

Japan International Cooperation Agency (JICA)
The Office of Planning and Statistics
The Republic of Palau

THE STUDY FOR PROMOTION OF ECONOMIC DEVELOPMENT IN THE REPUBLIC OF PALAU

FINAL REPORT
VOLUME-1
SUMMARY

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FOR PROMOTION OF
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The exchange rate applied in this study is
US\$1=JPY105.0 (As of August 2000)



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PREFACE

In response to a request from the Government of the Republic of Palau, the Government of Japan decided to conduct the Study for Promotion of Economic Development in the Republic of Palau and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a study team headed by Mr. Tadashi Kume of Pacific Consultants International to Palau between February 2000 and August 2000.

The Study Team conducted the study with the Palauan Counterpart Team and held a series of discussion with the officials concerned of the Government of Palau. After the Team returned back to Japan, further studies were made and then the report was finally completed.

I hope that this report will contribute to promotion of industries such as tourism, fishery and agriculture, and to economic development in Palau.

I wish to express my sincere appreciation to the officials concerned of the Government of Palau for their close cooperation extended to the Study Team.

October 2000



Kunihiko Saito
President

Japan International Cooperation Agency

October 2000

Mr. Kunihiko Saito
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

Dear Sir,

We are pleased to formally submit herewith the Final Report of "The Study for Promotion of Economic Development in The Republic of Palau."

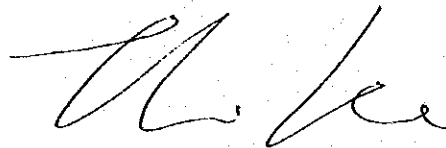
This report compiles the results of the Study which was undertaken in The Republic of Palau from February 2000 through October 2000 by the Study Team, represented by Pacific Consultants International.

We had been assisted by many people for the accomplishment of the Study, and we would like to express our sincere gratitude and appreciation to all those who extended their kind assistance and cooperation to the Study Team, in particular, the Office of Planning and Statistics who acted as the counterpart agency.

Also, we acknowledge the effective assistance by all the officials of your Agency and the Embassy of Japan in The Republic of Palau.

We hope that the report will be able to contribute to formulate appropriate policies and measures for the future development of Palau.

Very truly yours,



Tadashi Kume
Team Leader,
The Study Team for the Study for Promotion
of Economic Development in The Republic
of Palau

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THE STUDY FOR PROMOTION OF ECONOMIC DEVELOPMENT IN THE REPUBLIC OF PALAU

The Government of Palau (GOP) should achieve the development goals of (1) self-reliant economy, (2) coordinated economic development with conservation of natural environment, and (3) sustainable regional development, before termination of the Compact Direct Payment from the United States in the year of 2009.

The Republic of the Marshall Islands and the Federal States of Micronesia (FSM) were parts of the United Nations Trust Territory of the Pacific Islands, under the United States administration during the period 1947-86 as well as the Republic of Palau (ROP). In order to reduce the damage of the termination of the Compact Fund in 2001, the Asian Development Bank (ADB) is providing technical assistance to support reform program such as structural adjustments and capacity building for both countries since 1995. The policy measures of the reform program include reduction of public work forces 25% to 35% in three years, wage freezing or wage reduction, reduction or eliminate subsidies to public enterprises, strengthen tax and custom administration, and introduction of the value added tax.

For Palau a Structural Adjustment Program is also required to achieve the national development goals. It is needed for Palau to downsize public expenditure including the deduction of wages and salary and to decrease the over-dependence on foreign aid. It is proposed that the GOP will challenge the reduction of the budget size to about 40% of the nominal GDP in 2009/10, which accounted for 60% of the nominal GDP in 1998/99. To reduce the recurrent cost, the number of government workers is proposed to decrease to 1,900 workers in 2008/09 from the current 3,200 workers during the period of eight years. To achieve the self-reliant economy the structure adjustment program and economic development should be implement simultaneously.

It is fortune for Palau that there is certain potential to promote trade and service sector especially tourism development. This is why JICA Study Team recommends the Structural Adjustment Program, which not only downsizes the government expenditures but also generates governmental revenues through the promotion of private driven economic development. Certain level of public investment is required to induce such economic development. JICA Study Team recommends practical improvements of institution and organization to provide an attracting environment for foreign direct investment (FDI) in the pre-feasibility study.

JICA Study Team formulated mid-term development plan, programs and projects based upon the long-term development strategy. Then priority projects and programs are identified from the mid-term development plan, programs and projects mentioned above. The priority projects and programs are selected as followings.

Agriculture and fishery in Palau should aim to develop or conserve for the improvement of food sufficiency level. Food and beverage is one of the major import items followed by transport equipment and machinery. Vegetable and fruits garden promotion at each household in Palau especially in the rural area is recommended. Another measures to be taken are efficient use of food materials. Small-scale fish product processing factory is also recommended. The priority projects and programs for agriculture and fishery are as follows:

- Improvement of Plant Nursery (supply to vegetable and fruits gardens)
- Establishment of Hygienic Slaughterhouse
- Emergency Treatment of Fruits Fly Eradication and Quarantine Control
- Small Fishing Boat Maintenance Training
- Marine Products Processing in Palau

High and sustainable economic growth can be expected in tourism sector, diversification of the tourism products, in terms of location and type of tourism is recommended. Tourism development in Peleliu and Ngarchelong are recommended for the formulation of new tourist base. Promotion of village tourism in Babeldaob Island and Island Resort development in Kayangel is also recommended. In addition to these tourism bases developments, reinforcement of functions of Palau Visitor Authority is required. As a part of urban development a Marine Center Development in Koror is also recommended to reinforce the gateway functions for tourism development. Although the private sector will be a main player of the economic development, especially the FDI there are many legal and institutional constraints for not only FDI but also investment by local people. Provision of preferable investment environment is indispensable. Institutional reform as well as legislative modification is required. The priority projects and programs for tourism are as follows:

- Ngarchelong Tourism Base Development Project
- Kayangel Island Resort Development Project
- Peleliu Tourism Development Plan

Conservation of natural environment and enhancement of natural resource management are significant for the sustainable development. Clear and integrated enforcement and management in conjunction with state government initiative and strengthening of EQPB, integrated management for critical watersheds with effective implementation of preservation and conservation system should be established. A comprehensive solid waste management and establishment of natural resources management inventory are also recommended. The priority program for environment management is:

- Integrated Watershed Management

Solid Waste Management is also urgent matter for environment. This program is included in the waste management describes later.

Labor force for Palauan will increase from 4.5 thousands at present to 8.0 thousands in 2020. Generation of employment other than government sector is urgent matter to absorb not only newly generated labor force but also accommodate transferred labor force from government sectors. Proper training and education system to meet with labor demand is indispensable. The study recommends Government-Private-School cooperation in the vocational training to rationalize education and vocational training. For improving the qualification of teachers in consideration with cost and benefit, education system reform is also recommended. The priority program for social development is:

- Consolidation Plan of Elementary School in Babeldaob Island

The infrastructure development in coordination with the long-term development strategies is indispensable for the successful national socioeconomic development. Following infrastructure development projects and programs in mid-term are selected in considerations with least negative impact on Palauan economy.

- Marine Center Development (Urban Development)
- Improvement of Connecting Road (Road)
- National Road Rehabilitation (Road)
- Extension of Runway at Palau International Airport (Airport)
- Expansion of Malakal Port (Port)
- Sanitation Improvement Project /Sanitary Core Unit (Waste Water)
- Study on Solid Waste Management in Palau (Waste Management)
- Development of a New Final Dump for Koror and Babeldaob (Waste)

Management)

- PNCC Service Improvement Program (Telecommunication)
- Radio Tower – Marine safety (Telecommunication)

The future development expenditure for the proposed projects and programs which is required to maintain the target economic development, estimated at \$187 million at current prices. For operation and maintenance of those projects and programs about \$70 million at current prices is additionally necessary during the same period.

To increase the government revenue, in addition to the currently proceeding Tax Reform Program, vehicle operation related tax such as fuel levy, vehicle registration tax, auto tax are recommended. Other than vehicle related tax, Property tax and utilities charge under the introduction of Polluter Pay Principle.

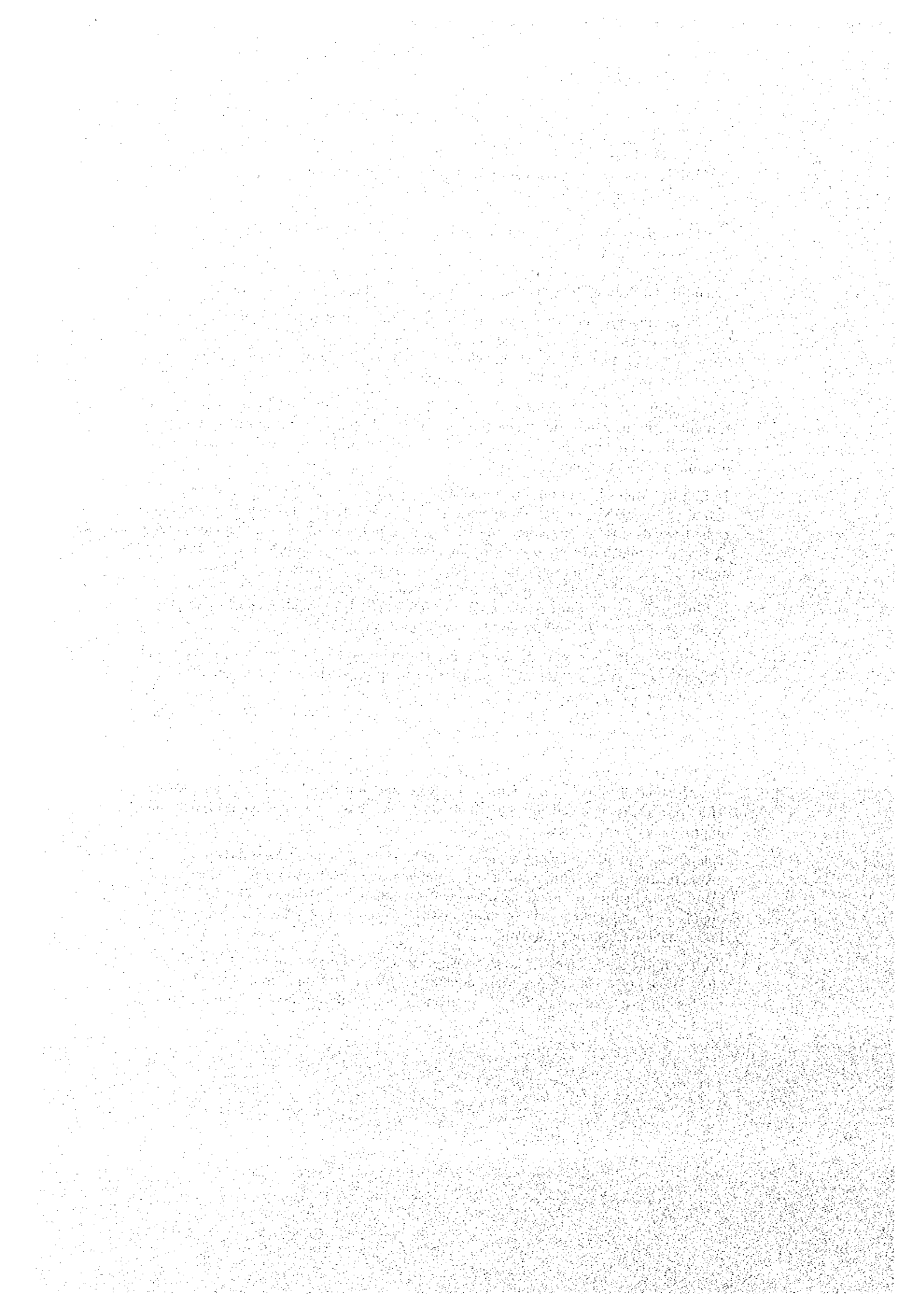
As a result of the Structure Adjustment Program with development programs formulated in this study, the balance of governmental budget will turn into a surplus of \$6.5 million in the year of 2009. Thereafter the GOP would be affordable to balance the overall budget in the long-term perspective.

