Leadership understands the benefits of focusing scholarships on needs of economy, and on encouragement of high quality outputs	recurrent		ODA resources likely to be available for tertiary resources offshore
14.4.4.1 Profile of women and youth issues enhanced	Bureaus in Ministry of Community and Cultural Affairs resourced and providing policy research and advisory roles.	Office records. Budget appropriations. Policies.	Leadership understand the benefits of enhancing the role of women through integration of advice into mainstream decision-making process.	recurrent	\$50,000	ODA likely to be available for research and training on these issues



CHAPTER 15

HEALTH



CHAPTER 15

HEALTH

Improvement of the health status of Palauans is essential to the Republic's economic and social development. The changes in US funding of health services which have occurred since Palau's independence are likely to place increased burdens on both the Government and citizens. The impact of changing lifestyle on the health of Palauans and foreign residents are an important element in developing preventative programs.

15.1 SITUATION ASSESSMENT

15.1.1 GOVERNANCE AND INSTITUTIONS

There are constitutional and legislative provisions that mandate health responsibilities to the National Government. These include:

“The National Government shall take positive action to attain these national objectives and implement these national policies: promotion of health and social welfare of the citizens through provision of free or subsidized health care” (Article VI, Constitution of the Republic of Palau).

“...To maintain and improve health and sanitary conditions, minimize and control communicable diseases, establish standards of medical and dental care and practice, encourage scientific investigation in the field of health, supervise and administer all government owned hospitals, sanitariums, clinics, dispensaries and such other medical facilities..” (Duties in general, 34 PAC 101).

Under Executive Order No 116, the Ministry of Health was reorganized in 1993 to streamline operations. Line operating functions were separated from central administration support functions. The Ministry now comprises:

- Five management offices (Health Care Financing, Health Planning and Evaluation, Federal and International Programs, Human Resource Development, and Health Care Administration). No staff are in place in the first two offices. There are around 80 employees in the offices which include administration functions, auxiliary services and pharmacy;
- Bureau of Public Health (with 4 divisions - Sanitation and Environmental Services, Public Health and Primary Health Care, Dental Services and Behavioral Health). The Bureau also has a line reporting relationship with the Community Health Center (TIC) which, until recently, was administered by a separate board. The Bureau had 98 employees in FY1994;

- Bureau of Clinical Services (with 3 divisions - Nursing Services, Medical Services and Professional Services). The Bureau had 136 employees, including 104 nursing staff, 13 doctors, and 19 professional services staff in FY1994.

In 1993, legislation (34 PAC 102) was amended to establish a Board of Health. This was a requirement to facilitate an equipment grant of \$2 million from the US. The responsibilities of the Board are restricted to administration of this grant, to the hospital, as well as improvement in revenue collections. The grant requires the Board to remain in place for 5 years (1998). Board membership includes the Minister of Health (Chairman) and Health Services Administrator. At present, the Board is not active. There remains some uncertainty over the division of responsibilities between the Board and Minister. Work is currently being undertaken to formulate Board bylaws and policies.

A Board of Licensure oversees qualifications of all practicing clinicians and para-health professionals. Private sector health services are limited, with two private clinics established in Koror. The lack of private sector development in this sector reflects, in part, the prevalence of relatively high standard of health services subsidized by the Government. Before any private practice can be established or expanded in the health area, a Certificate of Need is required to be issued by the Minister. This has not tended to restrict private practice.

The staffing of the Ministry numbered just over 270 in early 1995. In the area of health care administration, the staff are all Palauans except for three (the Assistant Administrator, Federal and International Programs Officer and Behavioral Health Administrator). In line with the Ministry's Five Year Health Plan (1993-98), there are plans to employ more professional and paraprofessional staff.

Due to the critical shortage of physicians in the Micronesian region, the Pacific Basin Medical officers Training Program (PBMOTP) was established. There are formal arrangements with the Fiji School of Medicine for the graduates to complete their internship and residency in Fiji. A plan has also been completed by the Pacific Island Health Officers Association (PIHOA) to begin a Dental Officers Education Program (DOEP) to address the critical shortage of dentists in Micronesia. The philosophy of this program is similar to that of the PBMOTP and negotiations with the Fiji School of Dentistry are currently being undertaken.

To address the continual shortage of nursing and dental para-professional health care workers within the Ministry, a formal program of training for health assistants, practical nurses and dental assistants has been established. Short-term training initiatives have been funded through the US Public Health Section 301 Grant and the US Department of Commerce Job Training Partnership Act grants. Unfortunately, the 301 grant initiative may be rescinded by the US Congress for 1996, and the FHP funding was terminated in 1994 for dental training. Arrangements to begin a nursing and para-professional educational program at the Palau Community College are also under negotiation.

15.1.2 HEALTH STATUS

In general, over the past three decades, Palauans have experienced continued improvements in health status. This reflects improvements in literacy, economic and living conditions, and health care services - both preventive and curative. Despite these general improvements, prevalence rates of diseases of developing nations are still high, and there is an increasing incidence and prevalence of chronic illness. Table 15.1 shows a number of health indicators.

Table 15.1 Health Indicators

Year	Population	Live Births	Birth Rate Per '000	Deaths	Death Rate Per '000	Infant Deaths	Infant Mortality Rate Per '000
1975	12,792	381	29.8	68	5.3	21	55.1
1977	12,911	358	27.8	60	4.6	9	25.1
1979	12,381	315	25.4	62	5.0	14	44.4
1981	12,131	281	23.2	77	6.3	4	14.2
1983	12,161	306	25.2	84	6.9	7	22.0
1985	12,191	337	27.7	95	7.8	9	26.7
1987	13,873	311	25.0	96	6.9	6	19.3
1989	14,206	309	21.7	101	7.1	5	16.2
1991	16,004	350	21.9	102	6.4	3	8.6
1993	17,127	356	20.8	116	6.8	10	28.1

Source: Economic Development Plan 1994, Consultants estimates for population 1991-93

In particular, health indicators show that:

- The birth rate has declined appreciably during the past ten years from 25 per 1,000 population in 1983 to 20.8 per 1,000 population in 1993. This is due to the active family planning program which began in the 1970s, changes in attitude of Palauan women, higher female participation rates in the formal work force, higher out-migration of the fertile age group, and increased influx of foreign workers with very low birth rates because of the high male-female mix of workers.
- The death rate has remained relatively stable at around 7.0 per 1,000 population since the mid 1980s, although is higher than the average rate of 5.6 in the previous decade. This is likely to reflect the ageing of the population.
- The infant mortality rate has declined on a trend basis from 36 per thousand in the mid 1970s to 18 per thousand in the early 1990s, although there was a sharp increase in 1993 to 28 per thousand due to an increase in deaths from premature births.

While environmental conditions remain an important cause of death, chronic illness as a cause is on the increase. In 1993, the three leading causes of death were diseases of the circulatory system (31 deaths), neoplasms (22 deaths), infections and parasitic diseases (7 deaths), diseases of the respiratory system (7 deaths), and drowning (6 deaths). The five leading causes of illness treated at the outpatient department of the hospital and clinics for years 1992 and 1993 were diseases of the respiratory system, injury and poisoning, diseases of the nervous system and sense organs, infectious and parasitic diseases, and diseases of the skin and subcutaneous tissues. In 1990 the number of first visits to the outpatient section was 15,531, up from 9,779 in 1989. The five major diagnoses for hospital admissions for 1989 and 1990 were injury and poisoning, diseases of the respiratory system, diseases of the genitourinary system, complications of pregnancy and childbirth, infections and parasitic diseases.

15.1.3 HEALTH SERVICES

Over the past decade, the Government of Palau has made some major advances in the delivery of both preventive and curative health services. These services include health promotion, preventive health services, primary health care, and secondary and tertiary medical services.

Preventive health care measures are undertaken primarily through the Bureau of Public Health. The range of public health services provided include: immunization, maternal and child health, school health, dental services, family planning, behavioral health services, control of communicable and non-communicable diseases, health education, sanitation and environmental health services, vector control, pollution control and public education. Current public health and community health medicine activities are handled at the old MacDonald Memorial Hospital in Koror. Dispensary activities are limited due to staff shortages and deteriorating facilities.

School dental programs are primarily oriented towards preventive health care. The program is considered one of the best in the Pacific islands. It consists of screening at the schools and at the site, fluoride tablets/rinse, toothbrush and toothpaste distribution and clinical dental care when individual student need is identified through the screening program.

Delivery of primary health care to the population residing outside of Koror and the areas accessible to Koror is provided through the Division of Primary Health Care, supported by the dispensary systems. At present there are thirteen dispensaries within the various States of the Republic, although only seven are operational with a permanently assigned staff. These dispensaries provide primary, preventive and health promotional services and are staffed by locally trained health care workers (health assistants) who have 24 hour accessibility by short-wave radio to the central hospital. In cases of emergency, the National Government provides an evacuation service. Outreach efforts by various primary and preventive health programs are facilitated through the efforts and cooperation of health assistants in the field. Expansion of outreach services is planned over the near term when a team of health care providers (from doctors and nurses to sanitary inspectors) will be traveling to the outer islands and villages to provide enhanced health care services. The Ministry is in the process of rationalizing and upgrading the dispensary system.

For Koror and areas with easy accessibility to Koror, primary health care is provided at the Outpatients Department, Belau National Hospital. Primary care is also provided at the two private clinics in Koror - the Belau Medical Clinic and Seventh Day Adventist (SDA) Medical Clinic. The clinics also have small laboratories, radiology and pharmacy facilities. Physicians who operate these clinics have hospital privileges and admit patients to the Belau National Hospital for secondary and tertiary medical care. As well as the National Hospital, the SDA Clinic provides dental and optical services.

Curative health services are the responsibility of the Bureau of Clinical Services. These include emergency care, surgical, medical, pediatric, obstetrics, gynaecology, physical rehabilitation services, and regular outpatient services. Support services present in the hospital are laboratory, radiology, and pharmaceutical services.

The new Belau National Hospital (opened in December 1992) is the only public hospital in Palau and has a bed capacity of 80. There are four major wards: Medical/Pediatric, Surgical, Obstetrics/Nursery and Psychiatric. It is a self-contained hospital with independent water and emergency power systems. The hospital provides services from primary health care, such as out-patient care, to tertiary care such as

hemodialysis and hyperbaric services. The Ministry of Health, in its effort to contain the continuing rise in medical services costs, has several agreements/arrangements with physicians and physician groups outside of Palau to come and provide specialized medical care in Palau on a regular, scheduled basis. These services include neurology, cardiology, pediatrics, plastic surgery, and orthopedics. Travel and living expenses are met by the Ministry.

Approximately 350 to 400 surgeries are performed each year at the hospital, of which about 49 per cent are major operations. Hospitals statistics show that between 1989-1992, the average daily census was 37.9 patients, the bed occupancy rate 59 per cent, and average length of stay 6.6 days (Table 15.2). The new hospital was opened in late 1992 increasing the number of available hospital beds significantly. Latest statistics for the first half of FY1995 show an average daily census of 32.7 patients and a bed occupancy rate of 40.8 per cent - little changed since 1993 when the new hospital was opened.

Table 15.2 Hospital Utilization Statistics

Year	Average Daily Census (no)	Average Length of Stay (no of days)	Bed Occupancy Rate (%)
1989	37.3	6.7	58.4
1990	39.9	6.7	62.0
1991	42.8	7.2	66.9
1992	31.4	5.8	49.0
1993	30.6	6.6	38.0

Source: Ministry of Health (reproduced in EDP)

The Outpatient Department records around 25,000 to 30,000 patient encounters per year, while the Emergency Room averages between 8,000 - 9,000 patient encounters per year.

An off-island Medical Referral Program for tertiary medical care which is not available in the Republic is provided by the Government. Under the Pacific Islands Health Care Program (PIHCP), Palau can refer cases to the Tripler Army Medical Center in Hawaii. However, referred cases have to meet the "learning requirements of interns and residents" who are training under this program. Due to high costs, and lack of managed care of referrals, in 1994, the management and administrative oversight of the Medical Referral Program was contracted to the Guam Memorial Health Plan (GMHP). This allows Palau to utilize the low capped fee scheduled program. Based on the condition of the patient, three hospitals in the Philippines (St. Lukes, Makati and Medical City General Hospital) are now used as referral sites. The Ministry has a coordinator in the Philippines to provide support services to patients.

Under the program, the patients and/or their families pay the transportation costs to and from the Philippines. The Government of Palau initially pays the medical expenses, although the patient and/or their family is required to repay the Government one half of the incurred medical expenses. In the FY1991-94 period the number of off-island medical referral cases to offshore hospital has been averaging about 100-110 patients per year with average yearly costs to the hospital of approximately \$421,000. In FY1995 costs have escalated sharply to around \$0.7million.

15.2 HEALTH PLAN

In late 1992, the Ministry of Health developed a Five Year Health Plan 1993-98. The goal of the Plan was to develop health system management and infrastructure to achieve a number of health objectives. Rather than focusing on past issues, the Plan is oriented towards individual program actions across the Ministry. The Plan proposes a major reorganization of programs and services - the major initiatives of which are outlined in Table 15.3.

Table 15.3 Health Plan (1993-98) Proposals

- Administration
 - establishment of a health authority as a permanent community/advocacy body;
 - establishment of a standing management committee.
- Finance
 - establishment of a "special fund" in the Ministry of Administration earmarked solely for health purposes and empowering program managers with authority to manage their own budgets and records;
 - establishment of targeted "trust funds" designated for preventative health services and funded by taxes, fines and charges on perpetrators.
- Human Resource Development
 - establishment of an Office of Human Resource Services;
 - development of professional standards, and appropriate salary scales that will attract and retain multi-level health personnel.
- Medical Supply Services and Maintenance
 - improved management of supply (including requisition, procurement and distribution) and equipment inventories;
 - upgrading of preventive maintenance practices to reduce costs of "down time".
- Medical Services
 - development and enforcement of standard policy and procedures for medical referrals;
 - expanded staff development and equipment supplies for laboratory services;
 - recruitment of personnel and improvement of storage for radiological services;
 - establishment of standardized policy and procedures, localize personnel, and develop requisition, stocking and storage schedules for pharmaceutical services.
- Health Information and Preventive Care
 - development of a comprehensive and centralized health information system;
 - establishment of health surveillance system to assist in forecasting health needs;
 - improvement of health education resources;
 - improvement of dispensary resources and provision of coordinated health care services;
 - enhancement of behavioral health research;
 - improvement in maternal, child health and dental services through an expansion of outreach services and health programs in elementary and secondary schools.
- Hospital Medical Program
 - improvement of salary structures and conditions, recruitment of foreign nationals, encouragement of local personnel, recruitment of multiple level staff, development of a quality assurance program;
 - improvement of appointments scheduling, increase quantity and quality of clinical staff, and expansion of eye, nose and throat clinic;
 - implementation of strategies (salary increases, self scheduling, increase in support staff etc.) to counteract nursing shortages and expand numbers of nursing staff (implement PCC course).
- Community Health Center
 - separation of the Community Health Center from the Ministry of Health to enhance community participation and aim to become a Federally Qualified Health Center to maximize reimbursement rates.

Overall, the Plan defines in detail the responsibilities, goals and action plans of all sections of the Ministry. It aims to expand the number of professional and para-professional staff, many of which are expected to be recruited from outside Palau. However, the Plan has not, as yet, been adopted by the Ministry either in policy or administrative terms, although some aspects of the Plan have been used to assist policy discussions. The Plan still needs to be reviewed, particularly in light of the development of the dispensary plan.

15.3 PROBLEMS AND ISSUES

15.3.1 DETERIORATING HEALTH STANDARDS

Although there has been a definite improvement in the general health standards of the population over the past few decades changing lifestyles have resulted in different health patterns and new health problems have emerged. Indicators for communicable diseases remain relatively high while, at the same time, indicators of non-communicable diseases are continuing to increase at relatively high rates. The infant mortality rate is higher than acceptable. This indicates a society that is experiencing diseases of both developing and developed nations. Examples of the latter include increases in gastroenteritis, cardiovascular disease (heart disease and strokes), cancer, and diabetes. Diabetes is strongly associated with age, lack of exercise, diet, obesity, alcohol consumption and stress - classic diseases of lifestyle and modernization. The growth in these diseases is typical of most Pacific island countries (UNDP 1994).

An important feature of non-communicable diseases is that they impose a major burden on health care resources. They are expensive to treat, usually requiring hospital-based curative treatment, and they impose a major dilemma to resource allocation for developing countries. As an example, in developing countries, nine diseases account for 75 per cent of the disease burden in children under five and all but one of these can be substantially controlled with a cost-effective intervention of less than \$100 per disability adjusted life year (DALY). By contrast, cerebrovascular (strokes) cost \$1,000 or more per DALY saved (World Bank, 1993). In Palau, 11 terminally ill patients currently cost around \$0.35 million per year for supplies (excluding staff costs). The average expenditure on curative care among Pacific island countries is around 80 per cent of health care expenditure (UNDP, 1994). In Palau, the expenditure is around 65 per cent, although this is overwhelmingly due to the focus of US grant funds on preventive care. Given budget constraints and likely decline in US grants, choices will have to be made between funding preventive and primary care, which can generate widespread improvement in infant and adult health through the control of infectious diseases, or expensive curative care for what may be the better off urban minority.

In common with many Pacific island countries, Palau relies heavily on imported food, much of which is of low nutritional value. The use of these foods reflects both cost and convenience factors. Government policies should support the growing and marketing of local foods, promote health and nutritional education, and should alter the relative price of imported versus domestic foods (refer Chapter 9).

Other health concerns are dental caries and inadequate sanitation. Dental caries among school children have increased in recent years, largely due to poor personal hygiene practices, increased consumption of processed food and limited preventive measures.

The increase in incidence and prevalence of diseases associated with AIDS, such as tuberculosis (TB) is of concern. Cases of multi-drug therapy resistant TB bacteria have been identified. Also preliminary studies indicate that Hepatitis B is endemic in Palau with approximately 20 per cent of the population identified as carriers of the virus. New cases of Hansen's Disease (Leprosy) have also been identified.

Concerns over behavioral health illness and health problems exacerbated by drugs and alcohol abuse have increased. Resolution and control of these increasing problems will require the involvement of the Palauan society at large, particularly parents, guardians, community and church groups, policy makers and experts in the field of alcohol and drug abuse. At the same time, the increase in cases of child abuse (physical and sexual) and spouse abuse are becoming evident.

These issues will need to be addressed with greater priority, and resources and preventive and primary care will need to be increased. This is in line with current policies of the Ministry, although the Ministry has sought to address the funding issue through demands for higher appropriations, rather than through savings elsewhere in the Ministry or increases in user charges and fees. Given the likely decline in US funding in this area and very tight local funding constraints, a reallocation of priorities within the Ministry, and improved user fees and charges will be required.

15.3.2 HEALTH CARE FINANCING

The equation for health care expenditure and its funding is deteriorating in Palau. This is due to:

- significant increases in the cost of health care due to:
 - improvements in curative care;
 - changing patterns of health problems with the growing incidence of chronic diseases such as tuberculosis, hypertension and its complications, heart disease, diabetes etc which are expensive to treat;
 - rising community expectations of the level of services that should be provided by Government, including expectations for very expensive off-island tertiary treatment;
- inadequate cost recovery mechanisms (including recovery of the cost of capital);
- minimal enforcement of existing collections policies;
- real per capita declines in the magnitude of grant funding from donors, particularly the US;
- severe budget constraints on the National Government which result in difficulties in obtaining increased appropriations.

In the past five years, the cost of providing health care in Palau has been increasing significantly and by FY1995 reached \$4.9 million, exclusive of all international grants (which amounted to \$1.5 million in FY1995). These are running costs only, and no account has been taken of the depreciation of capital assets in the health area.

US grants in real per capita terms have declined in recent years. This reflects the fact that programs generally are related to preventive and, to a lesser extent, primary care and, therefore, Palauan population levels, while health services are provided to Palauan and foreign nationals - the latter of which has grown substantially since the late 1980s. Grants from US Federal and international agencies amounted to approximately \$1.5 million in FY1995.

The Government of Palau supports these preventive activities through an annual appropriation of \$0.3 million (6 per cent of the Ministry's appropriation in FY1993). If grants are included, the overall Ministerial effort toward preventive and primary health care for FY1993 was around 35 per cent of health allocations. The remaining 65 per cent of the annual appropriation has been used toward secondary and tertiary medical care (20 per cent of which has been used for off-island tertiary care).

The loss of some federal programs (eg Vocational Rehabilitation, Victims of Crime Assistance, Client Assistance Program) following Compact implementation (and recent US budget constraints) will exacerbate funding problems, although Palau does have access to a number of other programs. To offset the likely losses in federal funding, there is a special block grant (section 221 (b)) of \$2 million per annum in the Compact which may be used for categories of health care, education, technical assistance, housing and food supplement. There is also a special purpose grant (section 211 (d)) of \$631,000 per annum which may be used for surveillance, health and medical programs, including medical referrals, and post-secondary education. If the health area were to gain a proportional share of these funds, then this should cover the funding shortfall from those federal programs that will cease, although they are unlikely to be sufficient to meet the increasing demands of a growing population. In contrast to education which is likely to face little growth in enrollment numbers, the health sector will face significant growth in demand because it cannot exclude foreign nationals (who are large consumers of health services) from health services. Population growth rates averaging 2 per cent per annum over the next 25 years will place mounting pressure on health services.

Presently, health care is provided on a cost-sharing basis with the Government subsidizing over 90 per cent of the annual cost. Fees collected in FY1994-95 are only likely to be around \$340,000 (based on fees collected for the first 5 months).

Public primary health care is provided through the Outpatient Department at the Hospital. Fees are set at \$7 per visit and medication charges within three classes (\$3, \$5 and \$7). A number of groups are exempted from charges including public health-related activities (generally communicable diseases such as tuberculosis, sexually transmitted diseases, etc), mental and physically disabled patients, and school age children. Collections' policy is lacking and often not enforced. Over half the patients fail to pay their visitation fee. Few incentives (or sanctions) are provided to staff to enforce collections. It is estimated that to cover running costs of the Outpatient Department, visitation fees should be around \$25-30 (assuming full collection). Actual pharmacy costs vary substantially depending on the prescription required, but are many times higher than current charges. Similarly, hospital charges are well below cost of delivery. General ward fees are \$16 per day and private facilities are \$25 per day. These charges include all costs.