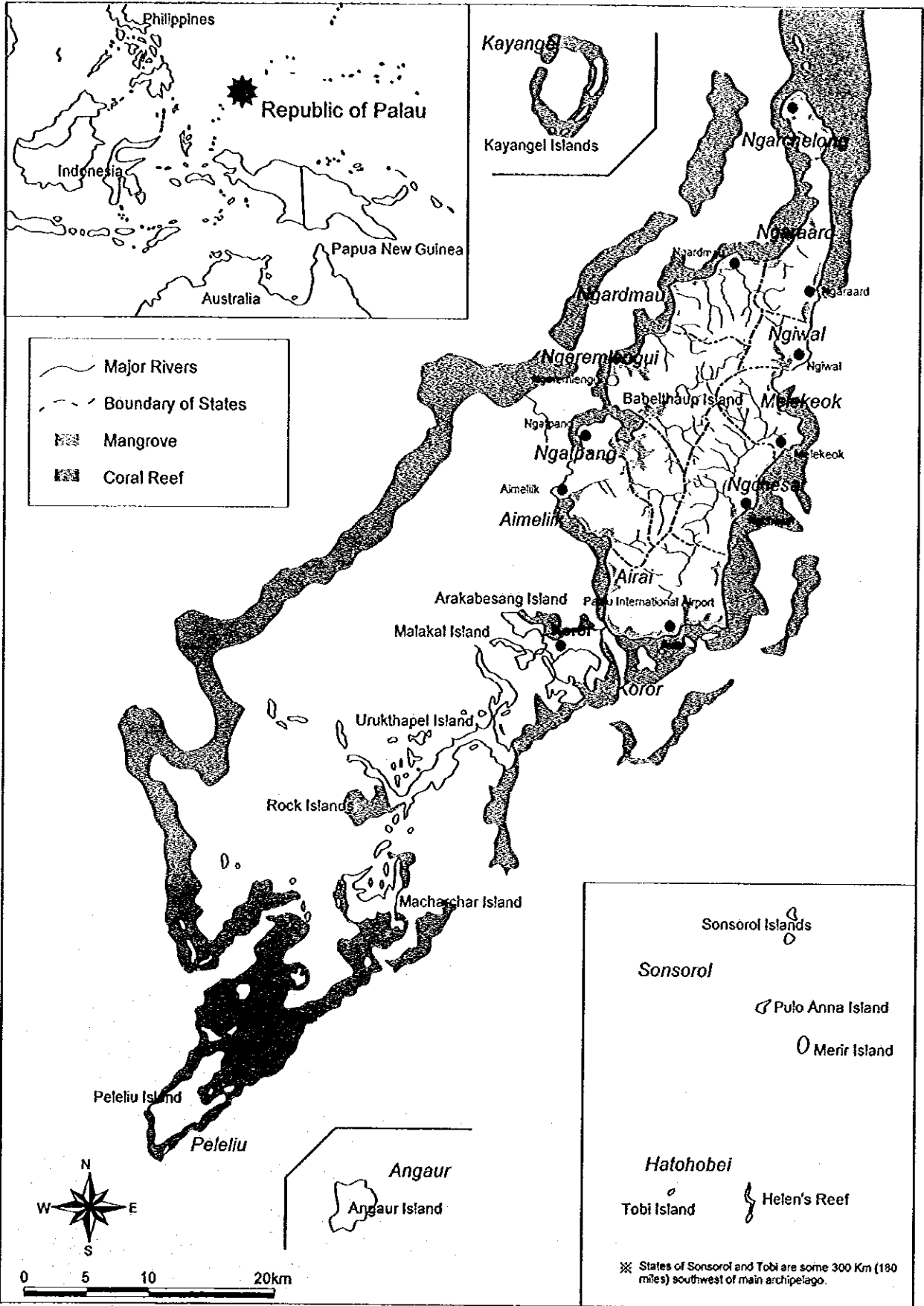
During the Mid-term period, the annual budgetary balance of the GOP will remain in deficit at around \$20 million on average. Therefore external assistance will continue to be needed. Aid coordination and management in conjunction with implementation of structure adjustment program is recommended. There is an urgent need to review and redesign the major purpose of external assistance provided to the ROP. (1) "Project specific" aid, (2) provision of maintenance related funding, (3) provision of a trust fund along the lines of the COMPACTS 211(f) trust fund, and (4) a weighted combination of the above three options should be examined.

The JICA Study Team carries out two pre-feasibility studies on selected projects and programs. The projects for the pre-feasibility studies are selected and recompiled from the twenty priority projects and programs mentioned previously. One is Peleliu Island Tourism Development Plan, which include Peleliu Tourism Promotion Zone Development Plan and relevant infrastructure development projects in Peleliu Island. This project is selected by contribution of economic development point of view. Another is Solid waste management program for Koror and Babeldaob, which include Construction of a New Final Dump for Koro and Babeldaob and relevant projects. This project is selected by contribution of the environmental preservation and improvement point of view.

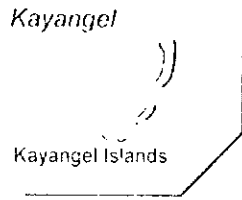
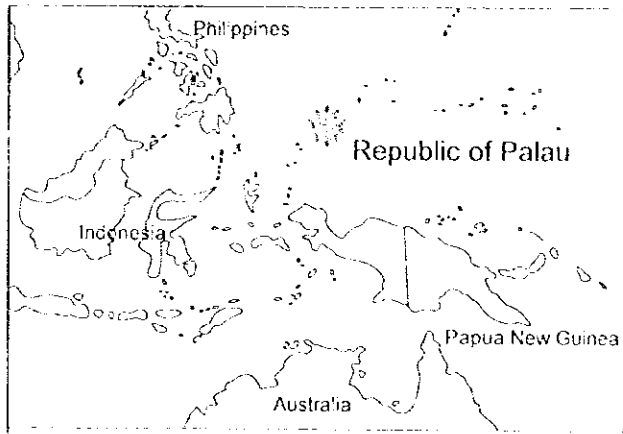
Peleliu tourism development plan is formulated to promote new tourism base for diversification of the tourism industry. Implementation procedure is the key for the plan. Formulation of Land Development Company for Palauan side development organization and appointment of Integrated Development Company who is responsible for the actual development are proposed.

Pre-feasibility study on Solid waste management program for Koror and Babeldaob is also carried out. How to make sustainable by applying the appropriate user charges to the beneficiaries is the key for the implementation of this project. Institutional and legal reforms are proposed.

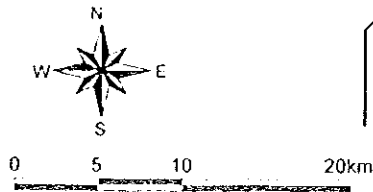
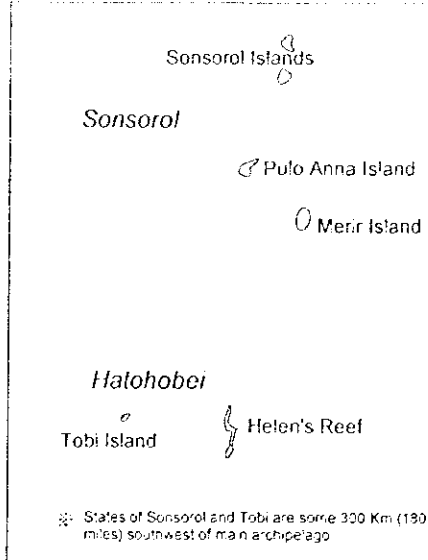
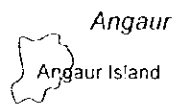
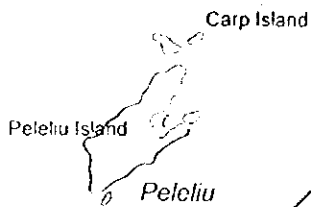
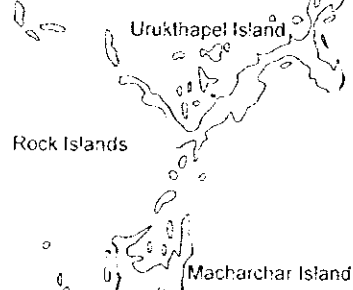




Study Area



- Major Rivers
- Boundary of States
- Mangrove
- Coral Reef



States of Sonsorol and Tobi are some 300 Km (190 miles) southwest of main archipelago

Study Area

1. Introduction

The Republic of Palau (ROP) comprises more than 200 islands, of which the total area is 488 square kilometers with 18,000 population. After World War II, the ROP was under the Trust Territory administered by the United States of America but Palau eventually gained independence in 1994.

The national finance depends on external assistance from the United States. This assistance is, however, anticipated to terminate in 2009.

The analyses of past trends and prevailing features in economic performance shows clearly that the Government of Palau (GOP) needs to adopt measures to counter potentially growing imbalances, which may threaten the social fabric that has so far been established in the country. The ROP's short- to medium term policy challenges cannot be understood properly from a sector or project related perspective, that is, promoting this or that sub-sector of the economy. This situation is caused by the following three key problems, which have a clear and overriding importance in the economic development of the country:

- The widening trend in budget expenditures far exceeding potential budget revenues (the budget deficit problem). This spending pattern has been fostered by relatively easy money made available under external assistance programs, the budget's high dependency on such direct payments and transfers, the lack of proper medium-term prioritized spending patterns and related problems,
- The potential threat from balance of payments deficits (the BOP problem), which can only be financed from remaining stocks of readily cashable financial holdings, estimated at or around \$65 to 66 million, or only about \$27.3 million, if funds already appropriated up to April 2000 are excluded. The ROP's cash source in the current account is receipts from tourism. However, tourist arrivals have been falling and such development have a direct, strong impact on the ROP's BOP position, and
- Insufficiencies in Palau's overall institutional matters, which has so far not succeeded in putting private sector driven production and export bases into place, which could reduce the role of government-led growth.

These three problems become tangled with each other. It is, therefore, necessary to view the medium- to long-term perspectives through the proper and urgent macro-management measures, which are aimed at countering, on an urgent basis, the three problems identified above.

This report, hence, proposes the Structural Adjustment Program for Palau, the qualitative features of which are already identified. Under normal circumstances, structural adjustment programs consist of downsizing public expenditure, but the Structural Adjustment Program for Palau include not only that but also promotion of private driven economic development which can lead the increase of governmental revenue, and enable the shift of labor force from public sector to private sector.