An additional major funding issue for the Ministry relates to off-island tertiary health care. Such treatment is granted to patients following referral by hospital doctors. As noted in section 15.1 (c) costs were reduced following the letting of a management contract to Guam Memorial Health Plan which has agreements with hospitals in the Philippines. However, tertiary care continues to be available at the Tripler Army Medical Center in Hawaii, although to access the grant funding, certain program conditions related to training requirements of interns and residents are required to be met. A number of patients have been referred to Hawaii, but have subsequently not met the conditions and have had to be transferred to private hospitals in Hawaii. This has resulted in considerably higher costs being incurred.

In FY1995, off-island tertiary health care is expected to rise sharply, reaching \$0.7 million - much of which has been incurred by a relatively small number of patients. In addition, patients are expected to repay half of the costs of off-island medical treatment, yet few comply. Despite the generous subsidy, the Ministry only receives a small proportion of the funds that are due. In the case of referrals to Hawaii, collections are close to zero. Accounts receivable for medical referrals have increased substantially over the past decade to around \$2.3 million (Tax and Revenue Review Committee Report, 1995). Moreover, for those patients that are insured, insurance coverage usually has a relatively low upper limit, over which amount the Ministry is liable for costs.

To overcome funding constraints, the Ministry is currently evaluating proposals for:

- a higher and improved user fee structure;
- development of a nationalized health insurance plan for all citizens.

In terms of the fee structure, proposals are being considered that could increase the fee structure to cover around 20-25 per cent of specific costs of treatment, and to relate the fee structure to a sliding scale based on family income. No details have been proposed as yet.

It is also proposed that the new fee structure could be implemented in conjunction with a national health insurance plan. Requests for a feasibility study have been issued (\$70,000 was appropriated for this purpose in FY 1995). The aim is to accurately determine the feasibility of an insurance scheme, its coverage and type, and to accumulate data that would assist in improved health care delivery. Health insurance schemes in all countries have experienced numerous problems. Schemes have distorted incentives for both health providers and patients, and led to wasteful overuse and poor quality of service. They have been extremely costly for Governments and contributors, and are usually very complex to manage.

In a small health market like Palau with minimal private sector health activity, one centralized hospital offering the full range of care, minimal user fees and poor collections policy, high expectations of health care standards, and readily available recourse to off-island care, an insurance scheme with the expected full health coverage will have to be mandatory and universal, and will be extremely expensive and wasteful because of the distortions to incentives. Because of the expense, the Government is likely to be required to provide substantial subsidies and bear most of the financial risk. Under the current situation, at least the Government has discretionary control over financial risk through budget restrictions and rationing of services, despite the inequities.

The current insurance schemes available in Palau are considered expensive, yet only cover the already subsidized local charges, and up to a relatively low off-island limit - with the Government, therefore, retaining most of the costs and financial risk. Because of the low fee structure for health charges, there is little incentive for people to insure privately at present. In fact, at present, less than 5 per cent of the population have taken out private insurance. In general, the population is unlikely to accept high, mandatory insurance premiums when they are accustomed to low cost or free health care services. Further, with only around half of the potential Palauan labor force is employed in the formal economy, and with a narrowly based income tax system, it would be difficult to collect insurance premiums from a universal base.

While the proposed feasibility study should assist in examining insurance proposals, given the likely difficulties, a more important immediate policy objective would be instigate measures to recover health costs directly through an improved user pays system which could still have built-in equity elements and risk pooling through Government administration. Improvements should include:

- a charging system related to specific cost of treatment (including a fixed cost component for capital) with a constant proportional subsidy which might be initially large but which could be adjusted upwards over time as health costs increase. The Ministry already has a data bank with a breakdown of individual treatment costs;
- a health card system which could be produced for low-income families which would entitle holders to a higher subsidy;
- collections policies which must be enforced. Many uninsured patients attend the private clinics and have few difficulties in making payments;
- the charges for pharmaceuticals should be close to full cost recovery, except for some high cost items in the public health area which could continue to be subsidized more heavily. Over time the pharmacy could be privatized, although there would still be a need for a regulated price list given the likely lack of competition;
- similarly, the charges for dentistry should be close to full cost, with the aim of privatizing this activity eventually. Preventive care in this area should remain a publicly funded function;
- publicly paid for off-island care requires a number of controls, including confinement to specified hospitals, some rationing to reflect priorities and budget constraints, and the level of subsidy should be inversely related to family income scales. Specified criteria need to be established, publicized and enforced. There also may be a case for purchasing selected equipment that might reduce the need for referrals in some areas, although such expenditure would need to be thoroughly evaluated;
- all receipts from the charging system should be paid into the trust fund, and Ministry management (given the appropriate delegations) should have discretionary use of these funds; and
- the subsidy on primary care (or a large part of the subsidy) could be given to the private clinics as well which would encourage more private practice, and assist in expanding private practice to areas outside of Koror, thus reducing the overall burden on the Government services.

If such a charging system were established, an insurance scheme could be confined to secondary and tertiary care, including off-island care, and a private insurance company could be utilized. The Government could then subsidize the contributions of health card holders. Employers of foreign workers should be required to insure its foreign workers fully, such that full costs are covered. The insurance feasibility study should incorporate the Ministry's proposed charging policy.

15.3.3 ACCESSIBILITY TO MEDICAL FACILITIES AND SERVICES

There are problems concerning inadequate access to medical facilities for the estimated 30 percent of the population living in areas outside Koror and adjacent States). The problems reflect funding shortages for upgrading and properly supplying and equipping the dispensaries in these areas, and difficulties in transporting patients to Koror for secondary and tertiary care due to poor land and water transportation systems.

The condition of the existing dispensaries deteriorated substantially over the decade to 1993 due to inadequate maintenance. To address the problem, an internal maintenance program has been established in the Ministry of Health to oversee all maintenance activities of government-owned health care facilities. In 1994, around \$70,000 was spent on maintenance of the dispensaries. However, the condition of the dispensaries continues to be sub-standard and staff shortages remain a critical problem.

A Dispensary Committee has been established and a review of the dispensaries has been undertaken, but no firm agreement on future policies has been reached as yet. Most of the dispensaries have problems, including inadequate building and equipment maintenance, and requirements for pharmaceuticals, problems with staff, and lack of medical records, adequate referral systems, medical and health education, and emergency capabilities.

In general, the dispensaries are seen as essential in providing preventive and primary health care. The Committee proposes that the current level of services be maintained, but work should commence on the process of rationalization of the number of dispensaries and the establishment of a smaller number of super dispensaries (recommended for Ngerchelong, Ngaremlengui, Melekeok, and Peleliu in order of priority). These super dispensaries could then be serviced by mobile clinics, and have improved referral systems and community health programs. This would appear to be an appropriate strategy. The construction of the Compact road connecting all the States on Babeldaob will facilitate the rationalization process, and provide greater scope for visiting medical staff to service the areas. Similarly, the proposed upgrading of the dispensary at Melekeok should await official confirmation of the relocation of the capital.

In general, most of the population have easy access to quality facilities at the hospital in Koror. However, with increased tourism, particularly in the areas of diving and boating, the docking facilities designed to accommodate emergency transfers from sea-going vessels at the hospital would appear inadequate, although, at this stage, are not seen as a priority.

15.3.4 RESOURCE MANAGEMENT

Currently US grant funding provides around 30 per cent of health care funding in Palau. Funds, in the past, have been tied to specific programs. However, US Congress is changing its approach to health grants and is now moving to block grants evaluated against performance criteria which will be based on broader health program outputs. These grants are termed "performance partnerships".

If Palau is to maintain its level of grant funding, then the Ministry must improve its management approach, and structure the Ministry more towards performance goals. This will require the development of a comprehensive database, and a strategic planning approach with a greater emphasis on health outputs and staff performance. To achieve this, the vacant management positions should be filled with applicants with the required expertise. Although the current Health Plan is not being utilized, it would provide a basis for a strategic planning exercise focused on outputs and performance indicators for each section of the Ministry.

To help manage resources and allocations between programs, accurate program costs and performance indicators for all sections and the whole Ministry will need to be developed. Comparisons can then be made with other health providers in the region and elsewhere. Management decisions regarding the relocation of facilities (such as the proposal to separate primary health care from the hospital) can then be made in terms of the effect on costs and outputs. The hospital is already operating with considerable excess capacity. Capital costs must be included in program costings to ensure account is taken of depreciation of health assets.

The management of staff should be able to be improved considerably. A number of proposals have been recommended in Chapter 13 that would facilitate reform of management positions, and professional and non-professional positions. In addition, the recommended contract arrangements with differing salary structures for professional staff will need to be accompanied by improved certification processes. The nursing certification process has recently been established with requirements for continuing education and training. The certification process has facilitated agreement on a new salary structure, which has been achieved within the existing Public Service Board structure. However, for other professionals, licenses are granted by the Licensure Board and no certification process has been adopted. This will need to be established if staff remuneration and performance are to be enhanced.

In addition, there needs to be improvements in the management of rates of absenteeism appears to be highly correlated with increases in overtime levels.

The operation of Government procurement regulations constrains operational efficiency in the Ministry. Action to relieve some of the problems was initiated through Executive Order No 130 which established a Hospital Trust Fund designed to give greater autonomy to the Ministry in financial management of the Hospital. All fees and charges from the Hospital, Public Health/Community Health Center, and Dental Clinic are deposited in this Fund. However, this has not succeeded in providing greater management autonomy. For funds collected by the Ministry, as well as its general appropriation from the OEK, the Ministry still has to adhere to the procurement process of the Ministry of Administration. In many cases, even when expenditures are within vote item and budget limits, payment authorities are delayed or not approved - probably because of the need to redirect funds across Ministries to meet expenditure requirements elsewhere.

In general, pharmaceutical requests are given priority over equipment and maintenance requirements. This has resulted in a two-year backlog of maintenance demands in the hospital which has resulted in more expensive emergency actions when breakdowns have occurred. It has also accelerated deterioration of a number of capital items. According to the Ministry of Health:

“...problems with the procurement system combine to render the Facilities Management, Maintenance and Biomedical Engineering Sections largely inoperable and place the Maintenance Department in a continuous situation of crisis management”. (Ministry of Health, Monthly Report, February 1995).

Uncertainty regarding pharmacy payment approvals has also resulted in either an unnecessary build up of stocks which has resulted in loss of quality due to aging, or shortages of critical pharmaceuticals, at certain times. By early 1995, some pharmaceutical companies were withholding shipment of supplies because of outstanding payments on previous shipments. The Ministry should have delegated authority over certain expenditures. This will require reforms to the budget process (refer Chapter 4). It would appear unnecessary to apply the purchase procedures and requirements (eg three quotations) to international pharmacy distributors who operate on worldwide set price lists from a very small number

of manufacturers. Overall, adherence to the centralized procurement system has increased costs to the Ministry and lowered performance significantly.

Further, while there is a stock recording system for the pharmacy, there is no such system for medical supplies. As a result, often large quantities of supplies can not be accounted for at times. This will need to be rectified.

In terms of maintenance, decentralization of the procurement process will improve maintenance through ensuring easier access to supplies, and lower the cost due to reduction in emergency transportation costs. However, additional savings should be able to be gained by contracting out a number of services to the private sector. This should be examined.

15.3.5 INADEQUATE STAFFING

Quality of services in both the areas of public health and hospital services is being hampered by a shortage of professional staff in particular areas. Of particular concern is the shortage of professional administrators. Regarding this latter group, there are vacancies for positions which have been established for health care financing, and health plan and evaluation. This reflects predominantly the salary and condition constraints imposed on the Ministry due to its staffing structure being within the Civil Service Rules and Regulations.

In terms of clinical staff, graduates (medical officers) from the regional training program in Pohnpei (PBMOTP) will start to relieve some of the staffing shortages. Three are expected to graduate in 1996 and the remaining 7 in 1997. Arrangements are being made for some of the graduating medical officers to do their residency in Fiji. A number of other officers are currently upgrading their skills in Fiji (health inspector, radiology) and Guam (dental laboratory).

The shortage of dental officers is a concern. Negotiations are continuing regarding the Dental Officers Training Program in Fiji. Because of the restriction on numbers of entrants from Micronesia, no one is currently enrolled from Palau. One Palauan graduated from Australia recently, but chose not to return to Palau. Two additional expatriate dentists have been recruited recently and are expected to take up duties at the hospital over the near term. These appointments should address some of the current staff shortages in the dental area. In addition, placement of Palauans in dental programs in the Philippines, where programs and facilities are of reasonable quality and cost effective, should be a consideration.

The shortage of nurses is also being addressed by the development of a proposal for a school of nursing at the Palau Community College. Discussions are continuing on the proposed curriculum. However, the budget for commencement of the school was not approved in 1994-95 and will have to be resubmitted in 1995-96. In the interim, the shortage of nurses should be addressed by graduates returning from offshore training institutions (8-10 were expected from Pohnpei in 1995 and 1996, and 3 from Fiji in 1996). In addition, 8 nurses at the hospital are currently attending the distance education program (via satellite - PEACESAT) from the University of Guam.

Overall, current professional staff shortages in the primary health and clinical areas are expected to be overcome under current training programs, therefore, shortages of hospital administrators and management should be addressed as a high priority.

15.3.6 GOVERNANCE

In 1993, the Board of Health was established with authority to manage and administer the hospital. The establishment of the Board was mainly in response to requirements for semi autonomy for a \$2 million US grant for hospital equipment. While the Board is virtually inactive currently, there remains considerable uncertainty over its future role, particularly in relation to that of the Minister. Utilizing both governing organizations (the Board and the Ministry) to manage the hospital may lead to confused objectives, excessive costs, and lack of accountability. If the Board is required for the maintenance of grant funding, then it should remain in place but its role should be limited.

Similarly, the Community Health Center was also established to facilitate grant funding of preventive and primary care. As funding has become less and less tied to the autonomy of this Center, management responsibility has gravitated back to the Ministry. The Board of the TIC has tended to be increasingly used for community consultations, rather than management functions. This change in emphasis would appear appropriate, and if the Board could assume more of a role as an advisory committee established with more clearly defined objectives. If this were to occur, primary health care should be restructured into a separate division of the Ministry.

15.4 STRATEGY AND PROGRAM OUTPUTS - HEALTH

15.4.1 STRATEGY - HEALTH

Provide improved health services to the whole population to a high standard in an equitable and cost-effective manner, with a greater emphasis on the delivery of preventative and primary care and improved management of secondary and tertiary care. (Strategy 3.4.2.21)

15.4.2 PROGRAM OUTPUTS - HEALTH

15.4.2.1 Governance Arrangements Improved

If the Board of Health and Community Health Center Board are required to facilitate the maintenance of grant funding, then they should remain in place, but their role limited to that required for grant funding. If the Boards are not required any longer for access to grants, they could have their functions restricted to providing advice to the Minister and community liaison responsibilities. Management of the health sector utilizing both institutions, in the long run, can only lead to confused objectives, excessive costs, and lack of accountability for performance.

The proposed changes will require legislative amendments to clarify these roles, regardless of what governance structure is established.

15.4.2.2 Health Priorities Established

The Ministry should make a concerted attempt to reallocate a higher proportion of its existing budget towards preventive and primary health care, particularly if US grants in this area start to decline. This will include greater attention to health education, including dental care, communicable diseases such as AIDS, chronic diseases, tuberculosis and hepatitis, and behavioral illness and problems associated with alcohol and drugs. In this respect, a separate budget for public health, outside the hospital system, should be established.

15.4.2.3 Professional Personnel and Certification Systems Improved

- ✓ A professional personnel and certification system for all professional and para-professional staff should be established.

A nursing certification process has recently been established, with upgrades for continuing education and training. The new process has facilitated agreement on a new salary structure which has been achieved within the existing public service structure. The public service structure, however, continues to inhibit performance measurement and the associated rewards/sanctions.

For other professional and para-professionals, no certification process has been developed. This needs to be a priority, and should be accompanied by the staff management reforms presented in Chapter 13. These provide scope for staff contracts, with remuneration tied to performance and certification. The process should be similar to that proposed and undertaken in the education sector (refer sections 14.3-14.4).

15.4.2.4 Additional Administrative Staff Appointed

While there are a number of clinical staff shortages at present, most of the shortages can be overcome by returning graduates from various regional programs. These programs should be continued to be supported. Negotiations regarding the dental program at the Fiji School of Dentistry should be expedited. Further, the proposed nursing course at the PCC needs a more rigorous evaluation, given the likely high costs involved (refer section 14.3).

However, there is an acute shortage of health administrators that will be required to implement health and administrative strategies, design and implement improved charging structures, insurance schemes, staff contracts and performance indicators etc. The current vacant positions responsible for the Healthcare Financing, and Health Plan and Evaluation Offices should be upgraded, placed on contracts, and filled as a priority.

15.4.2.5 Management Approach and Arrangements Improved

The Ministry should develop a strategic plan. The current Health Plan could provide the foundation. Clear objectives and strategies should be formulated for the Ministry (commensurate with the Government's overall priorities) and individual section components, priorities developed, and accurate program and section costs established. Performance indicators for all sections then can be established. These can be tied in with staff contracts and the certification process. The Ministry as a whole can then be evaluated by the Government in regard to the accomplishment of its performance targets.

The process will allow evaluation of the output individual staff members and sections - the latter which should be structured around specific (measurable) outputs. Within this framework, sections can be granted a greater level of autonomy and be more responsible for section budgets. Problems such as absenteeism can be more readily managed in such an environment.

15.4.2.6 Procurement System Decentralized

In line with recommendations in Chapter 13, the Government procurement system should be decentralized for the Health Ministry. This will involve improved budget processes involving greater central controls over an improved forward estimate process, and increased accountabilities through improved audit processes and purchasing policies. The Ministry should have greater control over its budget and authorize a number of officers with certain delegations who can approve payments within the prescribed policies. The Ministry can then allocate its budget to areas in line with its strategic plan and operational efficiencies. However, before this system can be implemented, the Ministry will need to be structured along output and cost center lines.

15.4.2.7 Facilities and Services Implemented

A plan for the rationalization of the number of dispensaries operating outside Koror needs to be developed and implemented. The plan should take account of the location of the Compact road which will connect all the States of Babedao. The current proposal for four super dispensaries (Ngerchelong, Ngermenglui, Melekeok and Peleliu) seems appropriate, although should be phased over time. A central Babedao clinic consisting of permanent medical staff and a 15 bed facility providing preventive, primary and some secondary treatment is a prioritized EDP program estimated to cost \$1.6 million (refer Chapter 6).

In the interim, the maintenance program to upgrade existing facilities should continue. This is also prioritized EDP program estimated to cost \$0.65 million.

Other prioritized EDP projects include:

- i) construction of an apartment facility for visiting medical specialists, estimated to cost \$0.3 million;
- ii) reconstruction of the old pier at the hospital in order to receive patients by boat during all tide conditions from the outer islands, estimated to cost \$0.35 million;
- iii) expansion of treatment areas at the hospital for Hemodialysis and the Physical Therapy units, and at the Community Health Center for additional clinic, diagnostic and administrative work space, estimated to cost \$0.3 million;
- iv) remodeling of the Psychiatric Ward at the Behavioral Health areas at the hospital, estimated to cost \$0.2 million.

These projects will need to be evaluated more rigorously and should be funded from internal savings in the Ministry or through increased revenue from increased user charges. If feasible, visiting specialists should be accommodated in private apartments under leasing agreements. Reconstruction of the pier would not appear to be an urgent priority. There are ample docking facilities in Koror and an efficient ambulance service available. The expansion of facilities at the old MacDonald Hospital which accommodates the Community Health Center needs evaluation given that the Belau National Hospital is a large modern facility that operates with considerable excess capacity. The expansion of facilities at the National Hospital should await the Ministry's strategic plan and should be funded internally or through external grants if available.

15.4.2.8 Health Insurance Scheme Study Undertaken

Requests for a study into the feasibility of a health insurance scheme have been issued, although funding for such a study has not been appointed. There will be a number of difficulties with design of a health insurance scheme for Palau. These relate to the likely excessive high costs to Government and consumers, likely waste of resources through overuse of services, distortion of incentives for both health providers and patients, and complex management arrangements. Given the current highly subsidized charging system for health services, voluntary insurance schemes are unlikely to be well subscribed, and mandatory schemes are likely to be seen as too costly

(unless the Government bears a large part of the financial risk which then removes the reason for a national insurance scheme).

Consequently, before any Government sponsored insurance scheme is considered, there should be a detailed study of the costs, benefits, risks, coverage, etc. The study should provide the Government with a number of options. The estimated cost of the study should be around \$70,000, and the study should be undertaken in FY1996.

15.4.2.9 Level of User Charges Increased and Structure Improved

Measures should be introduced as a priority to recover a higher amount of health costs directly from the beneficiaries. These moves should be tempered with strong equity considerations, and the Government should continue to fund a large part of the costs and financial risks through the general taxation system. Improvements should include:

- i) The charging system should be related to specific cost of treatment (including a fixed cost component for capital) with an initial constant proportional subsidy which might be initially large but which could be adjusted upwards over time as health costs increase.
- ii) A health card system should be established for low-income families which would entitle holders to a higher subsidy.
- iii) Collections policies must be enforced. This will become easier as patients and staff become accustomed to paying for health services.
- iv) The charges for pharmaceuticals should be increased gradually over time to near full cost recovery, except for some items in the public health area which could continue to be subsidized. Over time the pharmacy should be privatized, although there would still be a need for regulated price list given the likely lack of competition.
- v) The charges for dentistry should also be adjusted upwards over time to near full cost recovery, with the aim of privatizing this activity eventually. Preventive care in the public health area, particularly for school children, should remain a publicly funded function.
- vi) Publicly paid for off-island tertiary care should be confined to specified hospitals, and there should be rationing of such services to reflect priorities and budget constraints, and the level of subsidy should be negatively related to family income scales. Specified criteria need to be established, publicized and enforced.
- vii) All receipts from the charging system should be paid into the trust fund, and Ministry management should have discretionary use within assigned delegations and budget limits.
- viii) The subsidy on primary care (or part of the subsidy) should be given to the private clinics as well, which would encourage more private practice and assist in expanding private practice to areas outside of Koror.

CHAPTER 15: HEALTH

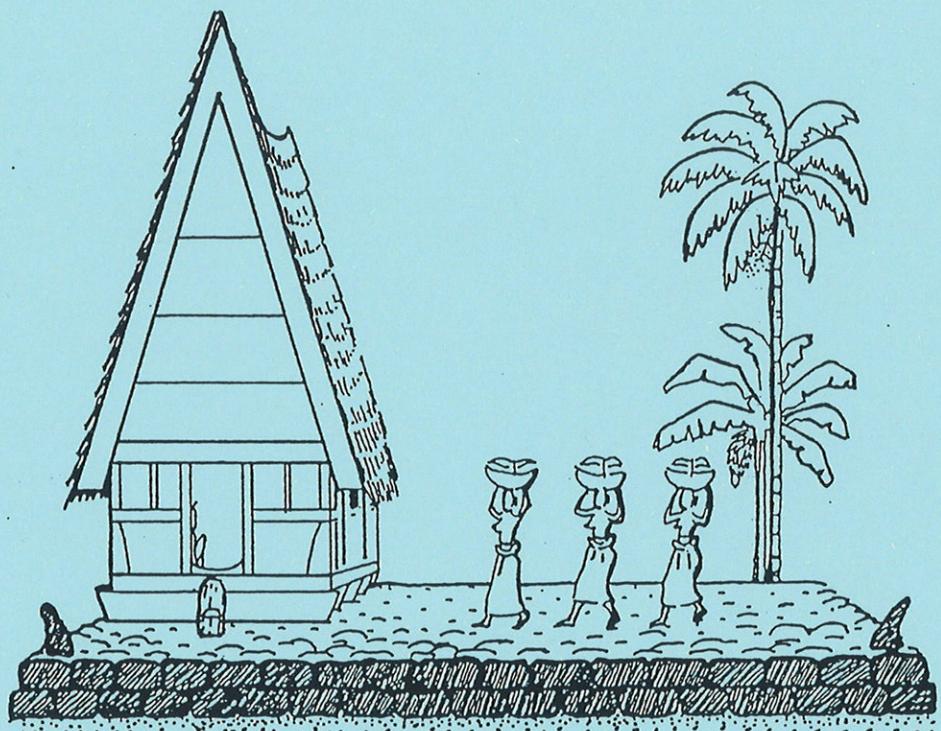
NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
STRATEGY 15.4.1 Provide improved health services to the whole population to a high standard in an equitable and cost effective manner with a greater emphasis on the delivery of preventive and primary care and improved management of secondary and tertiary care.						
OUTPUTS 15.4.2.1 Governance arrangements improved	Board of Health & Community Health Center channeling grant funding. Role of Ministry in management of health sector clarified in legislation	Legislation. Policies & guidelines	Leadership recognizes the costs of duplicating responsibilities	recurrent		
15.4.2.2 Health priorities established	Higher proportion of existing budget allocated to preventive & primary health care, taking account of declining US grants. Areas include health education, dental care, communicable diseases, TB, hepatitis, behavioral illness, substance abuse	Budget	Leadership recognizes benefits of refocusing resources toward preventive and primary care	recurrent		ODA resources likely to continue to be available for this area
15.4.2.3 Professional personnel and certification systems established	Operational human resource system, including professional staff contracts tied to certification system. Operational certification system based on standards relating to knowledge and ability to perform.	Professional Certification Board records. Staff contracts.	Leadership accepts and adapts the reforms recommended for civil service staff contract arrangements			
15.4.2.4 Additional administrative staff appointed	Vacant positions in healthcare financing and health plan & evaluation upgraded, and filled with staff on contract	Contracts	Management has discretion to upgrade positions and appoint staff on contract	recurrent	cost recovery after initial cost of \$100,000 in first 2 yrs	
15.4.2.5 Management approach and arrangements improved	Ministry's strategic plan developed and implemented showing clear objectives, strategies and outputs for each unit and position. Performance indicators established and being achieved. Financial delegations for section budgets established for managers .	Strategic plan. Ministry financial records. Performance monitoring records.	Government has established its own strategic priorities, including the overall priority of health sector expenditure.	recurrent	cost recovery after initial expenditure of \$75,000	ODA likely to be available for initial design of strategic plan
15.4.2.6 Procurement system decentralized	Budget appropriations approved and delegations operating for procurement. Procurement policies & procedures established and operational with monitoring and evaluation systems in place.	Legislation to decentralize procurement system. Procurement audit reports and monthly reports by Ministry of Administration.	Leadership prepared to decentralize controls over expenditure and allow management greater discretion	recurrent	expected savings on current budget appropriations	
15.4.2.7 Facilities and services improved	Plan for rationalization of dispensaries operational, including construction of super dispensaries and other facilities depending on ability to generate internal revenue (refer Chapter 6)	Budget appropriations for construction. Inspection of plans and facilities as constructed	Leadership supports the concept of rationalization	5	Refer Chapter 6	
15.4.2.8 Health insurance scheme study contracted	Feasibility study completed for health insurance scheme completed covering costs, benefits, risks, coverage.	Feasibility study	Leadership committed to evaluate a health insurance scheme on a rigorous analysis	1	\$70,000	

CHAPTER 15: HEALTH

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS	NO YRS	FUNDING SOURCE	
					GOVT \$000	ODA \$000
5.4.2.9 Level of user charges increased and structure improved	Improved cost recovery methods implemented, fees structure reflecting specific treatment costs with a fixed percentage subsidy. Health card system for low income families operational. Charges for pharmaceuticals and dental services increased in steps to near full cost recovery. Off-island tertiary care limited to specific referral hospitals.	Fee structures. Monthly and annual reports.	Leadership prepared to accept higher health sector fees. Revenue able to be expended at the discretion of the Ministry	recurrent	savings on current budget expected	

CHAPTER 16

LEGISLATIVE IMPLEMENTATION



CHAPTER 16

LEGISLATIVE IMPLEMENTATION

This chapter provides a draft resolution which could be utilized by the OEK to facilitate the legislative implementation of the Palau National Master Development Plan.

16.1 DRAFT RESOLUTION APPROVING THE MASTER PLAN

Following two years of consultation, data gathering, analysis, compilation, and revision, the Master Plan will be presented to the Government of Palau in July, 1995. Presidential and OEK consideration of the Plan is essential for its implementation; Government approval of the Master Plan is the preferred next step in bringing the Plan's strategies to full fruition.

It should be noted, however that the present desire for approval is not the mandated requirement for approval that was originally envisioned for the Plan. These two years have seen great changes in the governmental structure of Palau, as the last remaining Micronesian strategic Trust Territory has moved to full independence. It is altogether understandable, then, that over the course of the Master Planning process, the approval and implementation requirements for the Plan have altered.

While the broad objectives of the Master Plan have remained consistent, the original requirement for the Republic of Palau to promulgate an official national development plan prior to the effective date of the Compact of Free Association has since been fulfilled by Palau's preparation and promulgation of an Economic Development Plan in 1994. The subsequent concurrence to the Plan by the United States Government satisfied Palau's development planning obligations, set forth at Section 231(a) of the Compact, and obviated the requirement for the Master Plan to be promulgated prior to Compact implementation.

In mid-1994, the United States Department of Interior and the President of Palau agreed to amend the original Master Plan approval process in anticipation of Palauan emancipation on October 1, 1994. The agreed amendments deleted the requirement that the Master Plan be approved officially by the people of Palau (either through OEK assent or public referendum), and severed the link between the Master Plan and U.S. approval of major development projects. The Master Plan now has the opportunity to influence the course of Palauan development on its own merits as an internal Palauan document.

Current Master Plan implementation wording, found at the Palau National Master Development Plan and Planning Process Statement of Work Annex C "Agreement for Preparing and Implementing the Palau National Master Development Plan, Amendment #1", Part 6, states that upon the President's acceptance of the Master Plan, the Plan shall be submitted to the OEK for approval by Joint Resolution. As an aid to the review and approval process, the following Draft Joint Resolution is offered for consideration.

16.2 DRAFT JOINT RESOLUTION

FOURTH OLBIIL ERA KELULAU

Special Session, _____, 1996 Resolution No. _____

A JOINT RESOLUTION

Endorsing and approving the Palau National Master Development Plan.

WHEREAS, the Government of Palau desires promulgation of a comprehensive national development plan, consistent with and complementary to the Economic Development Plan 1995-99, with expansive scope to outline an integrated course of action that ensures the long-term sustainability of Palau's economic, physical and social development and enhances the well-being and quality of life of its citizens; and

WHEREAS, Executive Order No. 105 "Creating a Task Force on Palau's Master Plan" noted the urgent need for a consistent policy to make maximum use of Palau's human and natural resources, and asserted the desire for the creation of a society based on equal opportunities for all citizens and the attainment of increased self-reliance through balanced economic growth and development; and

WHEREAS, at the request of the Government of Palau, with financial support from the United Nations Development Programme and the United States Department of the Interior, an independent Master Planner, SAGRIC International Pty Ltd., has been retained to prepare a Master Plan for the sustainable economic, physical and social development of Palau; and

WHEREAS, over the course of two years, SAGRIC, in consultation with the Government and the people of Palau, has prepared a National Master Development Plan that accurately analyzes the developmental, environmental, land use, economic, financial, social, and cultural issues of national significance in Palau; and

WHEREAS, the Palau National Master Development Plan provides operational guidelines for the immediate future of the Republic of Palau as well as providing a long-term perspective, thereby setting forth a suitable strategy for the pursuit of economic, physical, and social development in accordance with the desires of the people of Palau; and

WHEREAS, following submission of the Master Plan by SAGRIC to the President in April, 1996, the President has accepted the Palau National Master Development Plan as a fitting and proper guide to national planning policy; and

WHEREAS, the implementation of the Palau National Master Development Plan requires that upon the President's acceptance of the Master Plan, the Master Plan shall be submitted to the Olbiil Era Kelulau for formal approval by Joint Resolution; **NOW THEREFORE**

BE IT RESOLVED by the _____ of the Fourth Olbiil Era Kelulau,
_____ Special Session, _____ 1996, the _____
concurring, that the Fourth Olbiil Era Kelulau endorses and approves the Palau National Master Development Plan; and

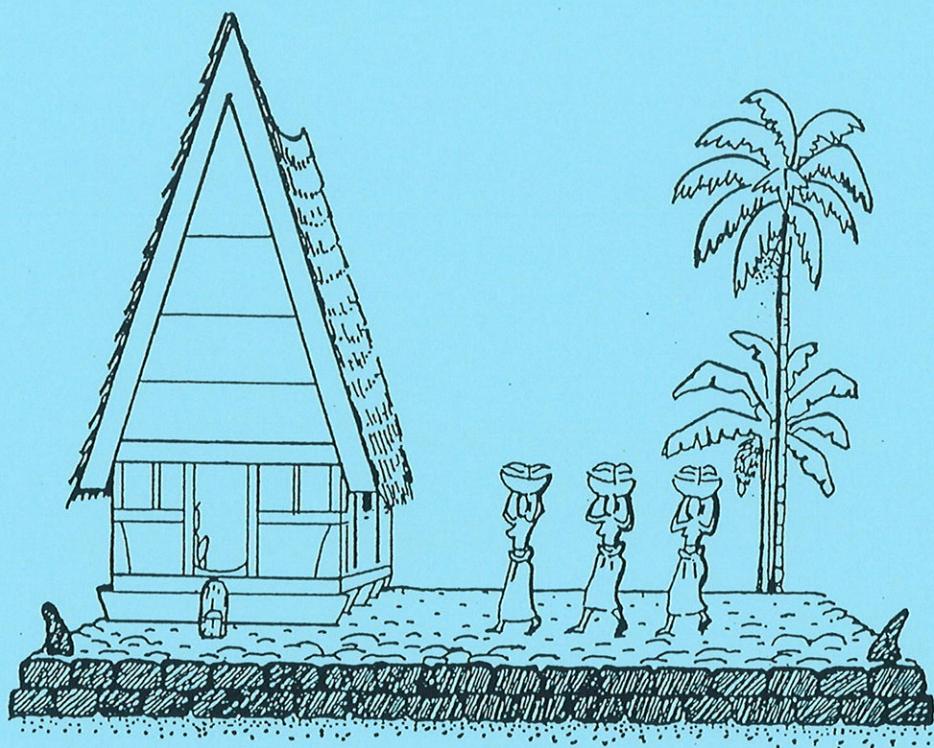
BE IT FURTHER RESOLVED that certified copies of this Joint Resolution be transmitted to the President of the Republic, the United Nations Development Programme, and the United States Departments of Interior and State.

Date: _____

Introduced by: _____

ANNEX 1

ACKNOWLEDGMENTS



ANNEX 1

ACKNOWLEDGMENTS

The preparation of a Master Plan for the economic, social and physical development of an entire country is a task which relies heavily on the cooperation, goodwill and open sharing of information from many people. During the preparation of the Palau National Master Development Plan, the Master Plan Team received help from Palauans, resident foreigners, consultants and Government agencies and tertiary institutions, and prospective investors throughout the Pacific region. During the course of consultations, an extensive contact list was maintained which forms the basis of our acknowledgments list.

The Master Plan Team sincerely thanks all those people who gave so freely of their time and energy to assist in the preparation of Palau's National Master Development Plan. To those whose names have been inadvertently omitted, our apologies .

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Masayuki Adelbai	Director, Bureau of Public Affairs
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Romana Anastacio	Ministry of Education, English Department
Senator Seit Andres	Chairman, Tourism Committee, Senate
Andres Antonic	Sonsorol State Representatives and Members of State Planning Commission
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Hashinto Asanuma	New Koror Travel Agency
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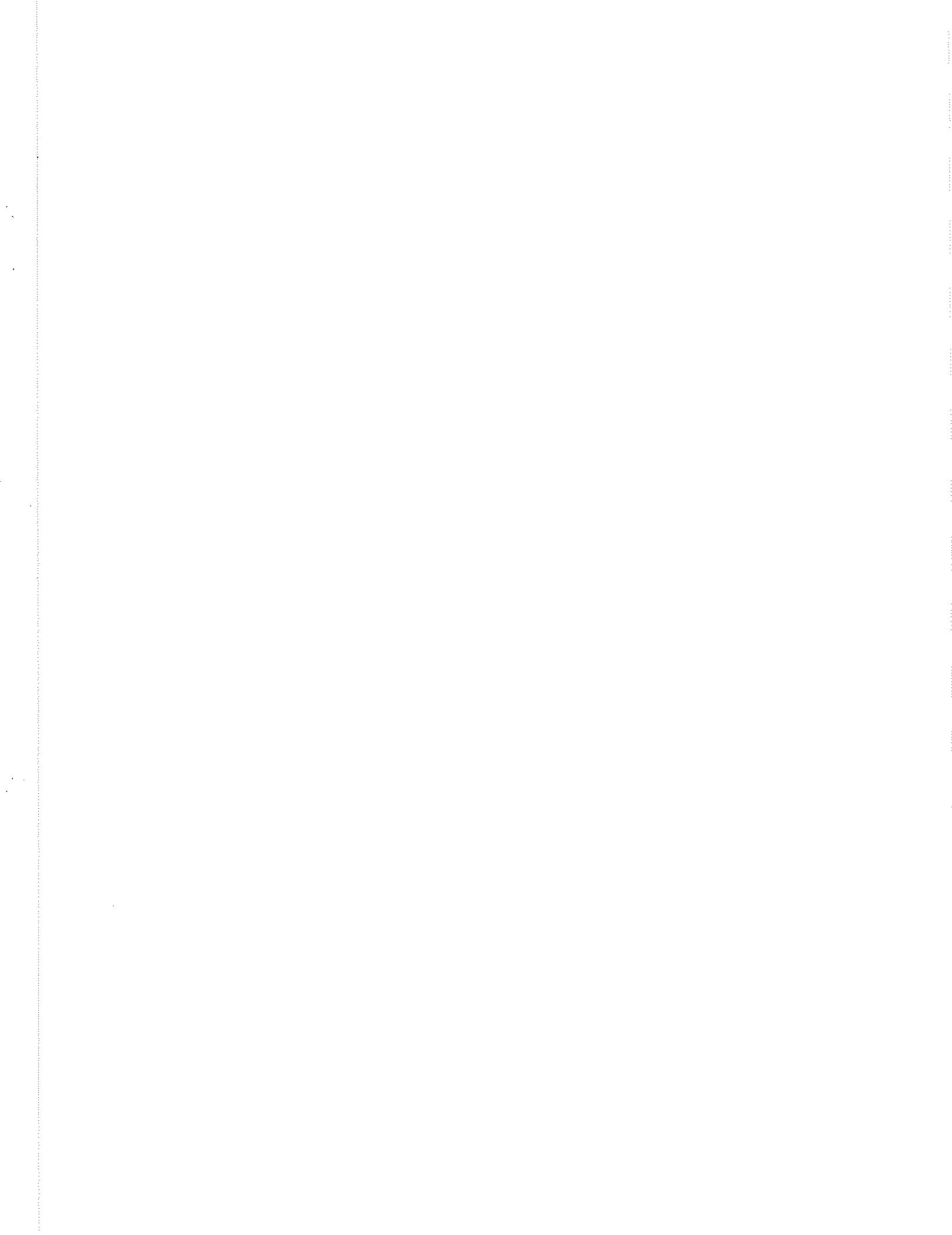
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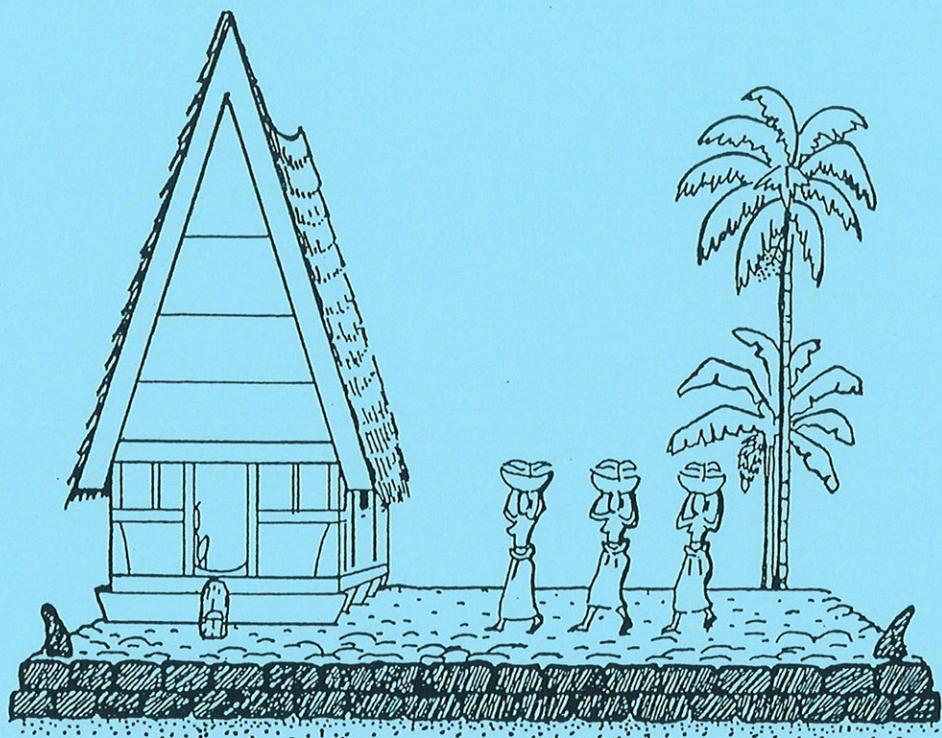
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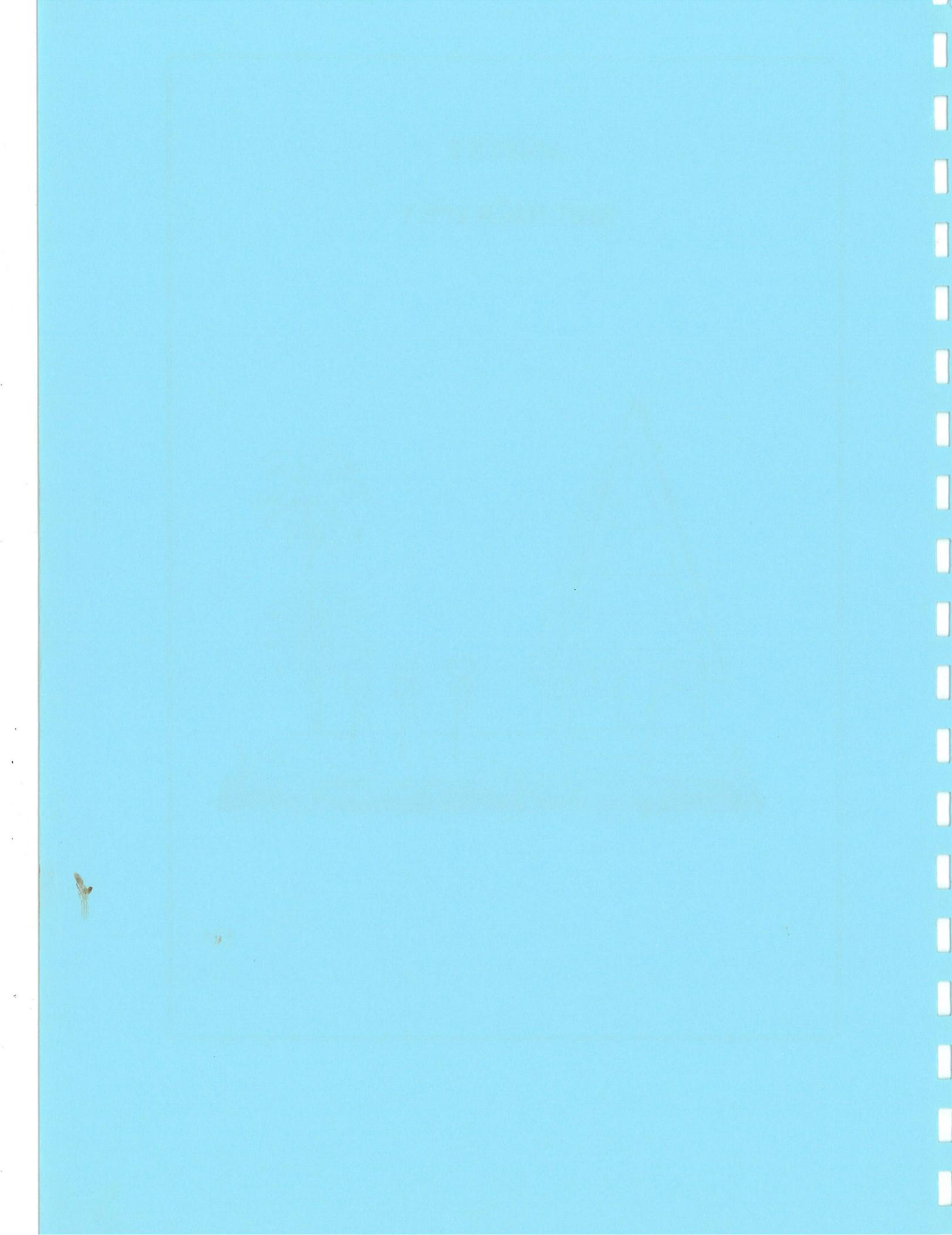
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ANNEX 2