JICA Study Team sets long-term development strategies, and prepared for mid-term development plans, projects and programs from the point of promotion of private driven economic development and establishment of self-sufficient economy. JICA Study Team selects priority projects and programs, which enable balanced development with natural and social environment, and minimum cost burden for the governmental budget.

In pre-feasibility studies JICA Study Team recommends some implementation processes and organizations, which can overcome current development constraints of Palau.

2. Macro-economic Framework

2.1 Potential Development Directions, 2000 to 2020

2.1.1 Three Development Scenarios

JICA Study Team prepared for three development scenarios in order to assess the implications of three potential development and performance directions of the economy of the ROP. The differences in fundamental assumptions are summarized as follows.

“Existing Trend Development” scenario

This scenario assumes that the Government does not attempt to implement any policy measures, thereby allowing budget expenditures to expand, and that budget revenues expand in correspondence with economic performance.

“Balanced Development” scenario

The Government implements a structural adjustment program in Section 2.3. However, one key policy is freezing budget expenditures at a 1999/2000 level, and budget revenues expand faster than the general economy, due to a tax reform.

“Development by Foreign Initiative” scenario

The Government implements a structural adjustment program, the same as in “Balanced Development” scenario. The Government will also change policies such as foreign labor, land ownership to attract Foreign Direct Investment, and the Government achieves sustainability of the governmental budget and balance of payment. Foreign companies and foreigners will influence the economy and society of Palau.

2.1.2 Tourism Development as an Engine in Long-term Perspectives

Public sector financed by foreign aid led the economic development of ROP in the 1990s. In the long-term perspective up to 2020, the role of the private sector is essential and tourism will be the only potential sector to be the engine of growth in Palauan economy and to provide adequate contribution to government revenue. On the other hand, major efforts in the agricultural and fisheries sector will be directed to self-sufficiency of foods rather than heavy dependency on import. It is not realistic that export of agricultural and fisheries products will be an earner of foreign currency.

2.1.3 Assessment of Three Development Scenarios

Table 2.1.1 presents the three alternative directions under some different assumptions. From the viewpoint of environmental capacity and the employment structure in the ROP, “Balanced Development” is selected as a direction of development up to 2020.

In “Existing Trend Development” scenario, economic and social instability and big imbalances of BOP and Government Budget will occur. In “Development by Foreign Initiative” scenario, it is difficult for Palauan people to manage the economy and society of Palau even if they can solve the imbalances.

Table 2.1.1 Development Directions of Three Alternatives

Existing Trend Development (No structural adjustment)	Balanced Development (Structural adjustment)	Development by Foreign Initiative (Drastic change of legislation)
(1) Development Distribution by Island in 2020		
(2) Economic Development and Palauan initiative:		
<ul style="list-style-type: none"> - Depend on uncertain external support - Limited Palauan initiative 	<ul style="list-style-type: none"> - Least external resource dependence - Full Palauan initiative 	<ul style="list-style-type: none"> - Free external resource inflow - Foreign management initiative
(3) Social Conditions and Human Resource		
<ul style="list-style-type: none"> - Possibility of unemployment of Palauan labor - Unemployment of non-Palauan labor - Threat to public safety due to unemployment 	<ul style="list-style-type: none"> - Population and labor force of non-Palauan keeps less than half of Palauan - Secure and peace society 	<ul style="list-style-type: none"> - Number of population and labor force of non-Palauans exceed that of Palauans - Foreign initiative society
(4) Environmental Condition and Management		
<ul style="list-style-type: none"> - Degradation of natural and living environment - Difficult to control 	<ul style="list-style-type: none"> - Maintain good environment - Proper management by Palauan people and foreign enterprise 	<ul style="list-style-type: none"> - Degradation of living environment - Extensive care is required by foreign investors
(5) Number of International Tourists and Expenditure, Required Hotel Rooms and Employment in 2020		
<ul style="list-style-type: none"> - 73 thousand visitors - 880 hotel rooms - 2,640 employment - Traditional tourism development in Palau: low quality of tourism facilities and tourism services 	<ul style="list-style-type: none"> - 140 thousands visitors - 1,750 hotel rooms - 5,250 employment - Tourism development balanced with natural environment: adequate development scale, price and quality of tourism services 	<ul style="list-style-type: none"> - 412 thousand visitors - 5,600 hotel rooms - 16,800 employment - Large-scale tourism development for mass tourists by foreign capital
(6) Public Investment Capacity and Recurrent Cost		
<ul style="list-style-type: none"> - No public investment capacity - Uncertain resource availability for recurrent expenditure 	<ul style="list-style-type: none"> - Least to moderate public investment capacity - Minimum recurrent cost 	<ul style="list-style-type: none"> - Least to moderate public investment capacity - Large recurrent cost required to maintain the public facilities and social welfare
(7) Evaluation		
Economic and social instability will occur	Development managed by Palauan initiative with least external assistance (Recommended Development Scenario)	Difficult to manage the development by Palauan initiative

Source: JICA Study Team

2.2 Recommended Economic Framework, 2000 to 2020

2.2.1 Projected GDP Framework, Prerequisites & Implications

Table 2.2.1 shows Nominal GDP, Real GDP (1995 prices), GDP per capita and Job creation in the recommended scenario. "Balanced Development" scenario can generate 5,086 new job opportunities over the period of 1994/95 to 2019/20. Though Real GDP per capita will decrease from \$6,108 in 1994/95 to \$5,861 in 2008/09, it will recover rapidly over the level of 1994/95 in 2014/15.

Table 2.2.1 GDP and Job Creation

	1994/95*	1999/00	2004/05	2008/09	2014/15	2019/20
Total Residence	17,255	19,312	21,441	22,054	22,585	23,513
Job Creation	8,368	9,211	10,426	11,602	12,252	13,454
Nominal GDP (\$ million)	105.21	134.83	172.24	212.70	298.56	404.07
Real GDP (\$1995 million)	105.21	116.14	122.17	129.25	143.98	160.83
Nominal GDP per Capita (\$)	6,108	6,982	8,033	9,645	13,219	17,185
Real GDP per Capita (\$)	6,108	6,014	5,698	5,861	6,375	6,840

Source: JICA Study Team

Table 2.2.2 summarizes GDP projection by sectors. The economy of the ROP over the past two years (1998 and 1999) has been in recession and it will take some time, before growth picks up again.

It is expected that the overall engine of growth will be the tertiary sector with better than in the past growth performance of the secondary and also primary sectors. Nominal GDP growth is to accelerate slowly from about 4.3% in 1999/2000 to about 5.4% at the end of the decade. However, such continuous acceleration in GDP growth can only take place, if the public sector is reduced in an orderly manner and dynamic forces in the public sector are allowed to play more freely. This is necessary not only to absorb labor from the public sector, but also to maintain the overall dynamics of tertiary sector growth performance.

It is likely that the wholesale and retail trade, transport & communications, hotels and restaurants, and other services will play a dominant role in generating tertiary growth. A slowing down of growth in any of the above four sub-sectors will have to be compensated for by growth of other sub-sectors, for which there are, over the short- to medium-term, no easy candidates in the ROP economy available.

Table 2.2.2 Nominal GDP Projections by Sector

Sector	Unit	1998/99	1999/00	2004/05	2008/09	2014/15	2019/20
Figures							
Primary Sector	\$ million	6.14	6.32	7.36	8.31	10.53	12.87
Secondary Sector	\$ million	10.74	11.59	16.99	22.62	31.32	41.38
Tertiary Sector	\$ million	109.22	113.57	143.40	176.11	248.68	339.07
Nominal GDP	\$ million	129.25	134.83	172.24	212.70	298.56	404.07
Annual Growth Ratio			1999/00	2004/05	2008/09	2014/15	2019/20
Primary Sector	%	-	3.07	3.08	3.09	4.04	4.10
Secondary Sector	%	-	7.95	7.98	5.68	5.57	5.73
Tertiary Sector	%	-	3.98	4.99	5.44	5.96	6.40
Nominal GDP	%	-	4.32	5.23	5.39	5.85	6.24
Share		1998/99	1999/00	2004/05	2008/09	2014/15	2019/20
Primary Sector	%	4.8	4.7	4.3	3.8	3.5	3.2
Secondary Sector	%	8.3	8.6	9.9	10.6	10.5	10.2
Tertiary Sector	%	84.5	84.2	83.3	82.8	83.3	83.9

Source: JICA Study Team

The share of primary sector will decrease from 4.7% in 1999/00 to 3.2% in 2019/20 though its annual growth rate will increase from 3.1% to 4.1%. Basically primary sector

will contribute to import substitution and enhanced self-sufficiency of the economy. The share of secondary sector will increase from 8.6% in 1999/00 to 10.6% in 2008/09. Its annual growth rate will be about 8% in the first decade of 2000s, and play an important role. The share of tertiary sector will stay about 84% of the nominal GDP. It will lead Palauan economy until 2020.

Table 2.2.3 shows employment demand by sector. The share of tourism-related industries would increase in accordance with diversified tourism development recommended in the Report. On the other hand, the share of government worker, which consists of national governmental workers, state governmental workers, semi governmental workers, teachers of public schools, and doctors/nurses of the national hospital, will decrease. A shift of labor force from governmental sector to tourism-related industries would occur as a result of tourism development and Structural Adjustment Program of Palau as recommended by the Study and explained in this Report. In order to shift labor force smoothly, decrease of wage gap between public sector and private sector is needed.

Table 2.2.3 Labor Demand by Sector

Figure	1994/95	1999/00	2004/05	2008/09	2014/15	2019/20
Labor demand	7,759	9,211	10,426	11,602	12,252	13,434
Primary	724	829	730	812	735	806
Secondary	1,165	1,382	1,668	1,972	1,960	2,015
Tertiary	5,870	7,000	8,028	8,818	9,557	10,613
Government Worker*	2,661	3,686	2,469	1,900	1,900	1,900
Tourism related	2,515	2,694	2,970	4,050	4,650	5,250
Share	1994/95	1999/00	2004/05	2008/09	2014/15	2019/20
Primary	8.1	9.0	7.0	7.0	6.0	6.0
Secondary	13.1	15.0	16.0	17.0	16.0	15.0
Tertiary	65.8	76.0	77.0	76.0	78.0	79.0
Government Worker	29.8	33.0	23.7	16.4	15.5	14.1
Tourism related	28.2	29.2	28.5	34.9	38.0	39.1

Source: JICA Study Team

2.3 Structural Adjustment Program for Palau

The results of the analyses indicate the urgent need for the Government to formulate a consistent structural adjustment program and to implement such program over the short-to medium term in order to attain national development goals. The Structural Adjustment Program for Palau would have five major objectives:

Objectives 1-Put the right fundamentals in place

The overall institutional matters for private sector driven economic development is not yet set in place. The Government will have to review systematically the regulatory frameworks, the government's role and functions. The key is to establish within three to five years a lean and efficient Government, which assumes responsibility for Government core-functions.