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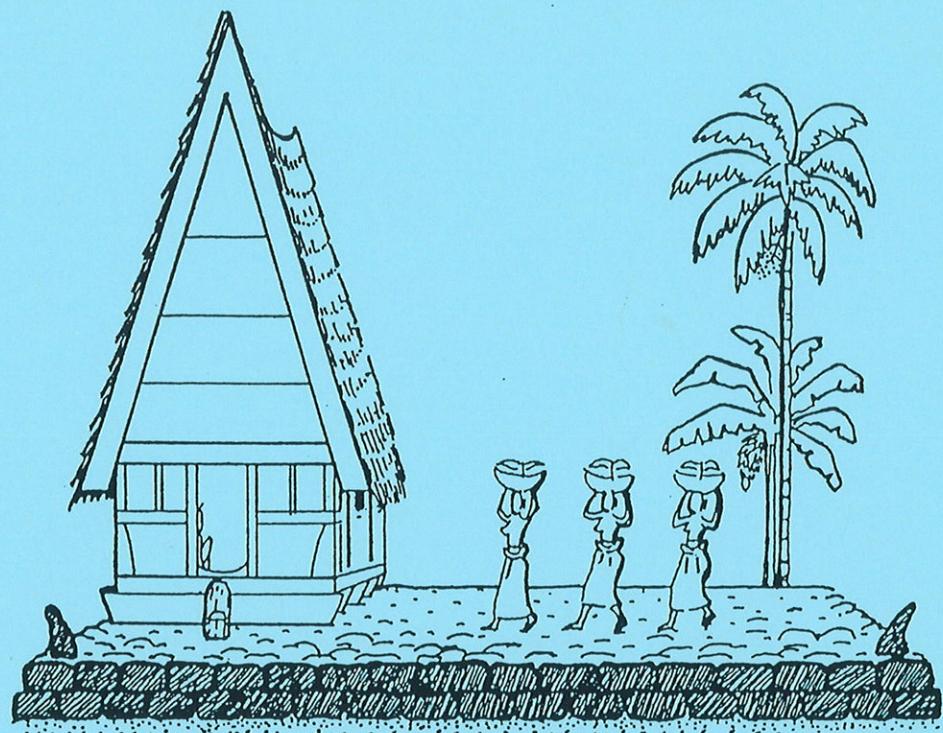
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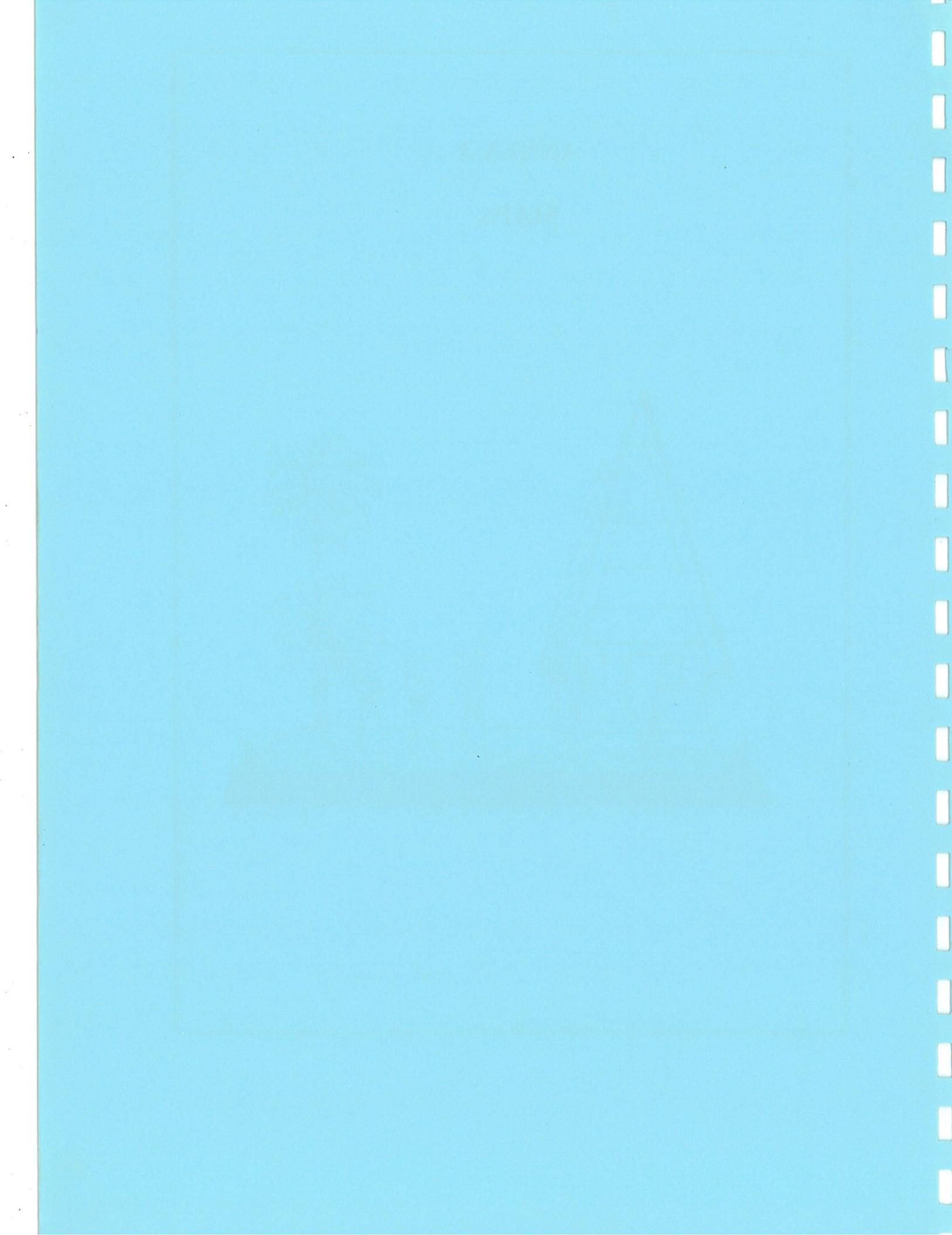
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ANNEX 3

MAPS

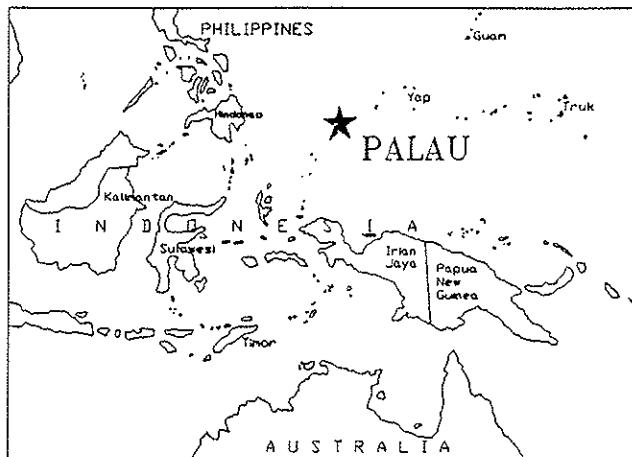




ANNEX 3

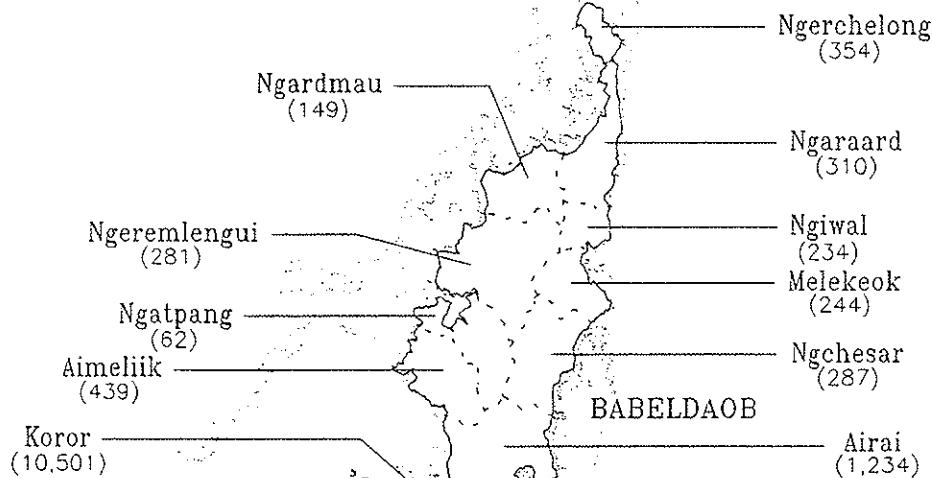
MAPS

1. Palau: Population Distribution by State (1990)
2. Palau: Airports
3. Palau: Minerals and Construction Materials
4. Palau: Population Dive Sites
5. Palau: Proposed Natural Heritage Areas
6. Babedao: Watershed Delineation
7. Babedao: Agriculture
8. Babedao: Historical Sites
9. Babedao: Roads, Villages
10. Babedao: Ports and Harbors
11. Babedao: Tourism
12. Babedao: Power Transmission System
13. Babedao: Indicative Development Areas
14. Koror: Generalized Land Uses (1990s)
15. Koror: M-Dock Area Concept Plan
16. Koror: Ports and Harbors
17. Koror: Hotels, Historical Sites
18. Koror: Water Supply
19. Koror: Sewage
20. Koror: Power Transmission
21. Rock Islands: Registered Historical Sites
22. Islands States: Ports and Harbors
23. Islands States: Ports and Harbors
24. Melekeok: Master Plan (Kawasaki: 1984)
25. Melekeok: Land Suitability
26. Ngiwal : Indicative Land Ownership

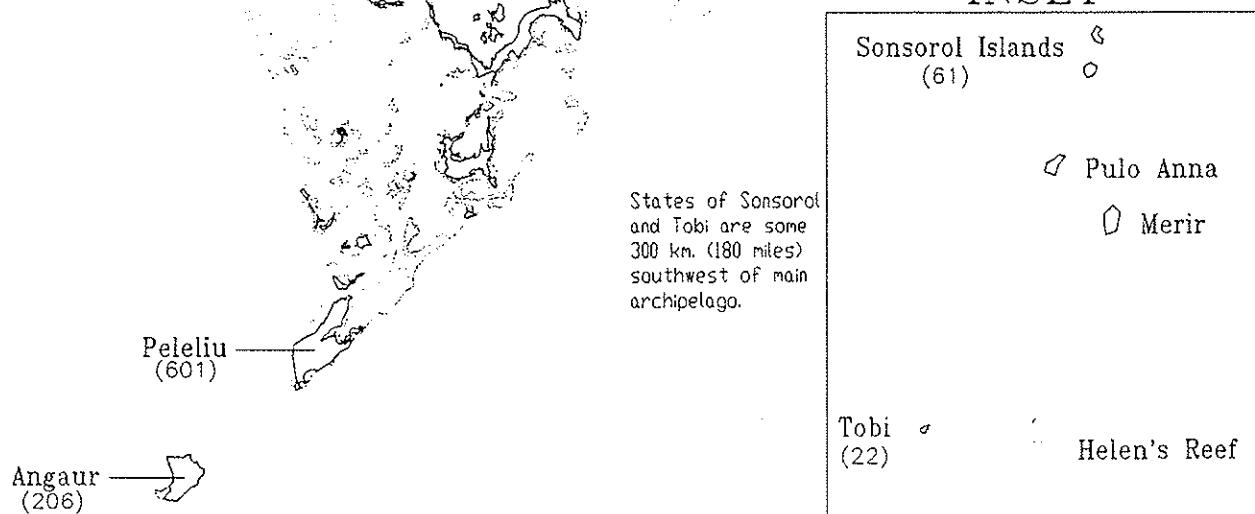


PALAU: POPULATION DISTRIBUTION BY STATE (1990)

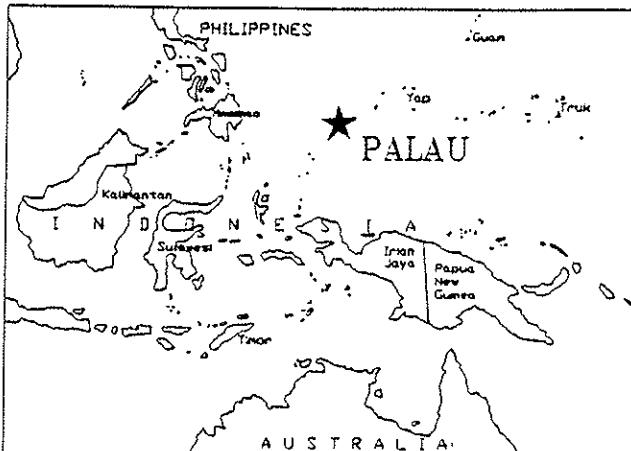
Total Population of Palau
as of 1990 = 15220



INSET



Map 2



PALAU : AIRPORTS

International :

- ⊕ Existing
- ⊖ Future Potential

Domestic :

- ⊕ Existing
- ⊖ Future Potential

Babeldaob

INSET

Sonsorol Islands



⊖ Pulo Anna

⊖ Merir

States of Sonsorol
and Tobi are some
300 km. (180 miles)
southwest of main
archipelago.