Objectives 2-Introduce and implement proper macro-management

There is an urgent need to closely monitor balance of payment and to adopt countermeasures against a widening trade and/or current account deficit. Over consumption levels, driven by over employment and over payment in the public sector, a debtor attitude in society and a lucrative lifestyle will have to come down. It appears that there is no other choice, but to use increased import tariffs on non-essential and luxury items, and to impose additional taxes, levies and fees in order to reduce such consumption levels.

Objectives 3-Reduce the public sector, eliminate the budget deficit and reduce the dependency on external ODA resources

The Government/public sector is oversized for a country like Palau in comparison with small-scale economies. The administrative structure needs considerable rationalization, and personnel and payment levels will have to come down. Budget resource allocation also has to be realigned with the country's long-term needs. It is counterproductive to develop too many infrastructures, for which the country has neither the long-term financial means, nor the personnel to maintain them properly. An orderly adjustment in the public sector is so essential, that failing to undertake it or undertaking it too late may threaten the social structure of the ROP.

Objectives 4-Foreign direct investment and private sector role

The ROP needs more Foreign Direct Investment, not only for the benefit of the country's capital account, but also for the transfer of technical and managerial skills. A strategic partnership is needed in this context between the GOP and domestic and foreign private sector actors. However, this would imply that there is a clear separation between "politics" and "business" and that the GOP delegates a larger development role to the private sector. Innovative policy approaches in the tourism sector, as proposed in this Study, may generate first experiences with such an approach.

Objectives 5-Closer policy dialogue, partnership and collaboration with the donor community

External assistance should not only be viewed as a source to keep otherwise unsustainable expenditure levels, but as a means that support, over a limited period of time, the establishment of long-term viable economic and social structures. This philosophy is in line with the recommendations of the Development Assistance Committee (DAC) for ODAs. External assistance is, as a matter of principle, help for self-help. There is an urgent need that the ROP plans, programs and prioritizes ODA needs properly, that the policy dialogue with the major donors (for the time being the United States, Japan and Australia) is broadened and deepened and that proper coordination, monitoring and evaluation mechanisms are put in place. In addition, the ROP will have to explore systematically other external foreign relations.

Table 2.3.1 summarizes a tentative action agenda for the GOP in the form of a qualitative

and sound economic and structural adjustment program.

Table 2.3.1 Structure Adjustment Program

	Policy Objectives	Measures
Institutional matters	Sustainable economic development	Adjust constitution Adjust federal structure Define public sector role and private sector role Adjust legislation such as FDI promotion and financial sector
Fiscal Policy	Minimize budget share in GDP Decrease deficit level	Revise tax and levy system Rationalize public investment process Strengthen planning & aid coordination Establish criteria for prioritization of public investments Rationalize government structure Save on current expenditure Downsize public employees
Financial Sector	Establishment of suitable regulation Removes the rumor of money laundering Establishment of monitoring system New role for NDBP	Establish a suitable regulatory framework by assistance of IMF, as the same as the FSM and Marshall Is. Limit operations to the banks that also operate in foreign countries until the establishment of a regulatory framework. Enhance monitoring capacity for financial institutions Restructure NDBP and define new role
Labor market	Supply skilled labor force to industrial sector Population and labor force of non-Palauan does not exceed Palauans	Enhance monitoring capacity of labor environment Improve work permit system for non-Palauans Freeze wage of public employees Abolish unfair laws & regulations and treatments
Foreign Direct Investment	Establishment of attractive environment for foreign direct investment	Clarify and publish criteria of foreign direct investment Enhance foreign investment board Institute reforms of labor market and financial sector, etc.
Trade	Sustainable BOP balance	Import substitution Expand & diversify exports Promote tourism development Reduce consumption
Foreign assistance	Establishment of self-reliant economy until 2009	Diversify assistance source Apply for membership in ADB Set aid strategy which emphasizes not hardware but software

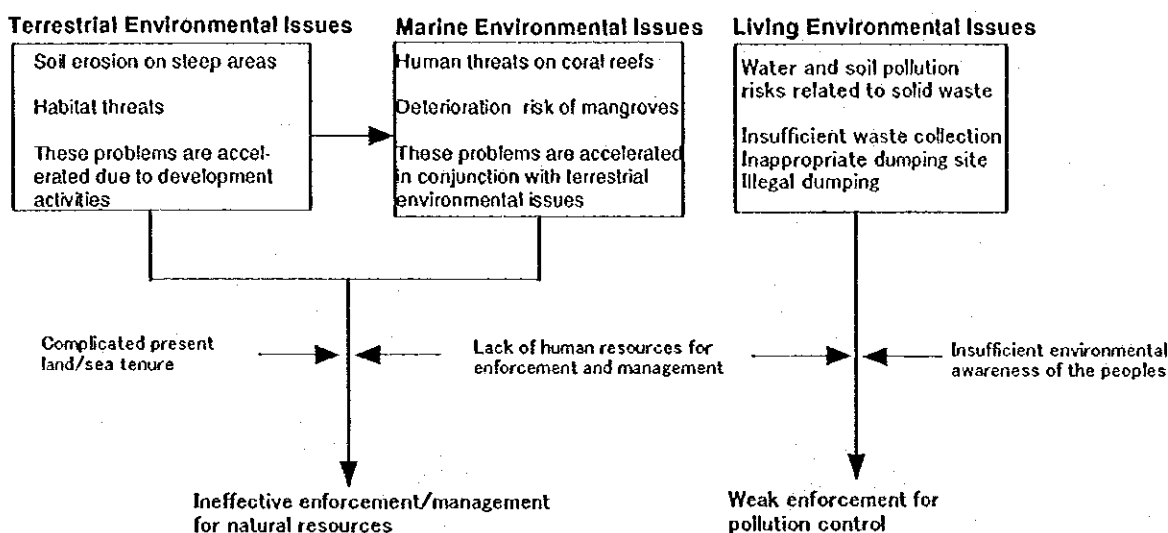
Source: JICA Study Team

3. Environmental Management System

3.1 Environmental Management Issues

Issues on environmental management are summarized in Figure 3.1.1

Figure 3.1.1 Environmental Management Issues



Source: JICA Study Team

3.2 Integrated Environmental Management Scheme and Plan

3.2.1 Key Management Strategies

(1) Clear and Integrated enforcement and management

In principle, each state government should take the initiative for natural resource enforcement and management. The other strategies are proposed as follows:

- Establishment of integrated natural resources conservation council;
- Reinforcement of EQPB management functions for specific fields (EIS, water quality monitoring, pollution control); and
- Establishment of environmental management research network (Alliances).

(2) Integrated management for critical watersheds

There should be an integrated management from upland areas to coastal areas of the following critical watersheds, taking into account water quality and ecological functions:

- Ngeremeduu Watershed
- Ngardok Watershed
- Ngerikiil Watershed

The locations of the above three critical watersheds are shown in Figure 4.2.2.

(3) Effective implementation of preservation and conservation system

- Simplification of present National Heritage Reserve System
- Rational management and conservation based on criteria for basic environmental

zoning guideline and existing, important conservation areas (see Table 3.2.1 and Figure 3.2.1).

Table 3.2.1 Criteria for Basic Zoning Guideline

Elevation/Slope Range	More than 30%	12-30 %	6-12 %
More than 150m	Preservation Area	Preservation Area	Preservation Area
100-150m	Preservation Area	Preservation Area	Conservation Area
50-100m	Preservation Area	Conservation Area	Conservation Area

Source: JICA Study Team

- Improvement of environmental charges for conservation

3.2.2 Proposed Measures

(1) Land resources

- Integrated Ngeremeduu Watershed Management including prevention of soil erosion, sedimentation, and consideration of revenue generation through conservation area management and
- Ngardok Watershed Management including protection of drinking water quality in candidate new capital area, and preservation of endangered species.

(2) Coastal and marine resources

- Decentralization of reef uses for divers based on carrying capacity (see Figure 3.2.2 and Table 3.2.2).

Table 3.2.2 Future Maximum Carrying Capacity for Diving in Palau in 2020

Concentration	Number of Diving Spot	Estimated Dives per spot per year	Estimated Dives per year
Very High	4	20,000	80,000
High	22	10,000	220,000
Moderate	17	5,000	85,000
Low	26	2,500	65,000
Total	69	-	450,000

Source: JICA Study Team

Note: The number of diving spots includes only active ones, which means excluding very unpopular diving spots in 2020

- Implementation of mangrove conservation as a component of integrated watershed management.

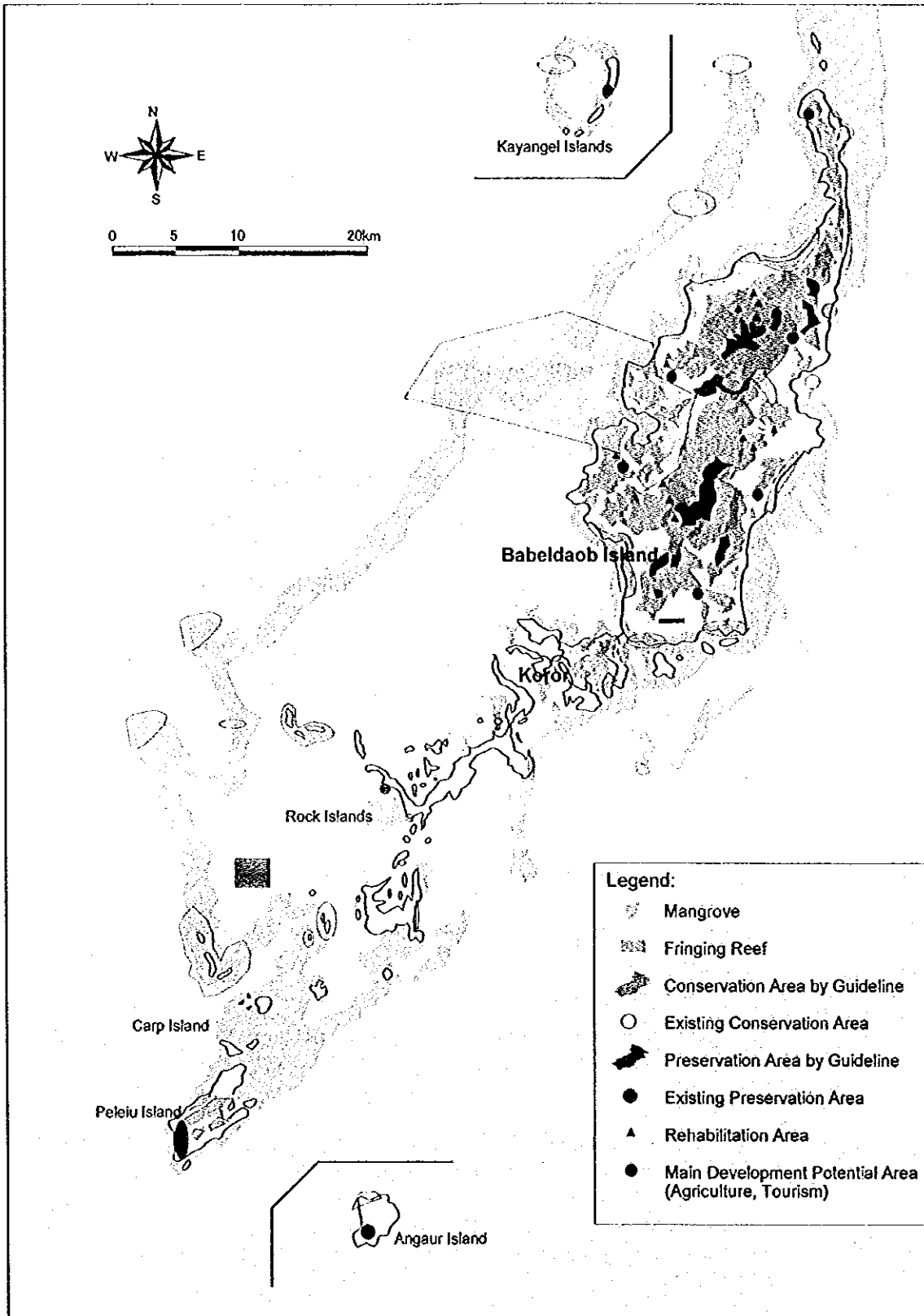
(3) Other natural resources management

- Establishment of natural resources management inventory for each state's natural resources management as well as land use plan.