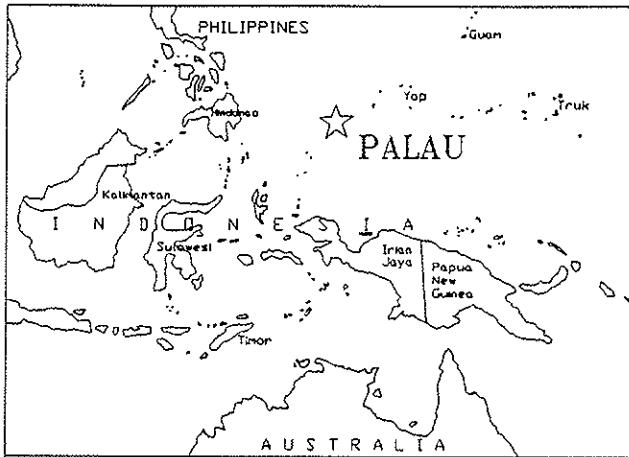
Tobi

Helen's Reef

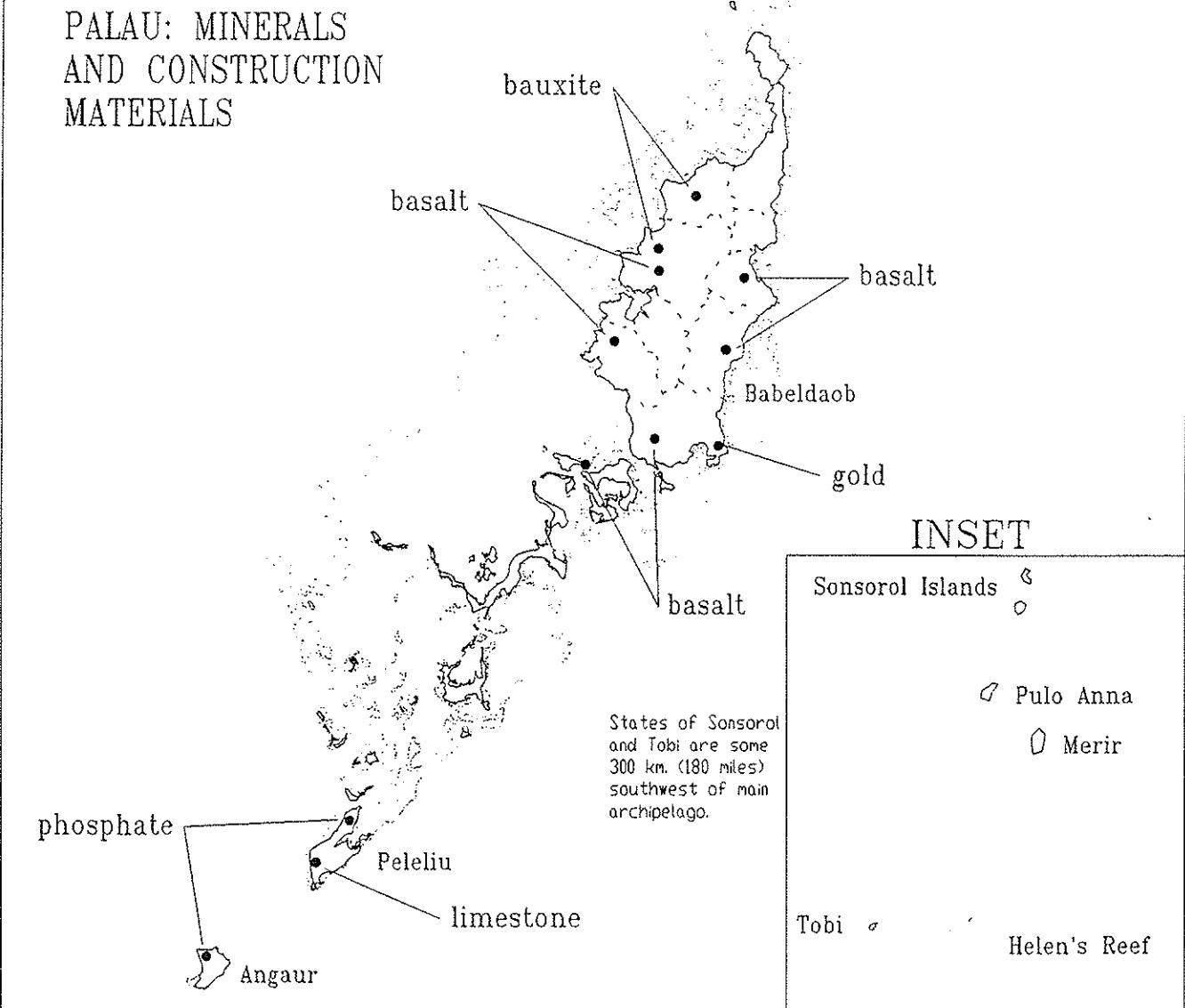
Peleliu

Angaur

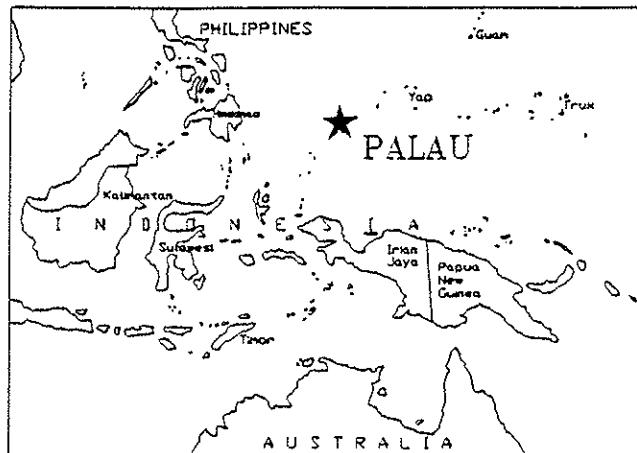




PALAU: MINERALS AND CONSTRUCTION MATERIALS

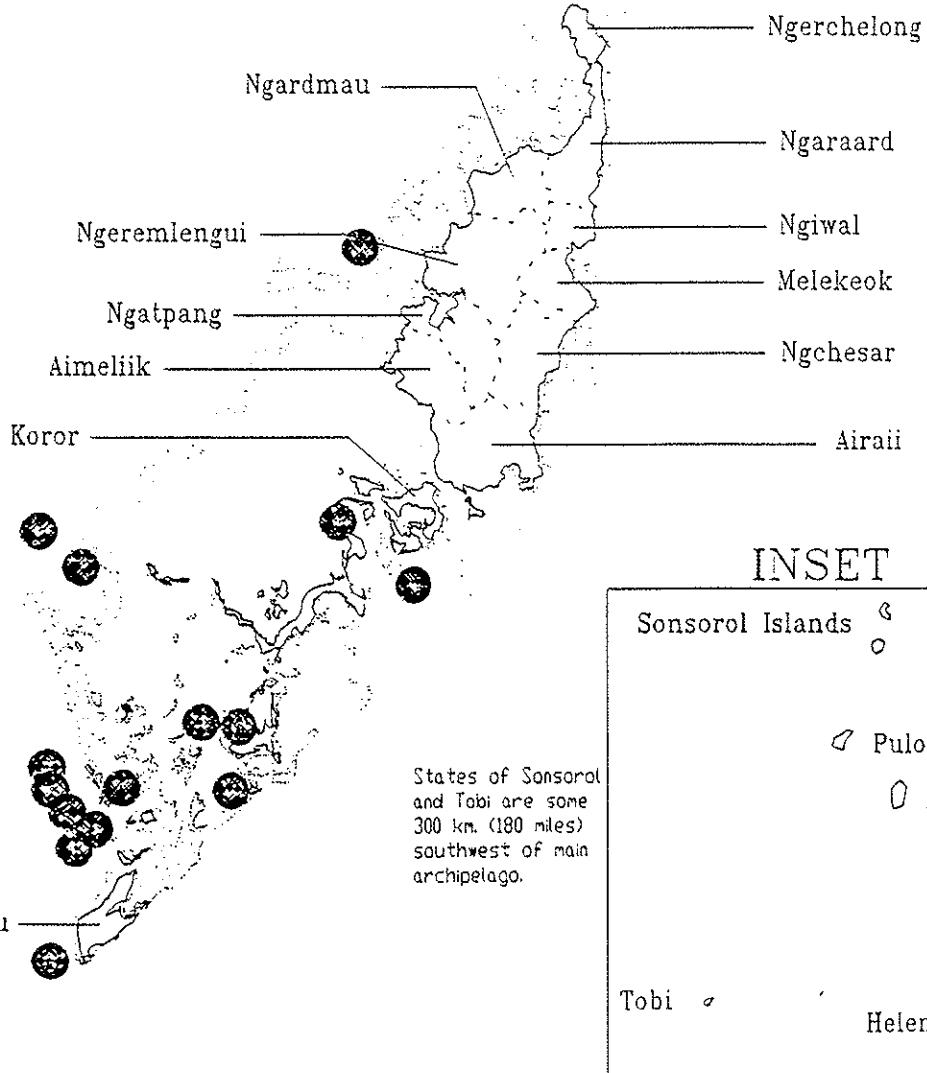


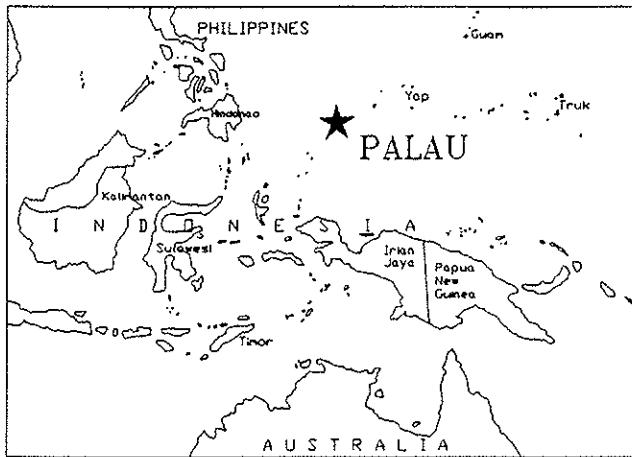
Map 4



PALAU: POPULAR DIVE SITES

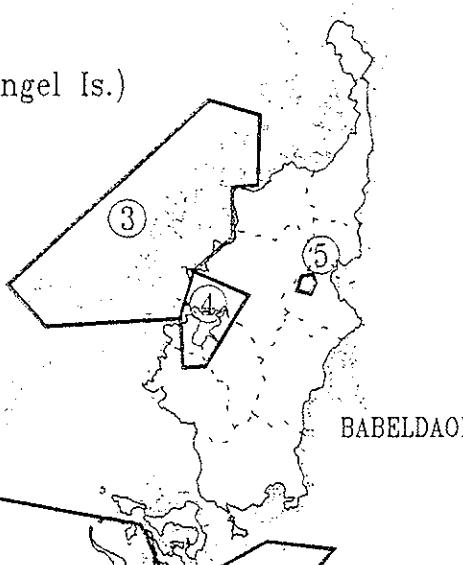
Popular Dive Sites



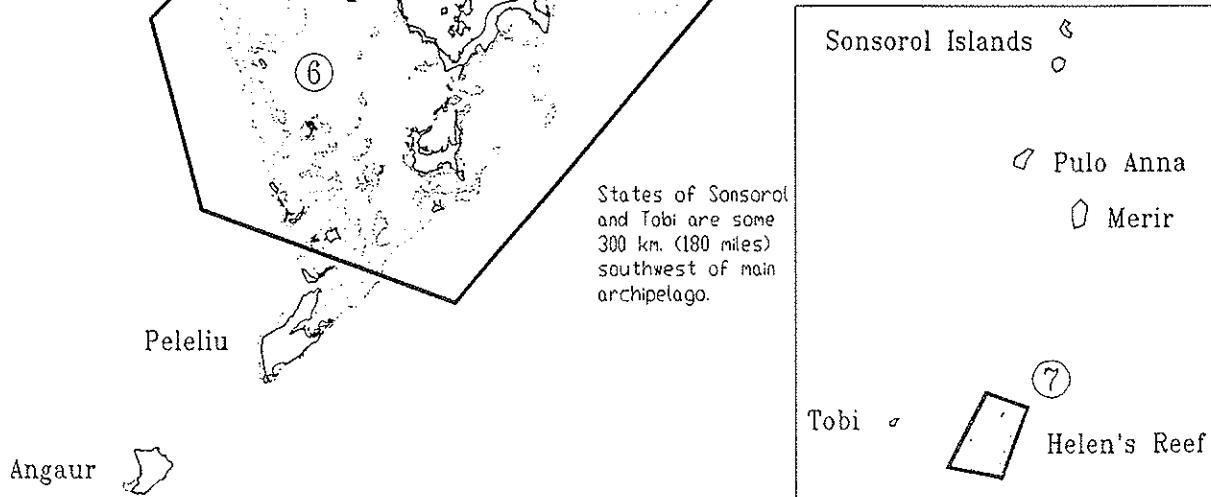


PALAU: PROPOSED NATURAL HERITAGE AREAS

1. Velasco Reef (incl. Ngeruangel Is.)
2. Northern Lagoon
3. Toachel Mlengui
4. Ngeremeduu Bay
5. Lake Ngerdok
6. Rock Islands
7. Helen's Reef



INSET



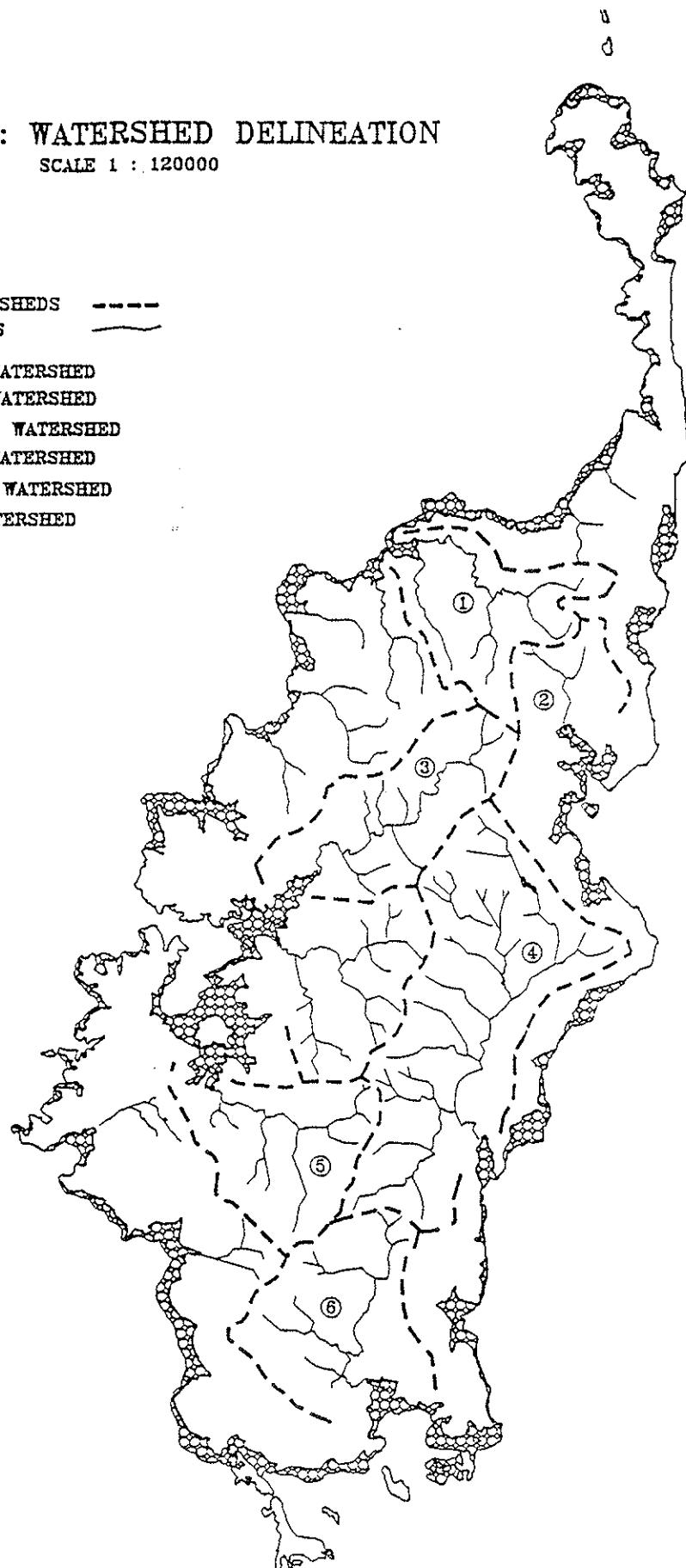
Map 6

BABELDAOB: WATERSHED DELINEATION

SCALE 1 : 120000

PRINCIPAL WATERSHEDS -----
PRINCIPAL RIVERS —————

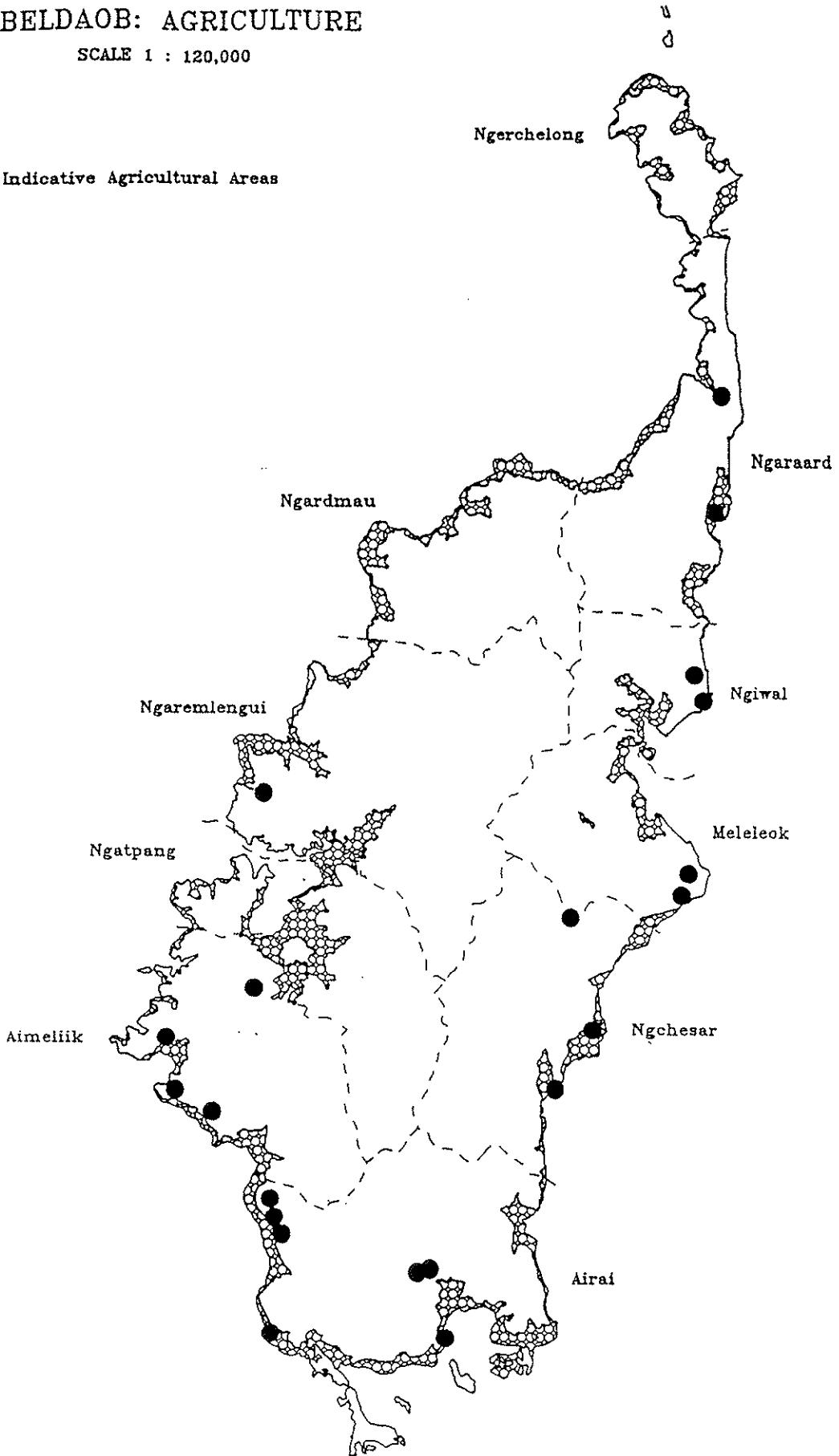
- ① DIONGRADID WATERSHED
- ② NGERBEKUU WATERSHED
- ③ NGERMESKANG WATERSHED
- ④ NGERDORCH WATERSHED
- ⑤ TABECHEDING WATERSHED
- ⑥ NGERIKIL WATERSHED