(4) Pollution control

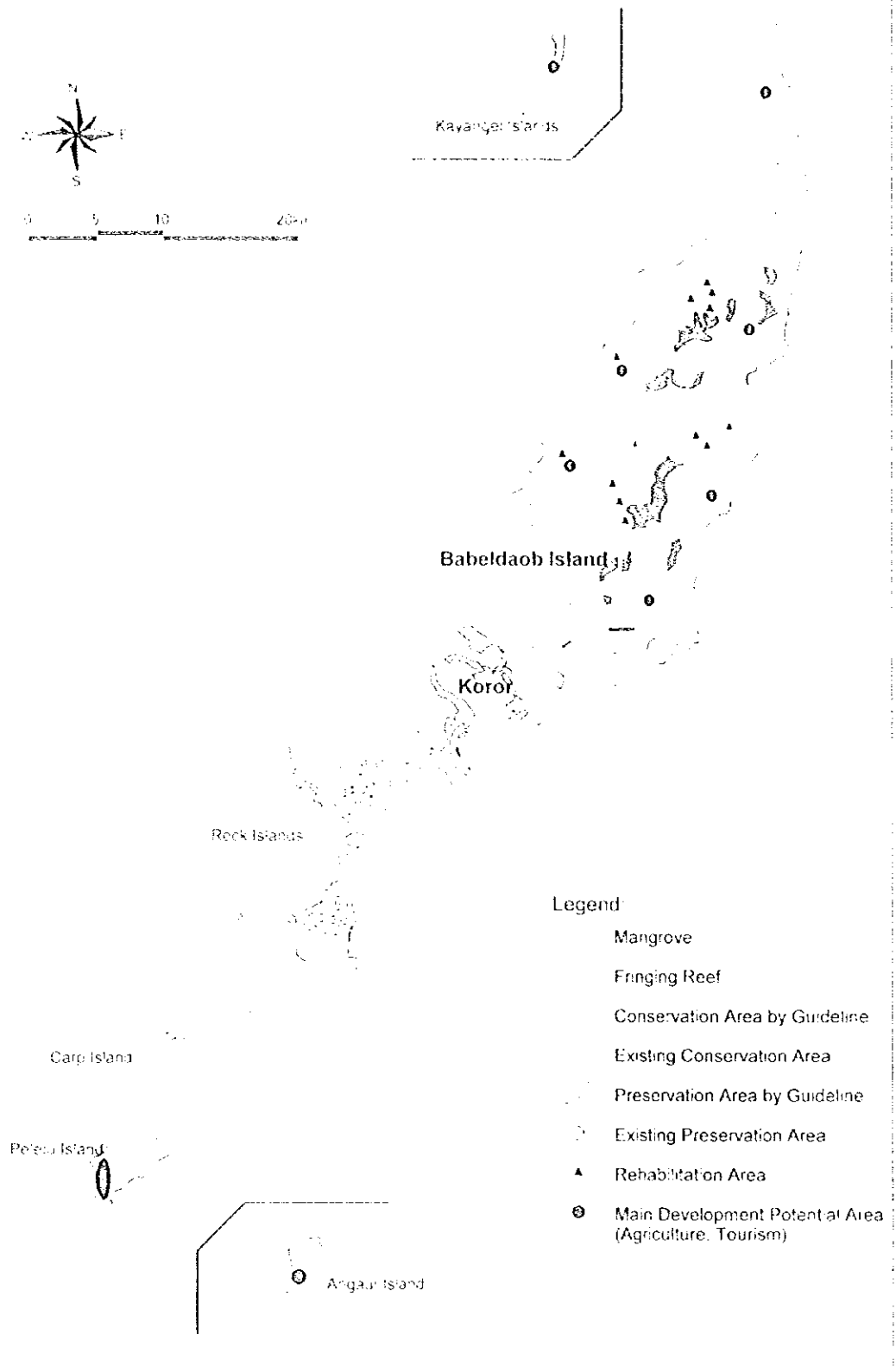
- Implementation of Solid Waste Management Program for Koror and Babeldaob as a priority program which includes appropriate closure of existing dumpsite in Koror, development of new final disposal site, and waste reduction through various measures; and
- Improvement of water quality monitoring especially for drinking water and coastal water.

Figure 3.2.1 Preservation/ Conservation and Development Potential Area In Palau



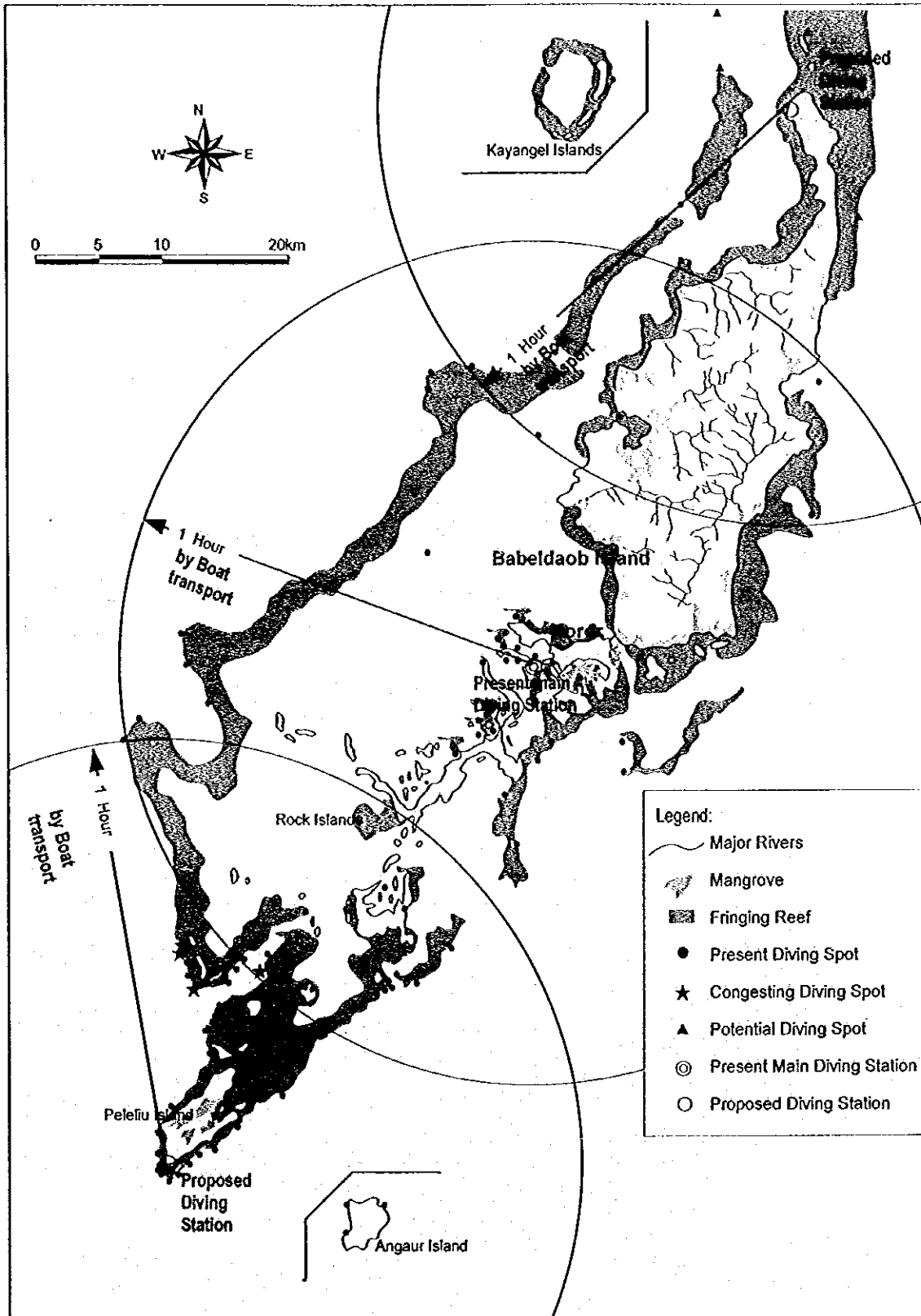
Source: JICA Study Team

Figure 3.2.1 Preservation/ Conservation and Development Potential Area in Palau



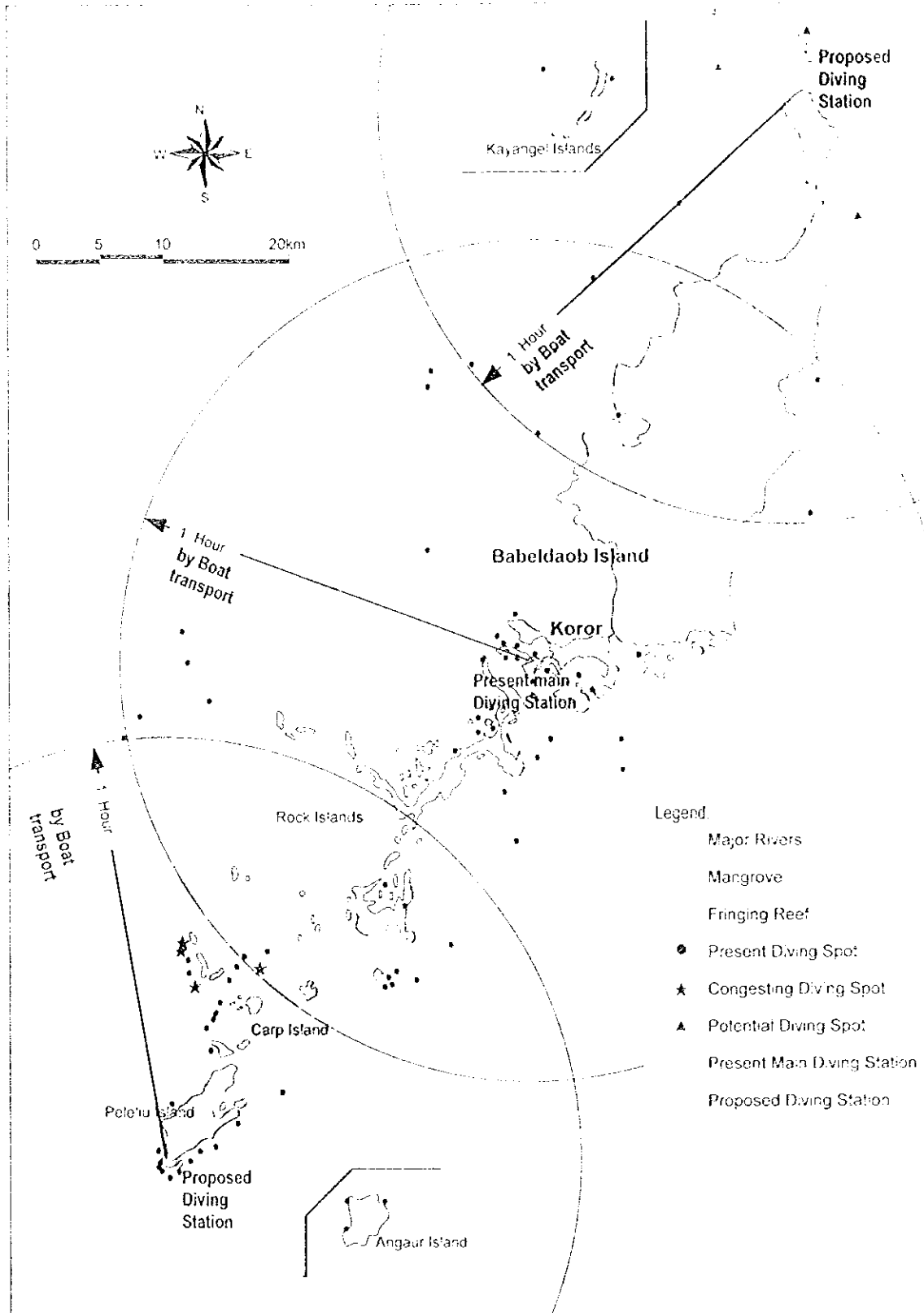
Source: JICA Study Team

Figure 3.2.2 Decentralization of Reef Uses for Divers



Source: JICA Study Team

Figure 3.2.2 Decentralization of Reef Uses for Divers



Source: JICA Study Team

4. Human Resource Development

4.1 Development Strategies of Labor Market

The following development strategies should be taken to improve the labor market:

- Prepare statistics about Palauan and non-Palauan labor, in order to formulate a labor policy;
- Enhance the Bureau of Human Resource Development so as to analyze labor market, to formulate labor policy, to enforce labor laws & regulations, and to monitor safety & health in the workplace;
- Improve work permit system: Issuance of work permits should be allocated to the private companies. Annual fee for non-resident worker of \$500 should be reviewed annually or abolished;
- Abolishment of unfair laws & regulations and treatments such as departure permit system and exemption of minimum wage for particular kinds of works; and
- Enhancement of the Bureau of Public Service System so as to recruit governmental employees and to train them.

4.2 Estimation of Population and Labor Force

Table 4.2.1 shows an estimation of population and labor force until 2020. Annual growth ratio of Palauan population will be 0.25% in 1991-95 and 0.50% in 2016-2020 by reflecting the decrease of the out-migration though it will continue staying at a low level.

JICA Study Team estimates that the number of non-Palauan labor is larger than Palauan labor in 1999/2000. But the number of Palauan labor will exceed non-Palauan labor due to the increase of population in work age of Palauans, and the establishment of Vocational Training System described in 4.3. Palau can achieve economic development through efforts of human resource development by the Palauans themselves.

Table 4.2.1 Estimation of Population and Labor Force

Year	1994/95**	1999/00	2004/05	2008/09	2014/15	2019/00
Palauan Population*	12,476	12,664	12,887	13,095	13,446	13,785
Non-Palauan Population	4,779	6,648	8,554	8,959	9,139	9,728
Total Population	17,255	19,312	21,441	22,054	22,585	23,513
Palauan Labor Force	4,815	4,483	6,169	6,678	7,462	7,999
Non-Palauan Labor Force	3,443	5,373	4,778	5,504	5,403	6,107
Labor Force	8,368	9,856	10,947	12,182	12,865	14,106

Source: JICA Study Team

Note: *Number of Palauan Citizens is 13,043, a base for population of work age, labor force in previous censuses. This is why "People born in Palau" is used as a base of Palauan population.

** Figures in 1995 are actual results.

4.3 Development Strategy for Vocational Training

JICA Study Team set the following strategies for vocational training systems:

- Finding out the cause of dropout in PHS and PCC and taking some action;
- Demarcation of vocational training (professional/managerial training in foreign countries, middle management/skilled labor training at PCC, and skilled labor/unskilled labor training in high schools);
- Promotion of On-the-Job Training: Table 4.3.1 shows concept of Government-Private-School partnership in vocational training;

Table 4.3.1 Concept of Government-Private-School Cooperation in the Vocational Training

Government	Private company	Schools
<ul style="list-style-type: none"> - Prepare for Scholarship program for study abroad and others - Incentive to private company and trainers to promote on-the-job training 	<ul style="list-style-type: none"> - Providing the opportunity of on-the-job training and trainers for high school students and PCC students 	<ul style="list-style-type: none"> - Set on-the-job training as a prerequisite to graduation - Provide skilled trained workforce for private companies and governments

Source: JICA Study Team

- Establishment of re-training system supporting tourism development and the transition of labor force from government sector to private sector;
- Save on educational cost by decreasing the number of teachers and other staff, and the introduction of cost sharing with households; and
- Introduction of the certification system and promoting the mathematics/science education.

4.4 Development Strategy for Healthcare

- Financial improvement by fair cost sharing with patients, by keeping personnel expense in the current level, etc.;
- Divide and evaluate the organization and the budget of the Ministry of Health and the Belau National Hospital;
- Improve healthcare service in the rural area by Rural Sanitation Project, and development of medical offices in elementary schools or state offices in Angaur, Kayangel, Sonsorol and Hatohobei;
- Training of professionals such as doctors, dentists and nurses; and
- Promote primary healthcare

5. Long-term Development Strategy and Framework

5.1 Development Strategy of Main Sectors

Long-term development strategies have been laid out in the National Master Development Plan (NMDP) 2020 prepared in 1996. The JICA Study Team reviewed the Master Plan and modified the strategies based on the current development situation. However, majority of the strategies set in NMDP is still appropriate at present. Government agencies and decision-makers should pay more attention to understanding the NMDP, and making more efforts for its implementation. The development strategies are summarized as shown hereunder.

(1) Agriculture

- For agricultural development maintain subsistence production;
- Diversify and increase the level of agricultural production, both for import replacement and nutrient improvement of Palauans, taking account of conservation practices and eradication of insects; and
- Establish systems for quality control system of locally produced food.

(2) Fishery

- Achieve greater returns on a sustainable basis and increased local involvement from Palau's offshore and inshore marine resources; and
- Maintain adequate extraction level for subsistence fishery, and the protection of the natural marine environment for tourism development.

(3) Tourism

- Maximize the contributions of the tourism sector to the Palauan economy by developing a private sector and Foreign Direct Investment in conjunction with human resource development for Palauans;
- Diversify tourist base from concentrated Koror to north and south regions for equitable regional development and environmental degradation prevention;
- Promote and monitor tourism developments;
- Improve public safety and hospitality; and
- Ensure that necessary controls and charging systems are established to protect the natural environment and cultural interests.

(4) Land use

- 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, baseline knowledge.

(5) Environmental management

Natural environmental management

- Take initiative for natural resources conservation and management by each state government;
- Implement integrated environmental management for critical watersheds for improving water quality and their ecological functions; and
- Conduct rational conservation management based on basic environmental zoning

guideline and existing conservation areas.

Pollution control

- Reinforce EQPB's enforcement functions especially for EIS and prevention of water pollution; and
- Decrease pollution risks related to wastes.

(6) Social

Labor market

- Collect information such as statistics on Palauan employment and unemployment;
- Improve laws and regulations on labor so as to abolish discriminating treatment for non-Palauan labor;
- Reorient labor market incentives to support sufficient growth in employment levels in the private sector; and
- Reduce social conflict by preventing the rapid increase of non-Palauan labor.

Human resource development

- Collect and analyze population information to assist the development of policies and programs, particularly in relation to the labor market, education and health planning;
- In partnership with the Government, private companies and community, ensure that Palau's children, the youth and citizens are educated and trained in a cost effective manner to maximize their potential, and become contributing citizens and productive workers; and
- Aim at a cost-effective education

Health

- Provide improved health services to the whole population;
- Enhance primary healthcare services; and
- Aim at cost-effective healthcare service

5.2 Development Framework and Spatial Structure

As described in the previous section, the leading economic sector for Palau will be the Tourism sector. The development framework and development plan of the tourism sector will be major factors that reflect the other sectors' development plan, population distribution and infrastructure requirement. Following major planning indicators are examined and the framework is set based on the tourism development plan and development framework.

- Population framework; and
- Spatial structure.

5.2.1 Population Framework

The total population, including non-Palauan residents, is estimated in accordance with the recommended economic development scenario. Population distribution by state is projected based on the following assumptions:

- The capital is relocated to Melekeok State; and
- Tourism development proposed by the study is taken into account.

Table 5.2.1 sets forth the population in case the assumptions are fully implemented.

Table 5.2.1 Population in case of Capital Relocation and Tourism Development
(Unit: Population)

States	1990	1995	2000	2005	2010	2015	2020	Change (2000-20)
Aimeliik	439	419	365	354	361	413	426	61
Airai	1,234	1,481	1,587	1506	1610	1691	1764	177
Angaur	206	193	164	157	160	185	191	27
Hatohobei	22	51	41	38	39	46	48	6
Kayangel	137	124	108	105	130	157	171	63
Koror	10,501	12,299	14,734	15799	14183	13687	13956	(778)
Melekeok	244	261	180	1264	1746	1795	1799	1,619
Ngaraard	310	421	408	359	363	437	445	37
Ngarchelong	354	253	194	245	323	439	520	326
Ngardmau	149	162	145	143	146	164	170	25
Ngatpang	62	221	213	219	224	244	253	40
Ngchesar	287	228	185	171	174	207	213	28
Ngeremlengui	281	281	240	230	235	271	279	39
Ngiwal	234	176	141	129	132	157	162	21
Peleliu	601	575	531	645	2046	2606	3027	2,496
Sonsorol	61	80	76	77	79	86	90	14
Total	15,122	17,225	19,312	21,441	21,951	22,585	23,513	4,201