BABELDAOB: AGRICULTURE

SCALE 1 : 120,000

● Indicative Agricultural Areas

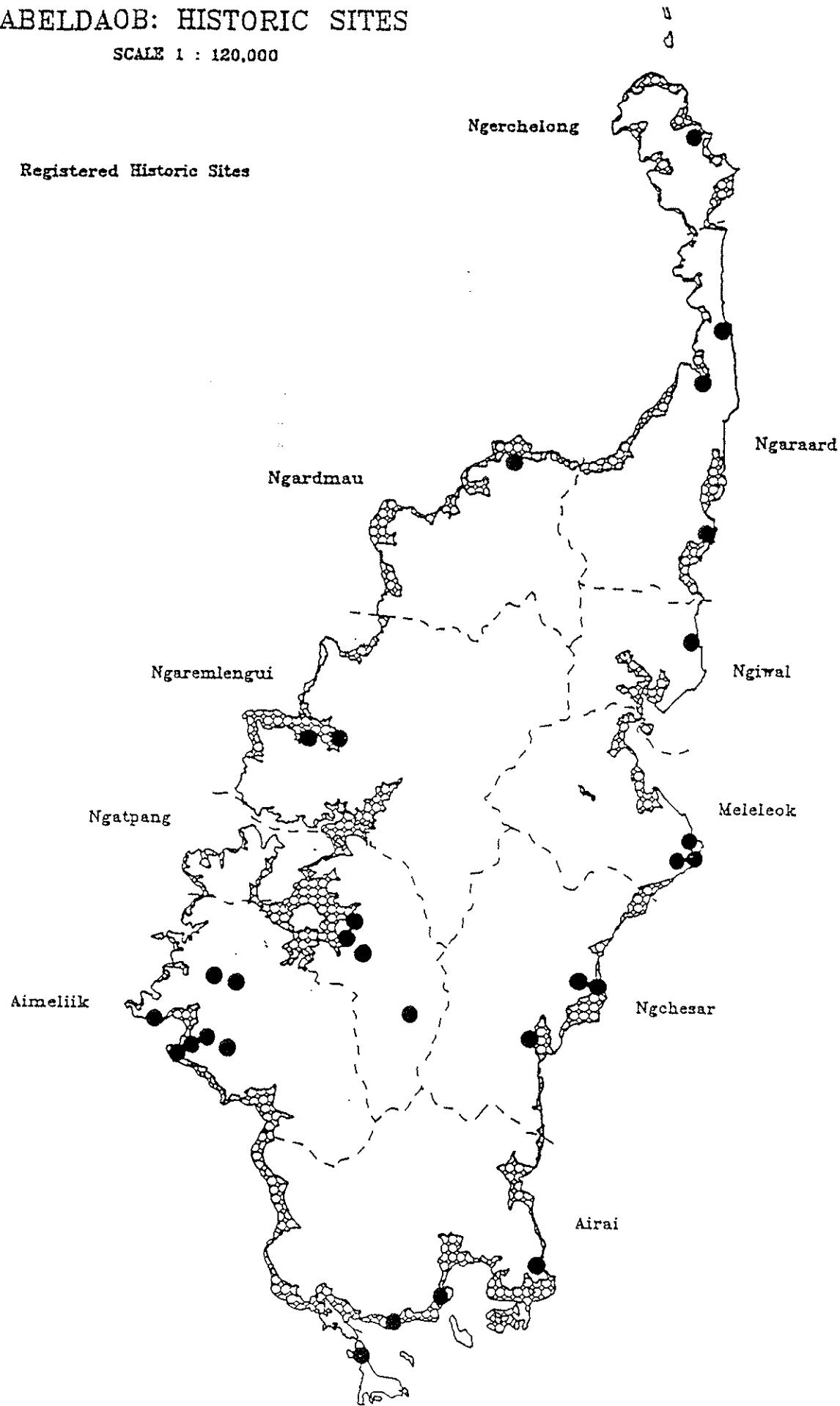


Map 8

BABELDAOB: HISTORIC SITES

SCALE 1 : 120,000

● Registered Historic Sites

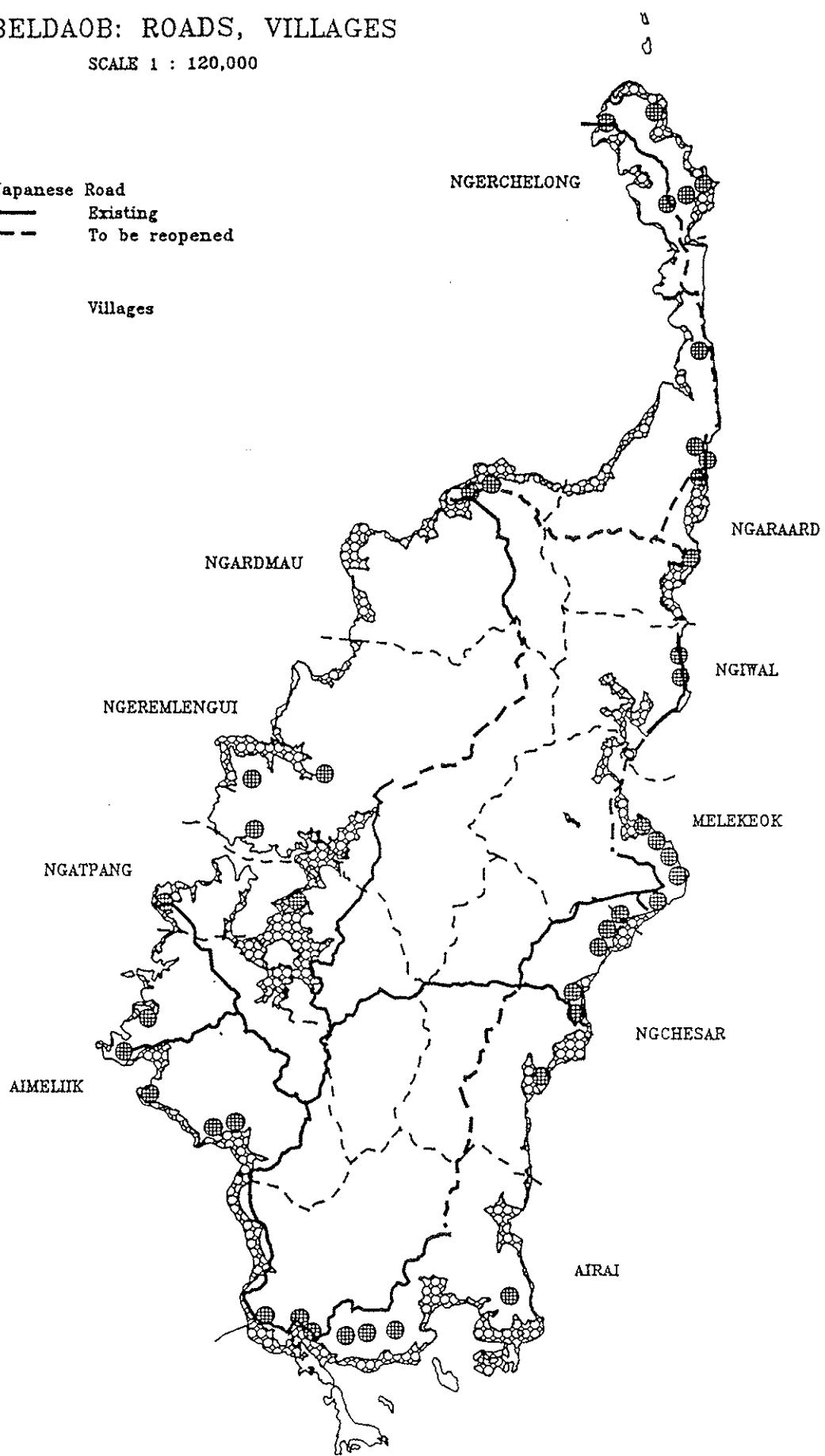


BABELDAOB: ROADS, VILLAGES

SCALE 1 : 120,000

Old Japanese Road
— Existing
- - - To be reopened

● Villages

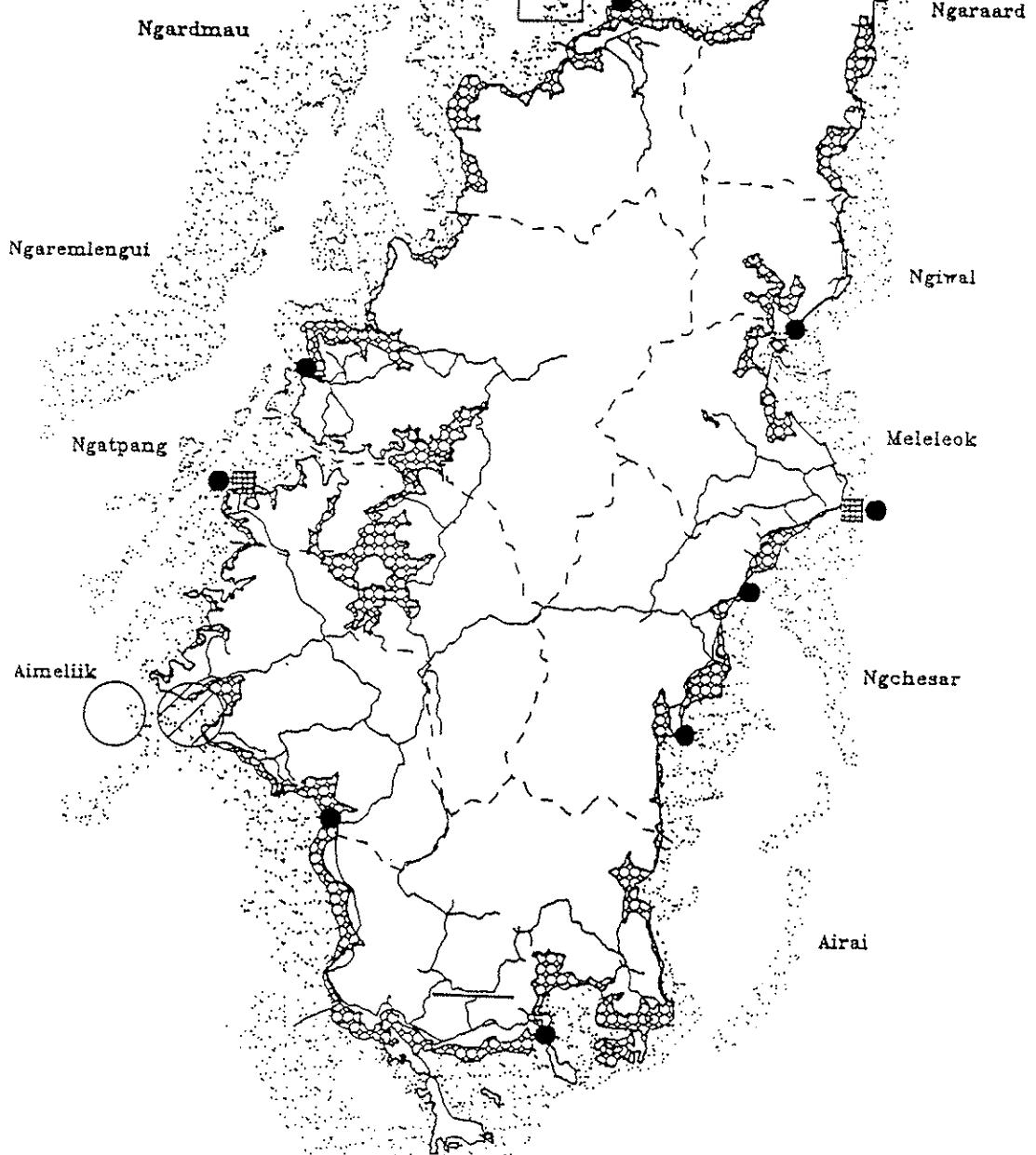


Map 10

BABELDAOB: PORTS AND HARBOURS

SCALE 1 : 120,000

	Existing	Future Potential
Bulk	○	○
Tuna	□	□
Fishing	■	■
Ferry	●	●



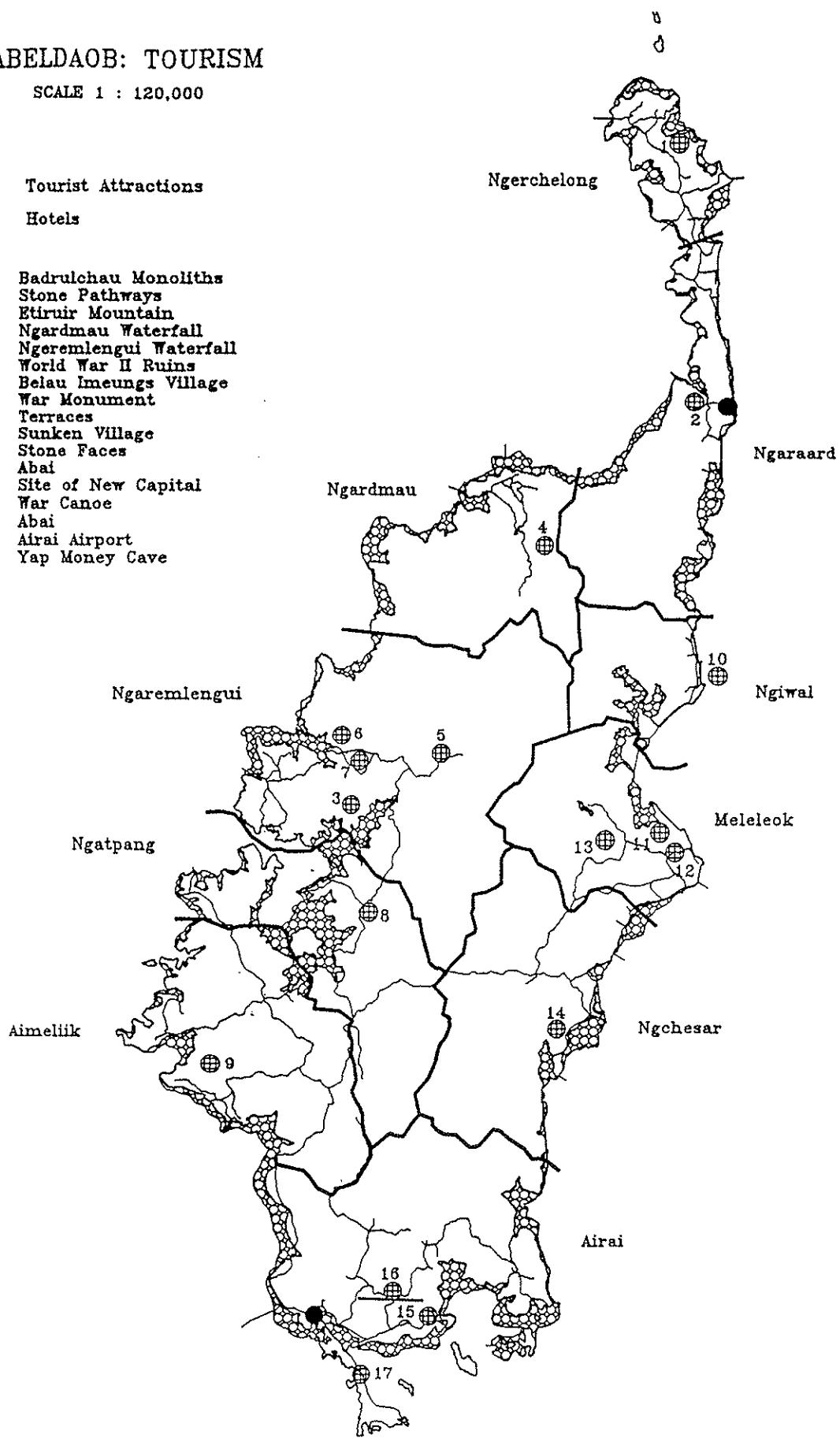
BABELDAOB: TOURISM

SCALE 1 : 120,000

⊕ Tourist Attractions

● Hotels

- 1 Badrulchau Monoliths
- 2 Stone Pathways
- 3 Etiruir Mountain
- 4 Ngardmau Waterfall
- 5 Ngaremlengui Waterfall
- 6 World War II Ruins
- 7 Belau Imeungs Village
- 8 War Monument
- 9 Terraces
- 10 Sunken Village
- 11 Stone Faces
- 12 Abai
- 13 Site of New Capital
- 14 War Canoe
- 15 Abai
- 16 Airai Airport
- 17 Yap Money Cave

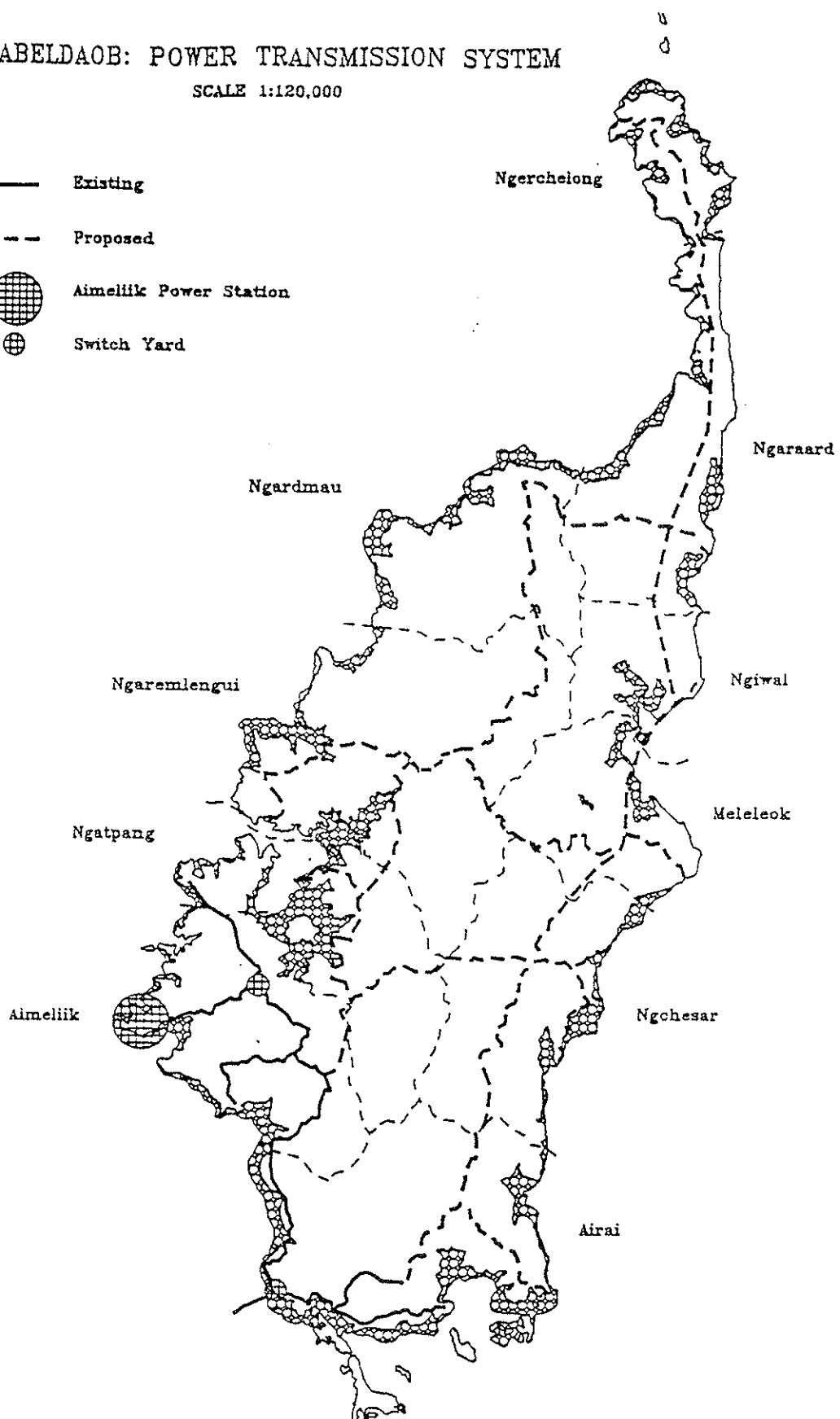


Map 12

BABELDAOB: POWER TRANSMISSION SYSTEM

SCALE 1:120,000

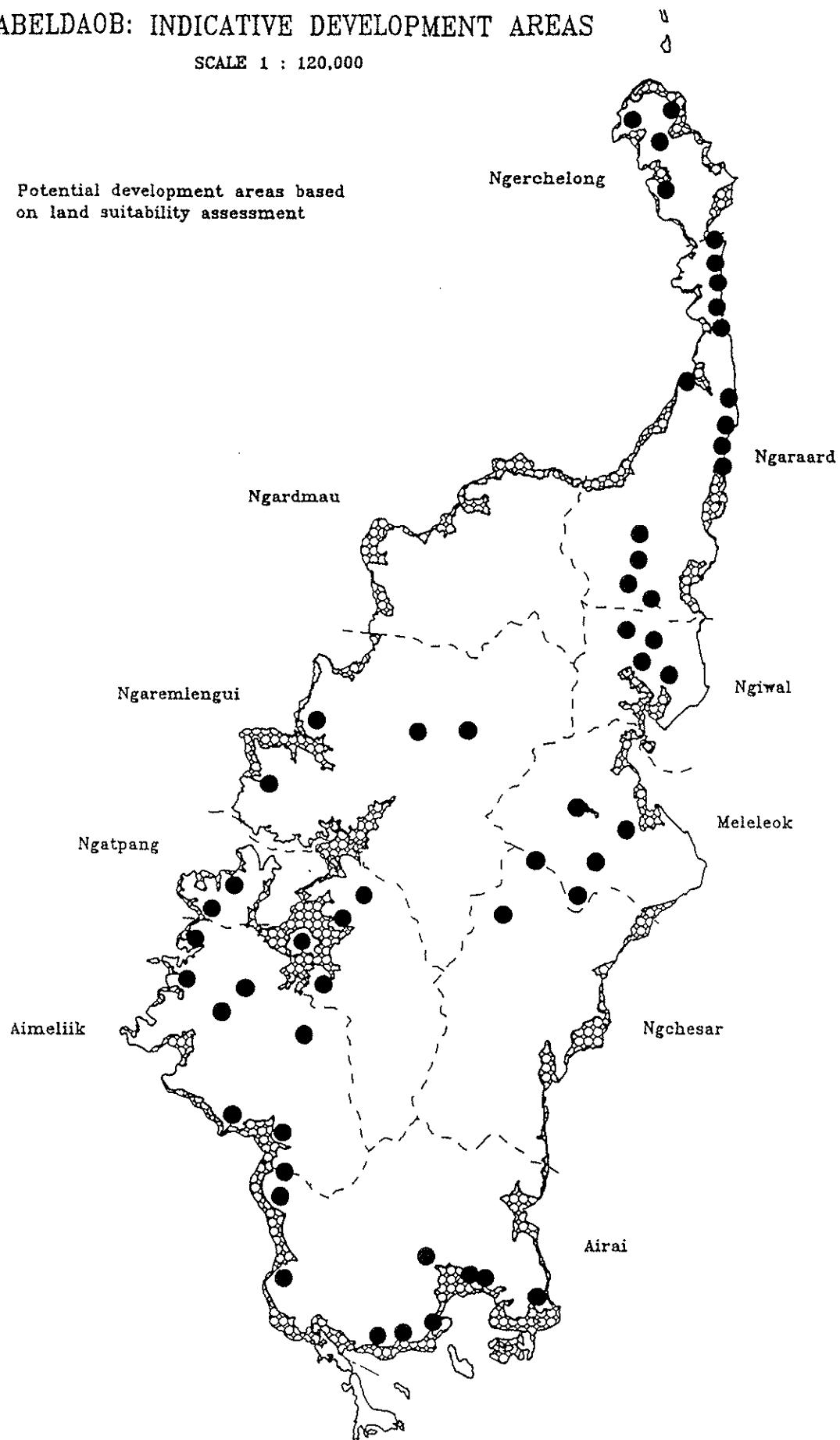
- Existing
- - - Proposed
- Aimeliik Power Station
- ◎ Switch Yard



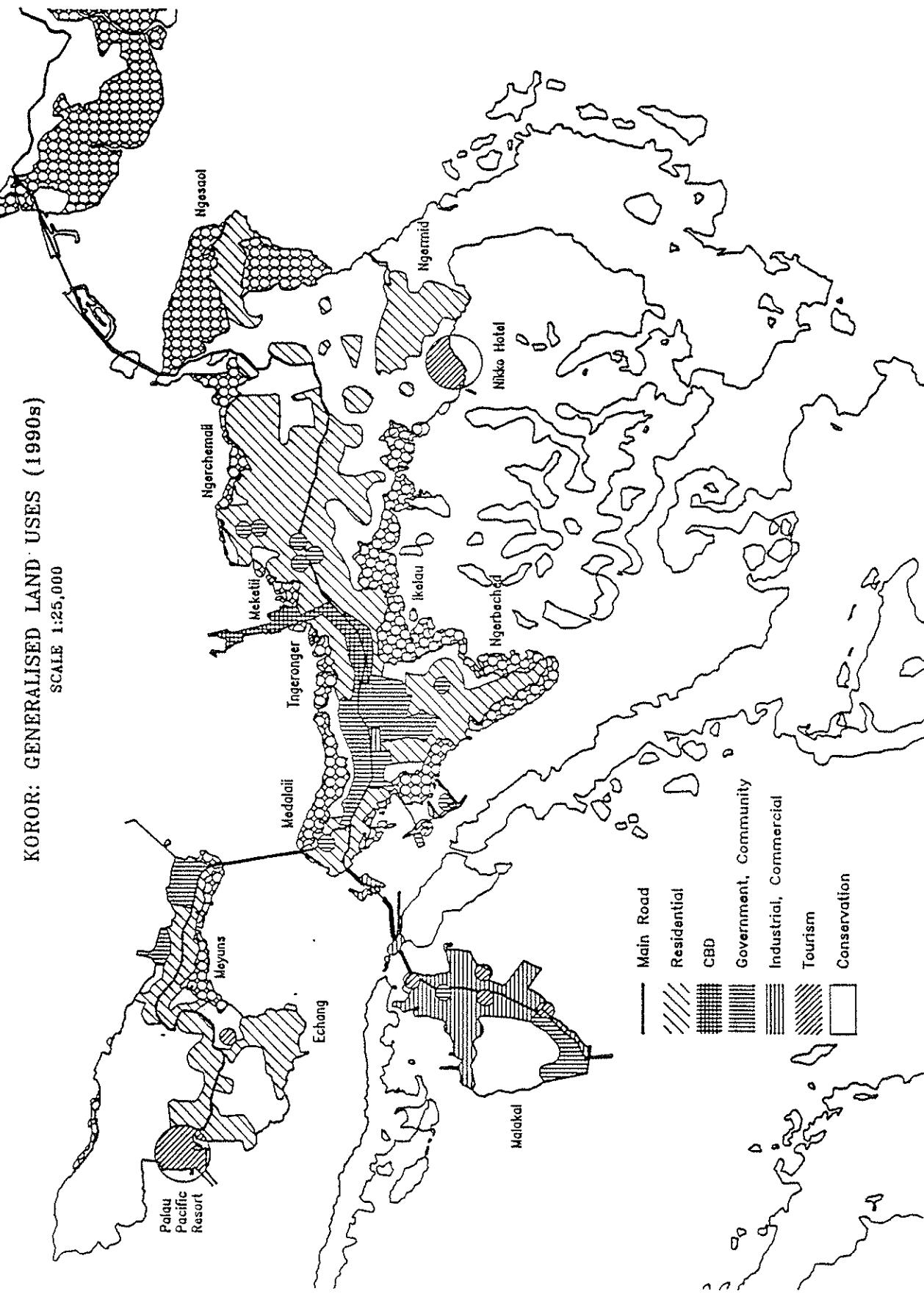
BABELDAOB: INDICATIVE DEVELOPMENT AREAS

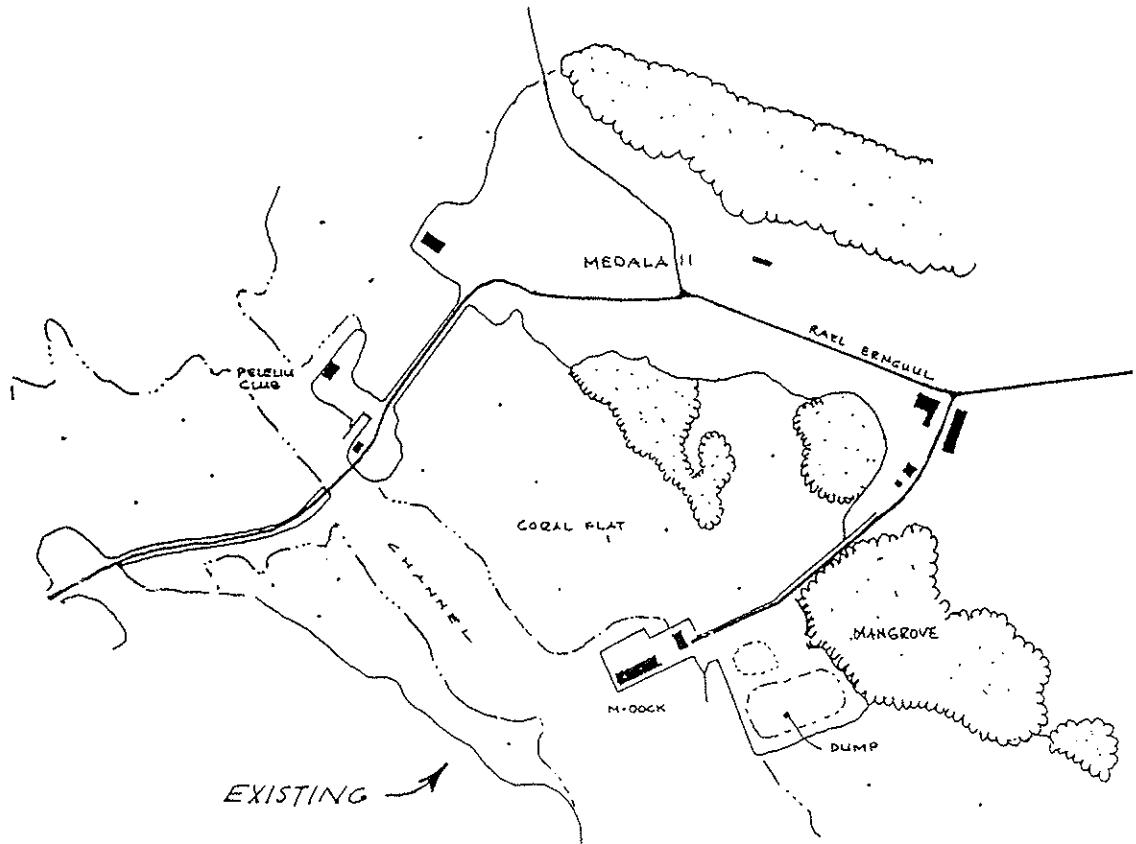
SCALE 1 : 120,000

- Potential development areas based on land suitability assessment

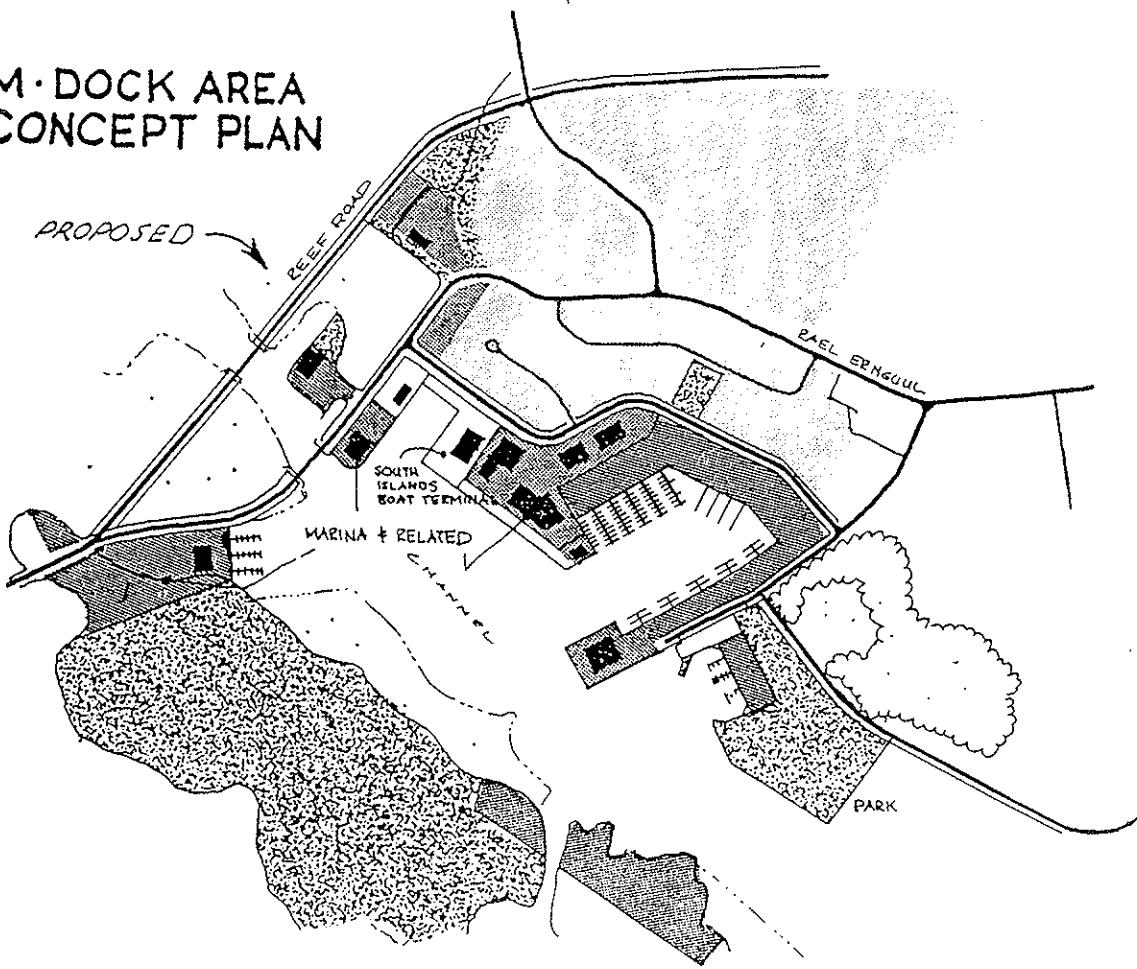


Map 14

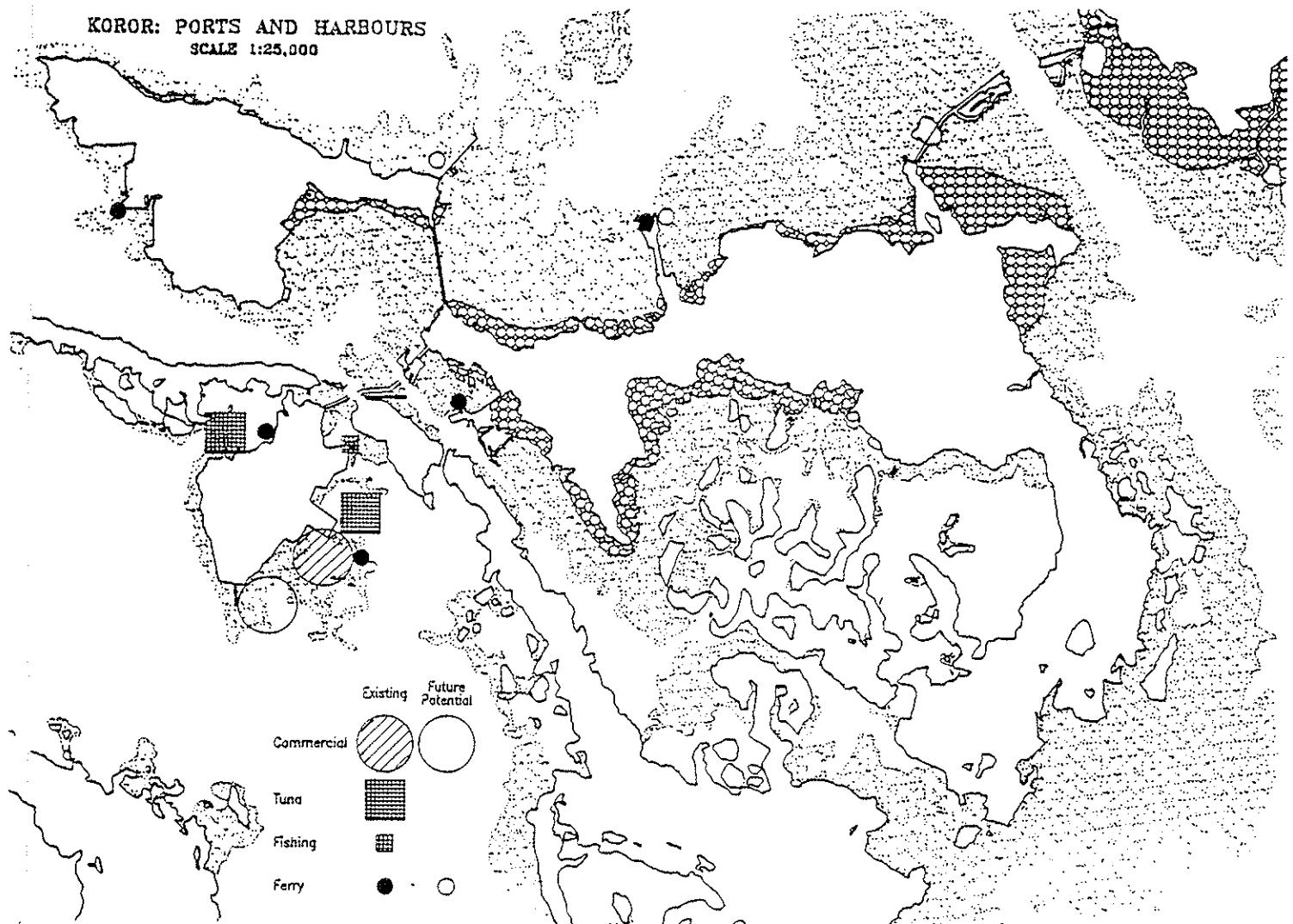




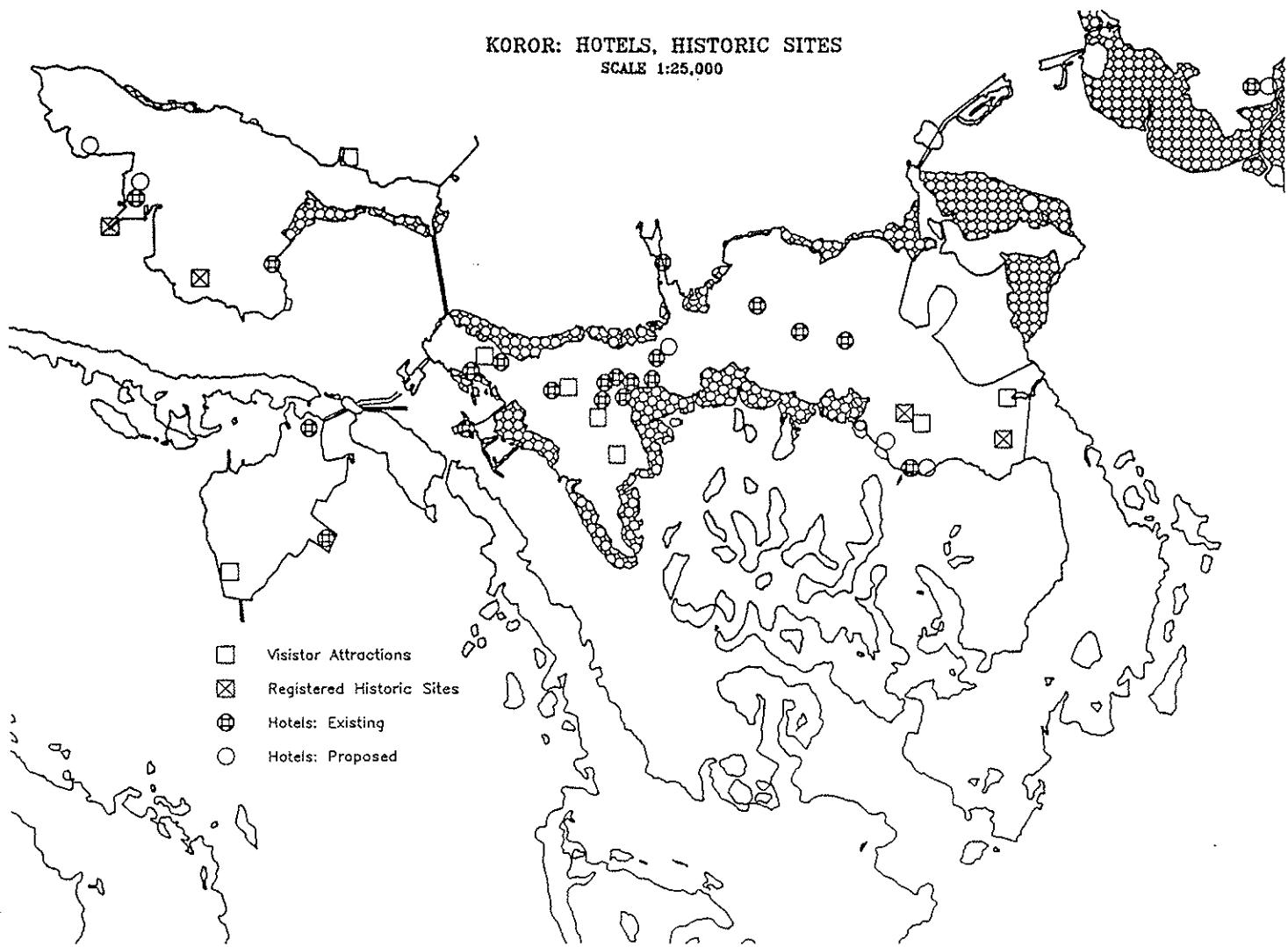
M-DOCK AREA CONCEPT PLAN



Map 16

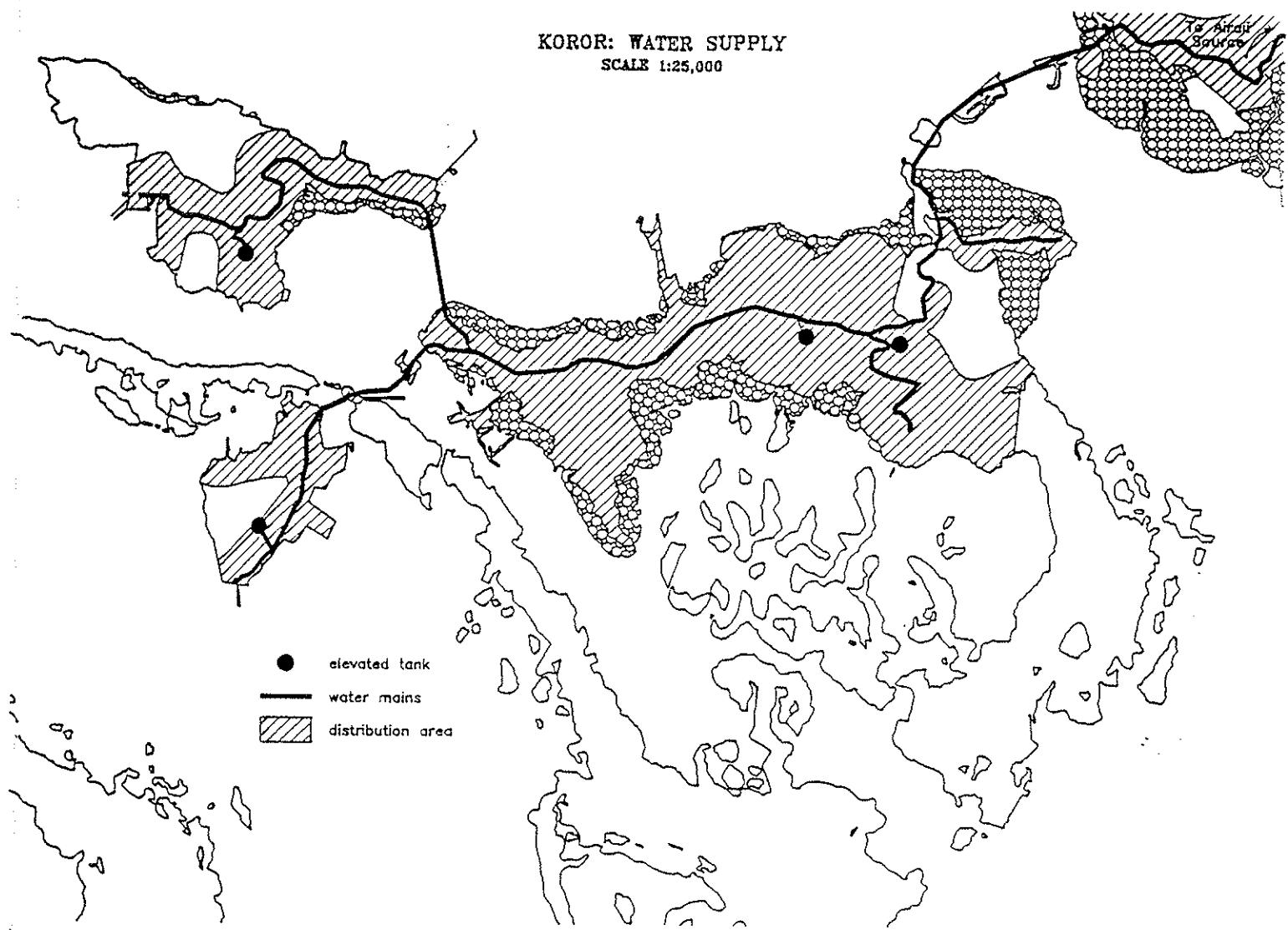


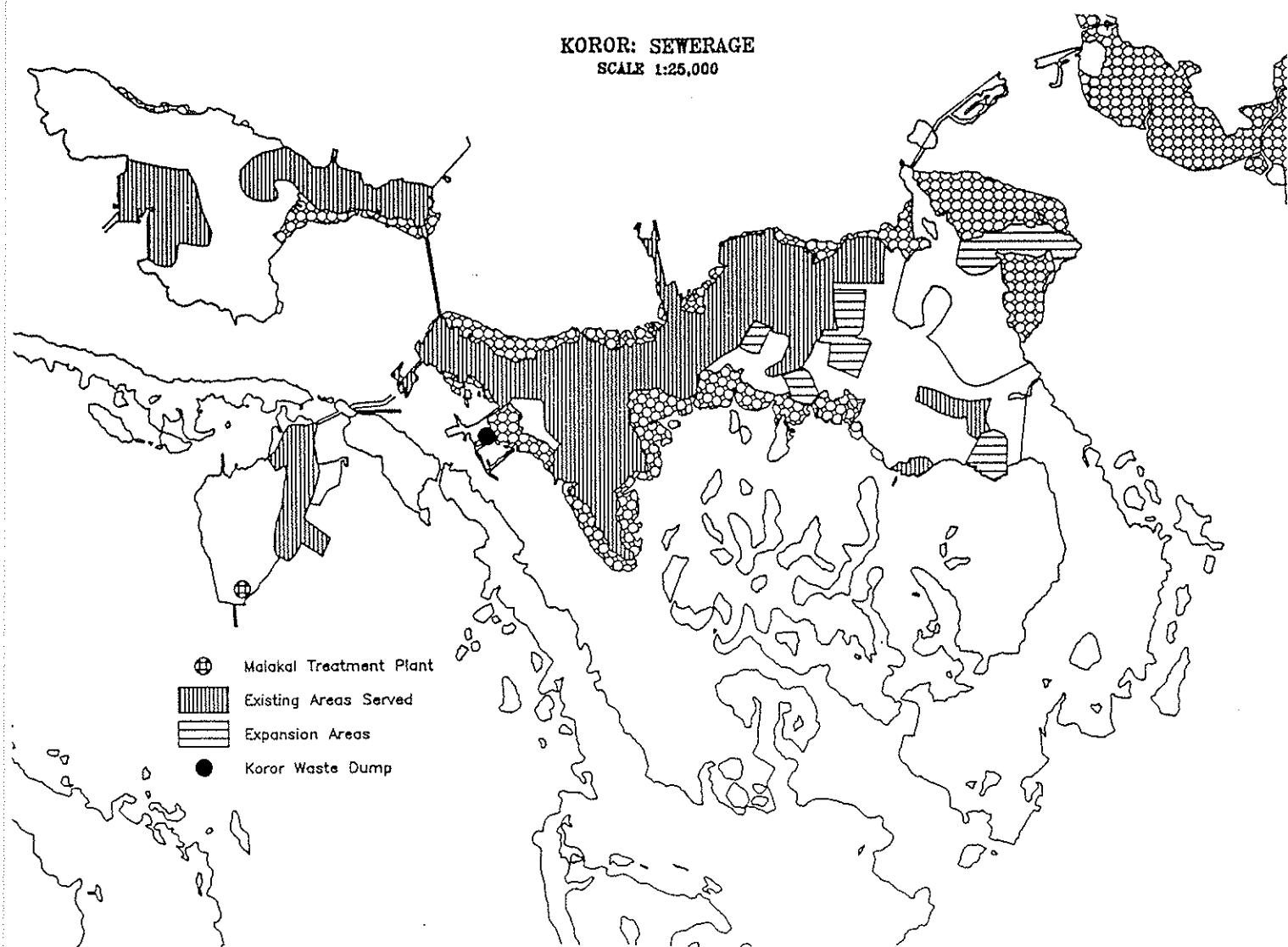
KOROR: HOTELS, HISTORIC SITES
SCALE 1:25,000