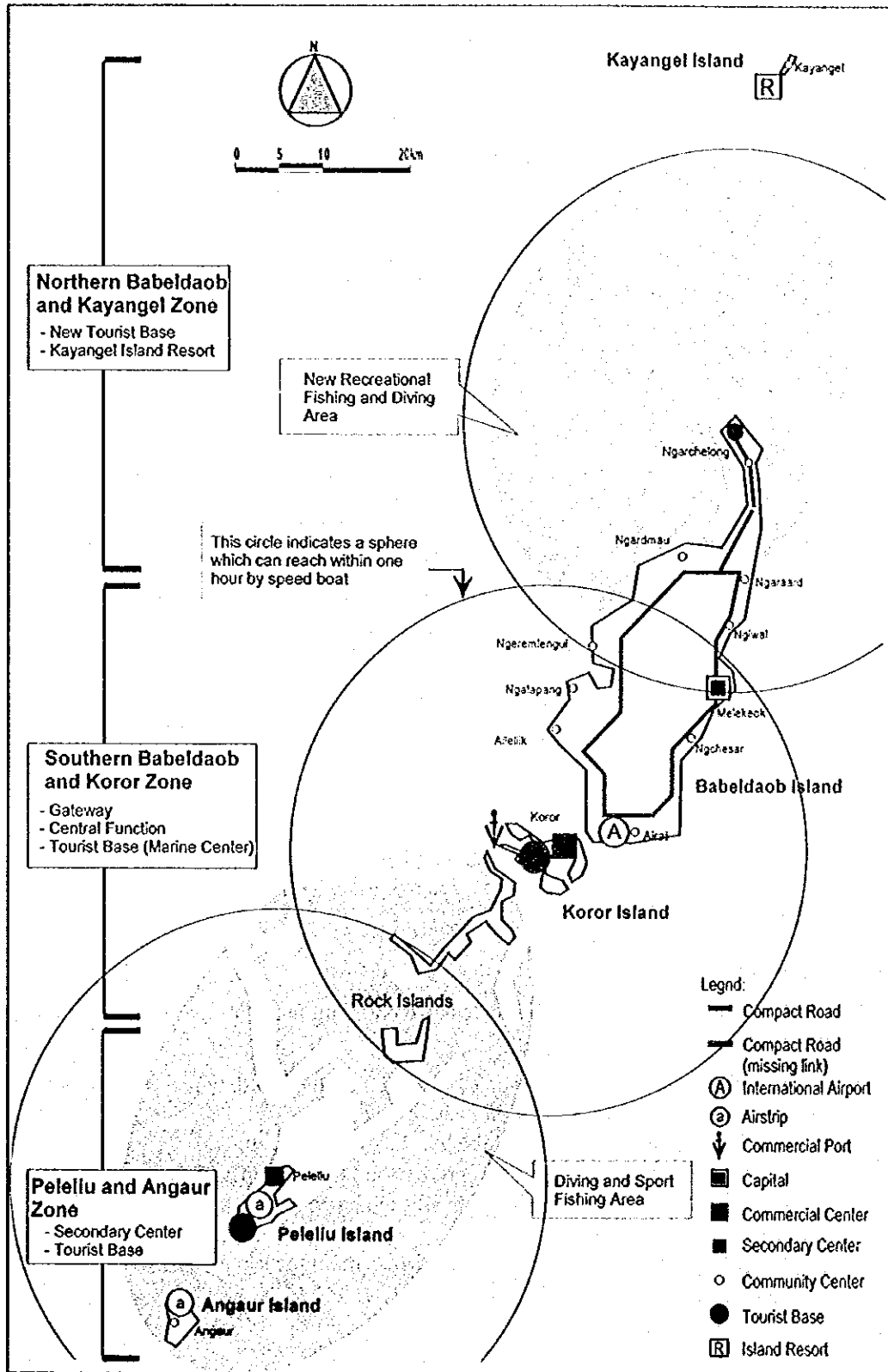
Source: JICA Study Team

5.2.2 Spatial Structure

Based on the development strategies and framework described previously and the infrastructure development plans, a proposed spatial structure of Palau in 2020 is illustrated as shown in Figure 5.2.1.

Three zones are designated. These zones are basically set by tourism activities because main economic activities will be activated by tourism.

Figure 5.2.1 Spatial Structure (2020)



Source: JICA Study Team

5.3 Tourism Development Plan (long-term)

Tourism development plan is formulated based upon the development strategy of tourism. Diversification of tourist base, improvement and strengthening of tourism industries, tour product design, marketing, human resource development and employment, and public safety and justice are included in the plan. Diversification of tourist base and products is one of the most significant issues for the Palauans future economic development. Five development types are proposed for the formulation of tourism bases.

Table 5.3.1 shows the type of tourism development and applicable states.

Table 5.3.1 Type of Development and Applicable States

Type of Tourism Development	Scale of Development (Service Area)	Applicable States	Number of Hotel Rooms	
			Mid-term	Long-term
1 National Tourist Center (Gateway)	State (National Level)	Koror Arai	830	800
2 New Tourist Center (Large scale)	State (Regional Level)	Peleliu	300	600
3 Secondary Tourist Base (Medium scale)	Hamlet and/or State	Ngerchelong	60	120
4 Village Tourism Development	Hamlet and/or Individuals	Ngaraard Ngerdnuu Ngeremlengui Ngilwal Melekeok Ngatpang Ngchesar Aimelik Angaur	70	140
5 Exclusive Island Resort Development	State	Kayangel Sonsorol Hotohobei	20	40

Source: JICA Study Team

5.3.1 Tourism Development Framework

Target number of foreign visitor arrivals, number of hotel rooms required and expected employment generated in the tourism related industries are estimated as planning indicators.

(1) Visitor arrivals

Number of visitor arrivals to Palau is calculated based upon the following assumptions as shown in Table 5.3.2:

- Number of divers in the year of 2020 will be 80 thousand, which is nearly 90% of carrying capacity of existing Palauan diving spots;
- Number of general tourists will be half the number of divers;
- Business visitors will increase in proportion to the number of tourist arrivals;
- Visitors for employment will be nearly the same as the total non-Palauan labor force; and
- The number of other types of tourists will remain the same because most of them are visiting relatives and friend in Palau.

Table 5.3.2 Number of Visitor Arrivals

(Unit: persons)

Purpose of Visit	2000	2010	2020	Growth (%)
Tourist	47,952	75,000	120,000	4.7
Business	3,734	5,800	9,200	4.7
Employment	4,437	5,400	6,500	1.9
Others	3,405	3,800	4,300	1.0
	*59,528	90,000	140,000	4.4

Source: JICA Study Team

Note: Seamen are not included in this figure

(2) Number of hotel rooms

Number of hotel rooms required in the designated years is estimated based on the number of visitors as shown in Table 5.3.3.

Table 5.3.3 Number of Hotel Rooms by State and Class

State	Number of Hotel Rooms by State(s) (rooms)				Number of direct employment (Persons)	Type of accommodation development
	1999*	2005	2010	2020		
Kayangel	0	0	20	40	80	5 star class
Koror/Airai*	862	850	830	800	1000	2-3
Melekeok	0	0	30	30	30	2
Ngarchelong	0	30	60	120	120	2
Ngalpang	0	0	20	30	30	NA
Peleleu	28	50	300	600	750	2-3
Live aboard	30	40	50	50	50	
Other types	8	20	30	80	80	NA
Total	898	990	1350	1750	2140	

Source: JICA Study Team based on *PVA data

Note: * include Carp Island, Other types of accommodation are rooms provided by Village
Star Class indicated is average in the state

5.4 Infrastructure Development Strategy

The following are the long-term development strategies of infrastructure until 2020. They reflect National Master Development Plan, population framework and spatial structure described in this chapter, and the conditions of economy and governmental budget of Palau.

(1) General

- Provide a sustainable basis, the required infrastructure funding and services in an economically efficient manner and of a proper standard throughout the whole nation to improve equitable access and to enable the expansion of economic activity;
- Improve the performance of the Government's corporate 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 price regulatory function; and
- 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.

(2) Transportation

- Implement construction of the Compact Road in Babeldaob steadily to maximize the economic and social benefits to Palau;
- Improve other access roads on Babeldaob and other states;
- Repair the existing paved roads and streets in poor condition;
- Improve the technical management capability and resources of the Bureau of Public Works;
- 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; and
- Establish, maintain and manage ports and marine facilities to meet the requirements for international shipping, internal transport, tourism and development of marine resources.

(3) Water supply

- Provide a reliable safe water system at remote areas in a cost effective manner;
- Maintain existing water supply system and watershed of water sources to supply enough volume of and safe water; and
- Review water rate to assist in demand management and generally meet funding requirements on a sustained basis.

(4) Wastewater

- Expand the existing Koror centralized wastewater collection system to cover uncollected areas and improve quality of discharged water;
- Improve living and natural environments by rural sanitation program; and
- Introduce management and pricing structures to ensure efficiency in service delivery and consumer demands.

(5) Waste management

- Develop new disposal site for Koror and Babeldaob;
- Provide adequate facilities for the disposal of solid waste;
- Improve the management and operation of facilities;

- Enhance community involvement, and awareness for reduction of waste volume generated; and.
- Introduction of the commercialization aspects of the waste management including introduction of user fees.

(6) Telecommunication and electric power (private)

- Provide 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 services.
- Keep existing facilities in good condition to generate and supply electric power constantly to meet demands (volume and quality);
- Review electric power rates to improve finance and to overhaul existing units and expand capacity; and
- Improve management arrangements for PUC to enhance its economic efficiency.

(7) Public buildings and facilities

- Relocate the capital to the state of Melekeok;
- Provide sufficient resources for adequate maintenance of existing buildings;
- Formulate a uniform building code; and
- Resolve National-State legal ownership disputes.

6. Mid-term Development Plans, Projects and Programs

6.1 Formulation of Development Plan

Mid-term development plan as well as projects and programs to be implemented are formulated in accordance with the development strategies and framework discussed in the previous Chapters. Development strategies/directions of all sectors are formulated to realize the development goals of (1) self-reliant economy, (2) coordinated economic development with conservation of natural environment, and (3) sustainable regional development. Development strategies/directions are summarized as follows:

- Decrease government expenditure;
- Increase government revenue;
- Promote service and trade;
- Promote economic development by private sector;
- Promote import substitution;
- Conserve natural environment;
- Enhance natural resource management;
- Generate employment other than government sector;
- Rationalize education and vocational training;
- Improve health condition; and
- Reform of institution.

Role of sectors and projects and programs included in the sector to achieve above national strategies in mid-term are examined based on the implementation viability of each sector. Then the development plan, project and programs of each sector are formulated. The following implementation viability is examined in consideration with interrelation to the other sectors.

(1) Necessity of the plan, project and program

Project, which has conspicuous need to achieve the development goals in urgency, should be implemented if the following conditions are fully or partially satisfactory.

(2) Financial capacity and scale of investment

Scale of investment should not exceed the financial capacity of the nation. Cost recovery should be possible within the national budgetary system to the maximum extent.

(3) Human resources

A plan, project and program should be manageable by the potential available human resources in terms of quantities and quality in the mid-term. Another most significant factor is public acceptance for implementation of the project and program.

(4) Environmental capacity

Natural environmental carrying capacity and impact on social and cultural environments should be taken into consideration. A project, which prevents the natural environment degradation, should be given high priority.

(5) Preparedness of the project

A project, which is already matured to implement, should be implemented in consideration with the conditions mentioned above.