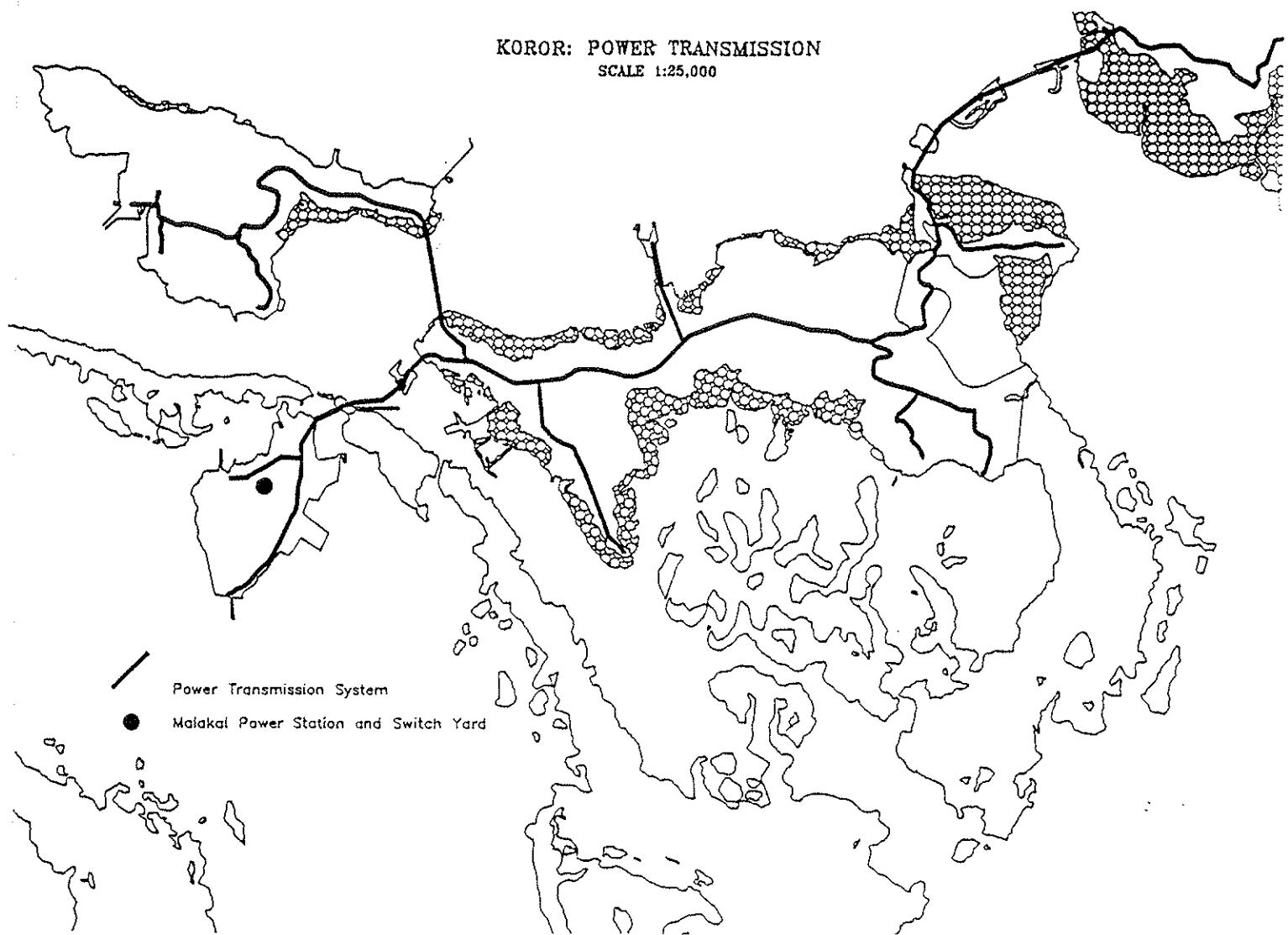
Map 18

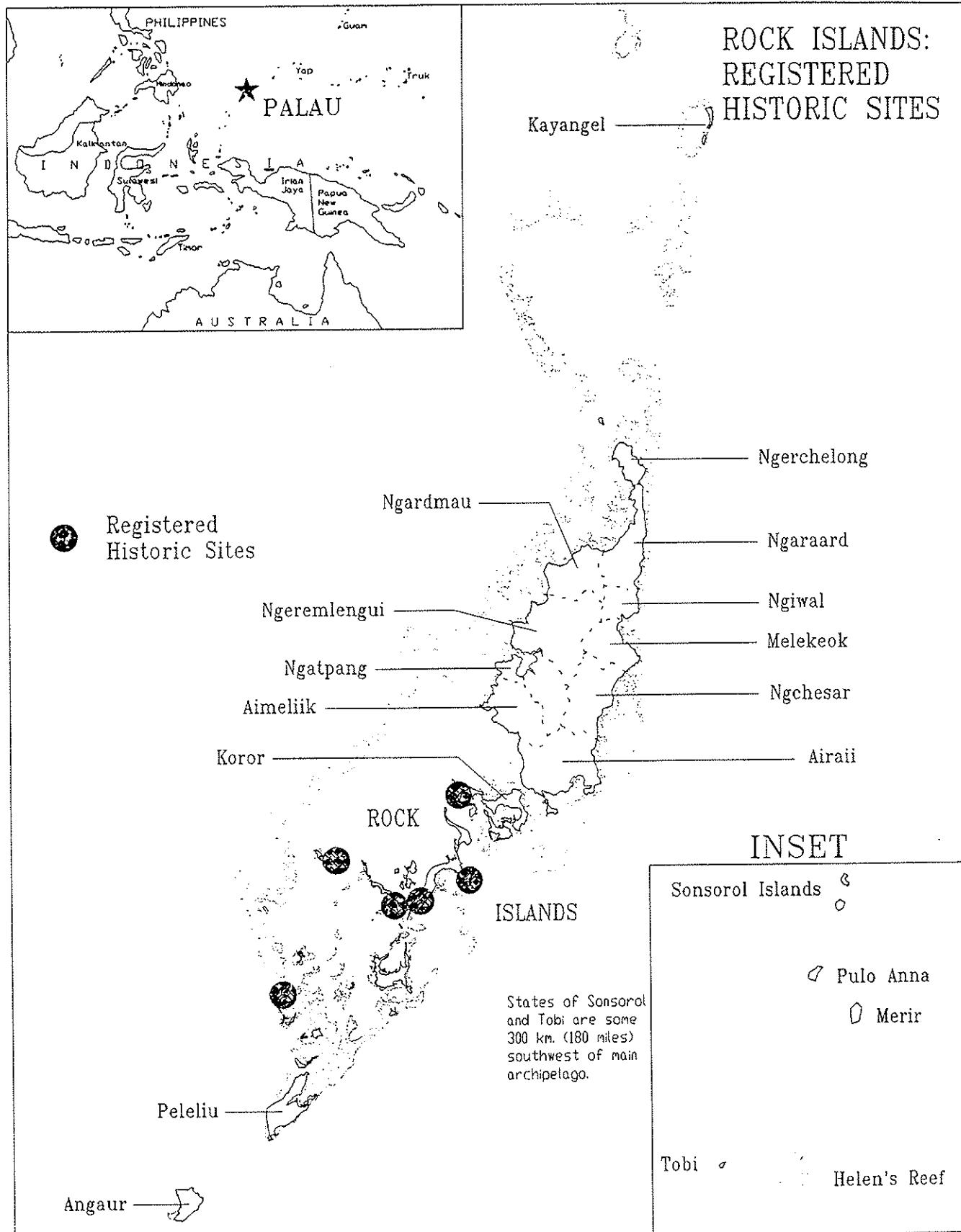
KOROR: WATER SUPPLY
SCALE 1:25,000





Map 20





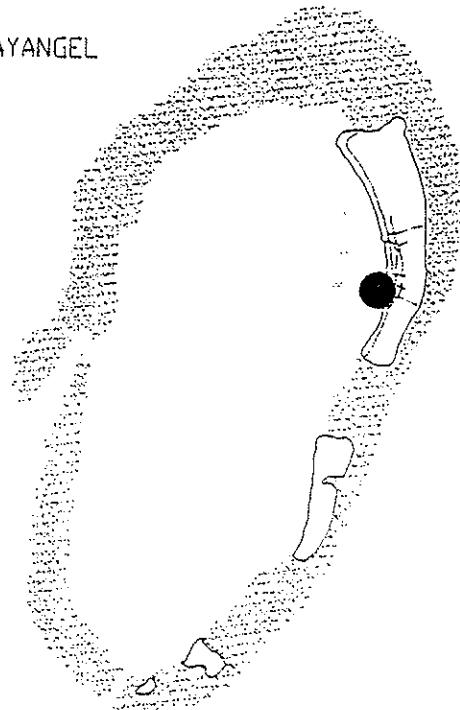
Map 22

ISLAND STATES: PORTS AND HARBOURS

Fishing Existing
 Future Potential

Ferry Existing
 Future Potential

KAYANGEL



New Channel Required

Improved Existing Channel

PELELIU

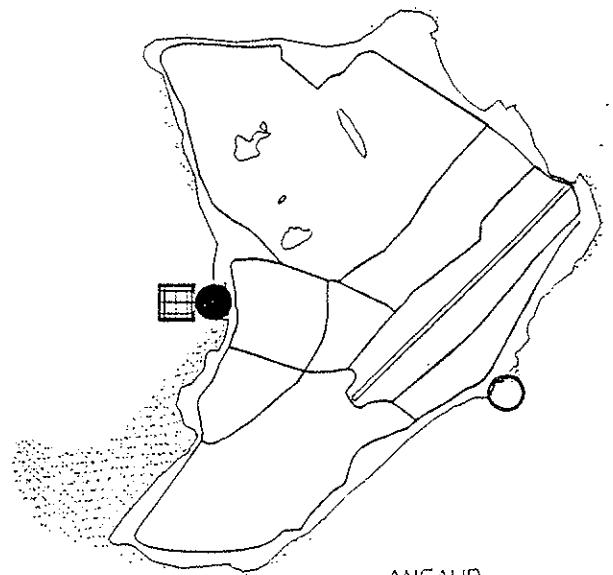
SONSOROL

PULO ANNA

MERIR

TOKI

HELEN REEF



ANGAUR

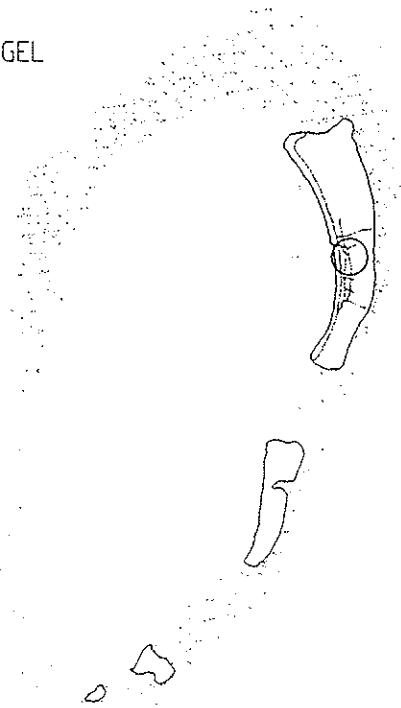
ISLAND STATES: TOURISM

 Tourist Attractions

 Registered Development Area

 Registered Historic Site

KAYANGEL



Bloody Nose Ridge Monuments

PELELIU

SONSOROL

PULU ANNA

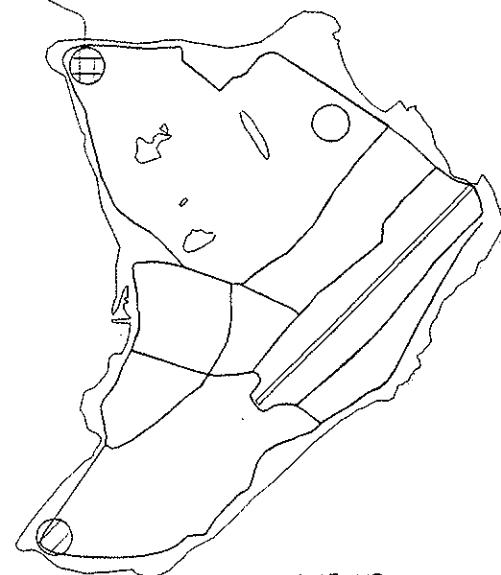
MERIR

TOBI

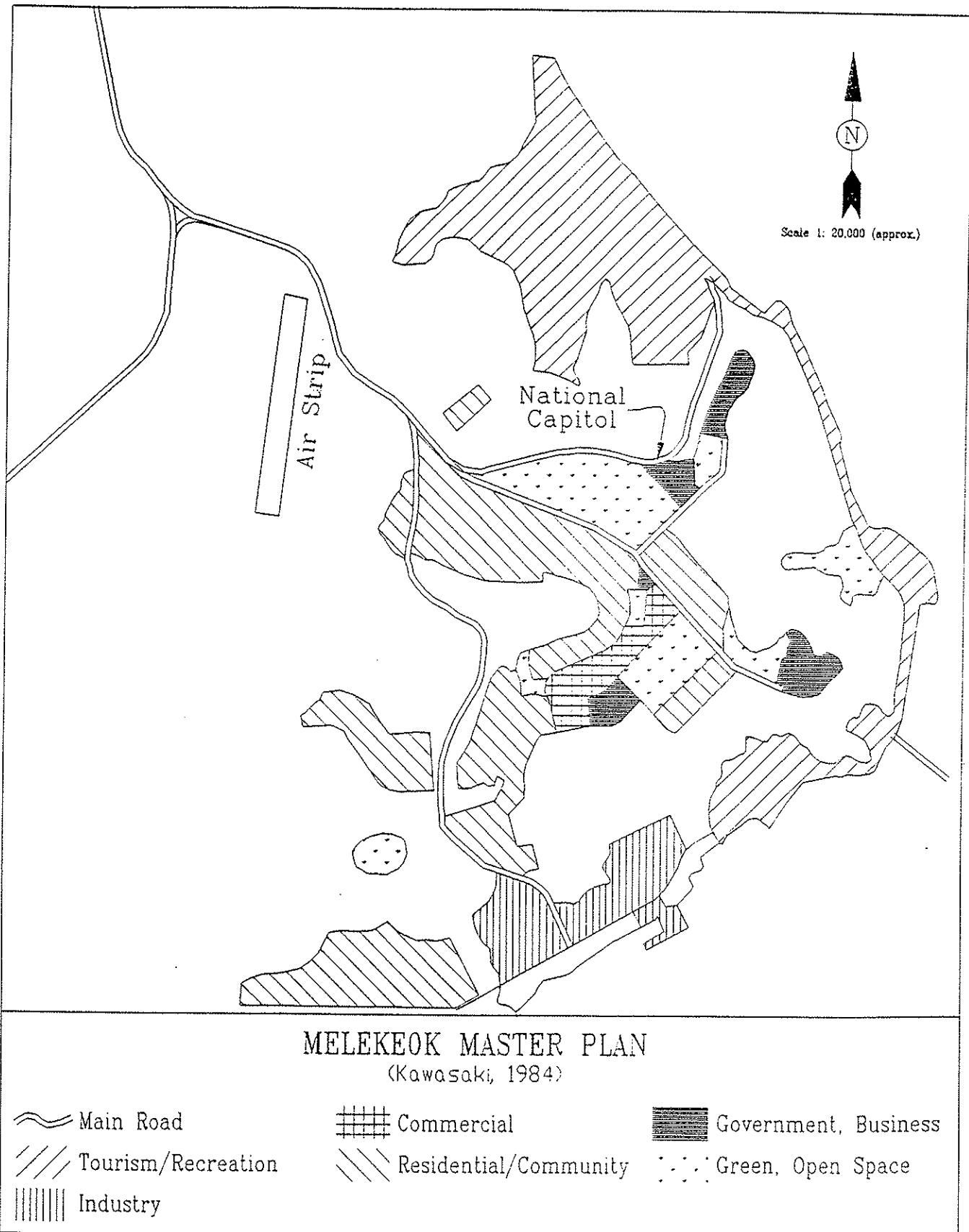
HELEN REEF

Statue of Lourdes

ANGAUR



Map 24

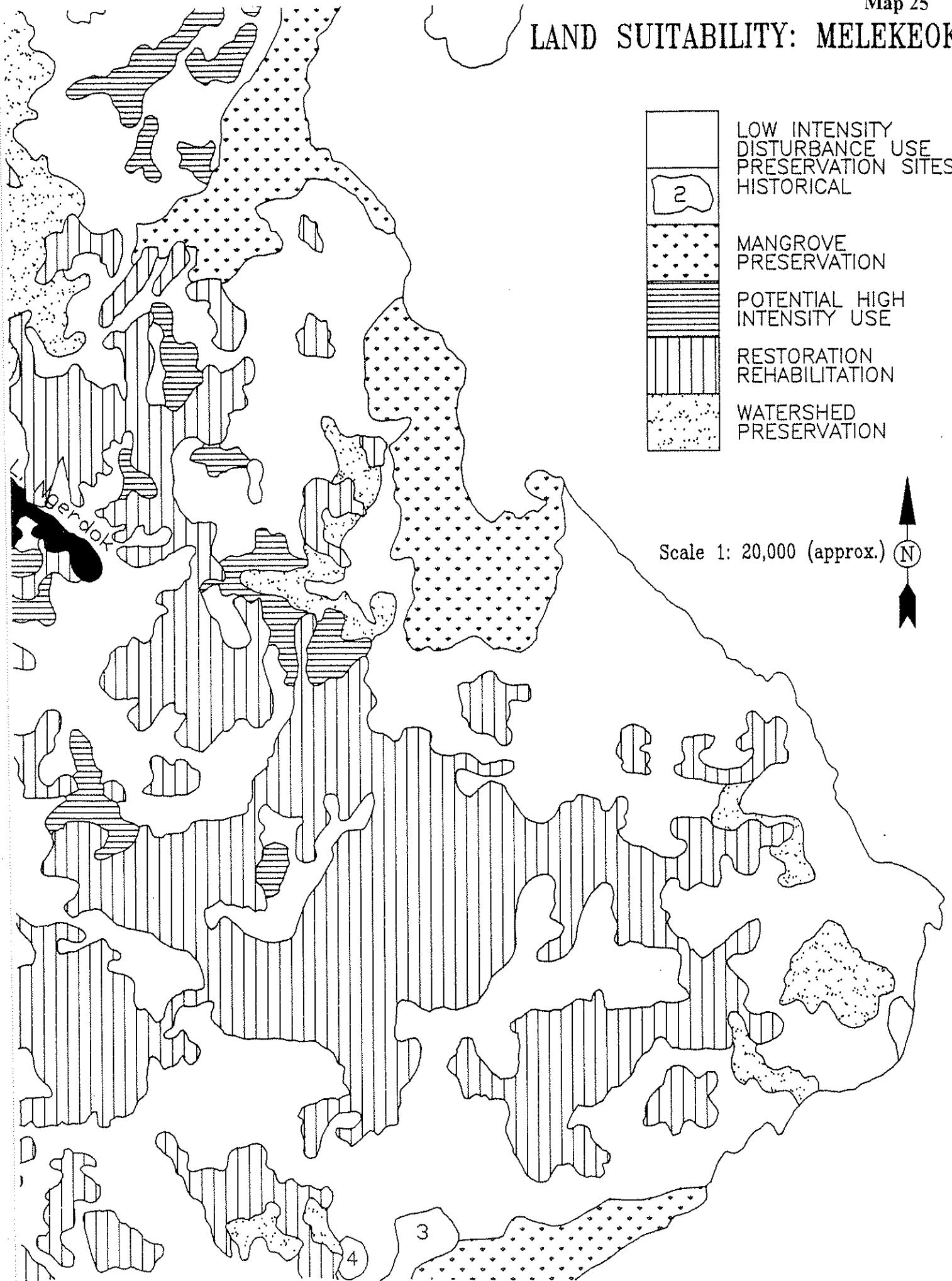


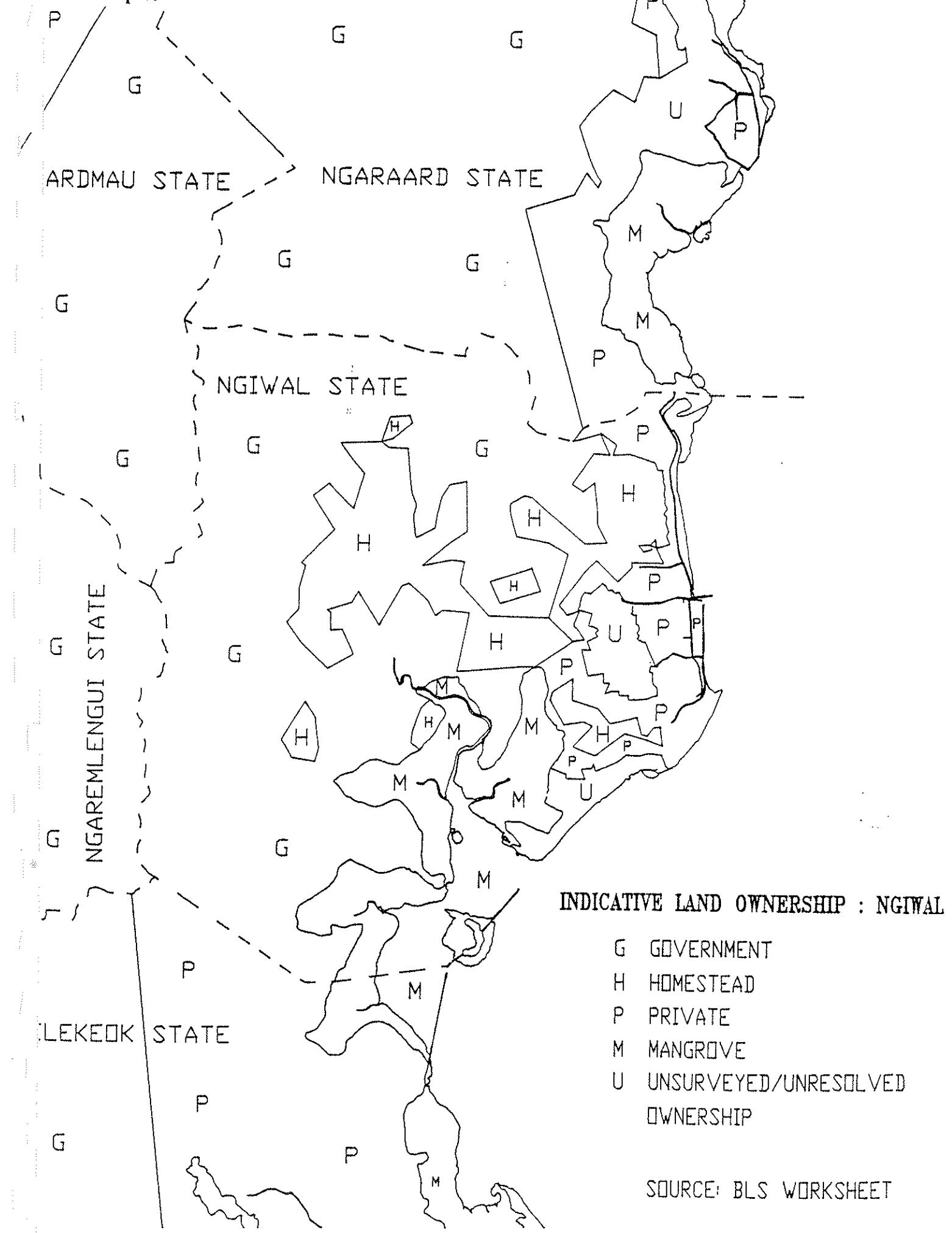
LAND SUITABILITY: MELEKEOK



- LOW INTENSITY
DISTURBANCE USE
PRESERVATION SITES
HISTORICAL
- MANGROVE
PRESERVATION
- POTENTIAL HIGH
INTENSITY USE
- RESTORATION
REHABILITATION
- WATERSHED
PRESERVATION

Scale 1: 20,000 (approx.)





The Senate
Olbill Era Keulau
Koror, Palau 96940

The Senate

Olbill Era Keulau
Koror, Palau 96940

The Senate

Olbill Era Keulau
Koror, Palau 96940