Table 6.1.1 Formulation of Projects and Programs by Sub-sector

Sub-sectors	Main reason for selection
Agriculture/Fishery	Not from a viewpoint of maintaining economic growth but from a viewpoint of securing self-sufficiency in food with a view of improve Balance of Payment
Tourism/Urban development	High and sustainable economic growth can be expected in tourism sector in the future. Projects and programs are selected with a view to drive whole economy as one of basic industries
Land Use/environmental Management	Formulate basic rules and regulations with a view to enable environment preservation for sustainable development in long perspective
Social	Establish effective and efficient social system
Infrastructure	
Transportation	
Airport	To support tourism development and strengthen a relation among external countries
Road	Make the most use of the Compact Road with a view to strengthen accessibility within Babeldaob Island
Port	Secure import commodities necessary for daily lives and economic activities
Water supply/wastewater	Make the most use of current and planned related facilities and renovate old ones to new ones
Waste management	Provide facilities and system to meet basic living standard
Telecommunication	Support economic activities and people's daily lives

Source: JICA Study Team

6.2 Proposed Projects and Programs

According to the target and development direction, 58 projects and programs are formulated for the implementation during the mid-term period from 2000/01 to 2008/09 (refer to Table 6.2.2). For those identified projects and programs, the total public investment cost is estimated at \$152 million in constant prices of 2000 as shown in Table 6.2.1. Regarding the share of sub-sector, transportation sub-sector shares a dominant percentage accounting for more than 60% of the total public investment.

Table 6.2.1 Investment Cost of Projects and Programs (in 2000 prices)

Sub-sector	Public Investment Cost (Mid-term Period)	
	Amount (\$ thousand)	Share (Percent)
Agriculture	2,050	1.4
Fisheries	620	0.4
Tourism	2,900	1.9
Land Use	500	0.3
Environmental Management	3,046	2.0
Social	100	0.1
Urban Development	5,300	3.5
Road Transportation	42,800	28.2
Air Transportation	45,951	30.3
Sea Transportation	9,600	6.3
Water Supply	15,732	10.4
Wastewater	2,744	1.8
Waste Management	15,152	10.0
Telecommunication	5,300	3.5
Total	151,795	100.0

Source: JICA Study Team

SUMMARY

Table 6.2.2 Proposed Projects and Programs for Mid-term Period (2000/01-08/09)

(Unit: \$ thousand)

Sub-sector	Project and Program		Public Investment Cost (Mid-term Period)	Private Investment Cost (Project period)	Implementing Body	
Agriculture	Promotion of Food Production	Ar-01	Improvement of Plant Nursery	465	0	Division of Agriculture & Mineral Resources, Development
		Ar-02	Extension of Organic Farming Practice	0	200	
		Ar-03	Promotion of Proper Use of Agri-Fund for Input Materials	100	0	
		Ar-04	Introduction of Food Processing Techniques	100	0	
		Ar-05	Reinforcement of Agricultural Research, Education and Extension	430	0	
		Sub-total		1,095	200	
	Establishment of Market Facilities	Ar-06	Establishment of Hygienic Slaughterhouse	200	85	Division of Agriculture & Mineral Resources, Development
		Ar-07	Establishment of Farmers' Market at Central Area of Koror City	540	0	
		Sub-total		740	85	
	Eradication of Oriental Fruit Flies	Ar-08	Emergency Treatment of Fruit Fly Infestations and Strengthening Quarantine Control	215	0	
Sub-total			215	0		
	Total of Agriculture		2,050	285		
Fishery	Fi-01	Study on Fishing License System	20	0	Ministry of Resources & Development	
	Fi-02	Small Fishing Boat Maintenance Training	600	0	Ministry of Resources & Development	
	Fi-03	Marine Product Processing in Palau	0	84	Private	
		Total of Fisheries	620	84		
Tourism	Infrastructure and Area Development for Tourism	To-01	Development of Tourism Facility Complex of Koror Marine Center	0	14,460	Private
		To-02	Improvement of Access Road for Ngaradmau Water Fall	300	0	State
		To-03	Ngarchelung Tourist Base Development Project	1,500	10,000	State
		To-04	Kayangel Island Resort Development Project	100	15,000	State
		To-05	Peleliu Tourism Promotion Zone Development Project	0	63,000	Private
		Sub-total		1,900	102,460	
	Other Tourism Development	To-06	Reinforcement of PVA	0	0	PVA
		To-07	Improvement of National Museum in Koror	1,000	0	PVA
	Sub-total		1,000	0		
	Total (Tourism)		2,900	102,460		
Land Use	Lu-01	Formulation of Zoning System	500	0	Office of the President	
		Total (Land Use)	500	0		
Environmental Management	En-01	Integrated Ngeremeduu Watershed Management	986	0	4 States	
	En-02	Ngardok Watershed Management Focus on Nature Reserve	750	0	State	
	En-03	Land and Marine Resources Inventory Re-establishment	290	0	Bureau of Natural Resources and Development	
	En-04	Improvement for Water Quality Monitoring Activities	760	0	Environmental Quality Projection Board	
	En-05	Capacity Building for Environmental Enforcement and Management	260	0	NGO Group participation	
	Total (Environmental Management)		3,046	0		
Social	So-01	Consolidation Plan of Elementary Schools in Babeldaob Island	100	0	Ministry of Education	
		Total (Social)	100	0		
Urban Development	Ur-01	Marine Center Development	5,300	4,500	Koror State	
		Total (Urban Development)	5,300	4,500		

Source: JICA Study Team

Note: To-01 Development Tourism Facility Complex of Koror Marine Center, is a one of components of Ur-01 Marine Center Development.

**Table 6.2.2 Proposed Projects and Programs for Mid-term Period
(2000/01-08/09)-continued**

(Unit: \$ thousand)

Sub-sector		Project and Program		Public Investment Cost (Mid-term Period)	Private Investment Cost (Project period)	Implementing Body
Transportation	Road Transportation	Tr-01	Construction of Compact Road in Babeldaob	(\$88 million by US)		Bureau of Public Works, Ministry of Resources & Development
		Tr-02	Improvement of Connecting Road incl. Missing Link (L=53.7km, W=18 feet)	30,900	0	
		Tr-03	New Roads to Access to the Compact Road (Gravel, L=7.4km, W=18 feet)	2,300	0	
		Tr-04	Construction of Reef Road (L=5km, 2 lanes 40 feet long) in Koror (Total cost \$54 million)	2,600	0	
		Tr-05	National Road Rehabilitation (L=5.7km, W=2.5m x 2) in Koror	7,000	0	
	Sub-total of Road Transportation		42,800	0		
	Air Transportation	Tr-06	Construction of New Terminal Building at Palau International Airport			Japanese grant
		Tr-07	Overlay of Runway at Palau International Airport	2,520	0	Bureau of Commercial Development, Ministry of Commerce and Trade
		Tr-08	Extension of Runway (L=800m) at Palau International Airport	43,000	0	
		Tr-09	Improvement of Peleliu Airport	431	0	
	Sub-total of Air Transportation		45,951	0		
	Sea Transportation	Tr-10	Expansion of Malakal Port (including study on master plan)	5,000	0	Bureau of Natural Resources and Development
Tr-11		Navigation Markers	1,000	0		
Tr-12		Improvement of Existing Peleliu Port (Elochel)	3,600	0		
Sub-total of Sea Transportation		9,600	0			
Total (Transportation)		98,351	0			
Public Utility	Water Supply	Ut-01	Study on Improvement of Water Supply System in Palau	300	0	Bureau of Public Utilities, Ministry of Resources & Development
		Ut-02	Repair of Water Supply Facilities and Expansion of Supply Area in Palau	5,000	0	
		Ut-03	Purchase and Installation of Water Meters	450	0	
		Ut-04	Design and Construction of Additional Water Storage Tanks in Koror	6,000	0	
		Ut-05	Construction of New Water Supply System in Peleliu	3,982	0	
	Sub-total of Water Supply		15,732	0		
	Wastewater	Ut-06	Study on Improvement of Wastewater System in Palau	500	0	Bureau of Public Utilities, Ministry of Resources & Development
		Ut-07	Modification and Expansion of the Malakal Wastewater Treatment Plant	(US Fund)	0	
		Ut-08	Construction of New Workshop, Store and Laboratory at Malakal Treatment Plant	300	0	
		Ut-09	Sanitation Improvement Project (Sanitary Core Unit Extension)	1,944	0	
	Sub-total of Wastewater		2,744	0		
	Waste Management	Ut-10	Study on Solid Waste Management in Palau	500	0	Bureau of Public Works, Ministry of Resources & Development
		Ut-11	Development of A New Final Disposal Site for Koror and Babeldaob	7,784	0	
		Ut-12	Development of Transfer Station in Koror	1,948	0	Koror State
		Ut-13	Purchase of Collection and Haulage Vehicles	637	0	State
		Ut-14	Purchase of Vehicles for the New Disposal Site	719	0	Bureau of Public Works, Ministry of Resources & Development
Ut-15		Closure of Existing Dumpsite at Koror	1,841	0		
Ut-16		Development of New Final Disposal Site & Purchase of Vehicles in Peleliu	1,723	0		
Sub-total of Waste Management		15,152	0			
Total (Public Utility)		33,628	0			
Telecommunication	PNCC Program	Ti-01	PNCC Service Improvement Program	0	7,500	PNCC
		Ti-02	Wireless System Development Program	0	4,300	
	Sub-total (PNCC)		0	11,800		
	Ministry of Commerce and Trade	Ti-03	Radio Towers - Maritime Safety	5,000	0	Bureau of Commerce & Trade, Ministry of Commerce & Trade
Ti-04		AM Broadcasting Station	300	0		
Sub-total (Ministry of Commerce and Trade)		5,300	0			
Total (Telecommunication)		5,300	11,800			

Source: JICA Study Team

6.3 Priority Projects and Programs

Table 6.3.1 shows the selected priority projects and programs. Twenty projects and programs are selected based on the following selection criteria:

- Contribution to the sustainable economic development in consideration with the improvement of the nation's Balance of Payment (BOP) and the balance between states and urban rural area;
- Development with maintaining the natural and people's living environment; and
- Improvement of social conditions in terms of community participation, social welfare and employment generation.

Table 6.3.1 Priority Projects and Programs

(Unit: \$ thousand)

Sub-sector	No.	Projects and Programs	Code	Public Investment Cost (Mid-term)
Agriculture	1	Improvement of Plant Nursery	Ag-01	465
	2	Establishment of Hygienic Slaughterhouse	Ag-06	200
	3	Emergency Treatment of Fruit Fly Eradication and Strengthening of Quarantine Control	Ag-08	215
Fishery	4	Small Fishing Boat Maintenance Training	Fi-02	600
	5	Marine Product Processing in Palau	Fi-03	0
Tourism	6	Ngarchelong Tourism Base Development Project	To-03	1,500
	7	Kayangel Island Resort Development Project	To-04	100
	8	Peleliu Tourism Promotion Zone Development Project *	To-05, Tr-05, Tr-09, Ut-05, Ut-12	9,736
Environmental Management	9	Integrated Watershed Management	En-01	986
Social	10	Consolidation Plan of Elementary Schools in Babeldaob Island	So-01	100
Urban Development	11	Marine Center Development	Ur-01	5,300
Road Transportation	12	Improvement of Connecting Road	Tr-02	30,900
	13	National Road Rehabilitation	Tr-05	7,000
Air Transportation	14	Extension of Runway at Palau International Airport	Tr-08	43,000
Sea Transportation	15	Expansion of Malakal Port	Tr-10	5,000
Wastewater	16	Sanitation Improvement Project (Sanitary core unit extension)	Ut-09	1,944
	17	Study on Solid Waste Management in Palau **	Ut-10	500
Waste Management	18	Development of a New Final Disposal Site for Koror and Babeldaob	Ut-11	7,784
	19	PNCC Service Improvement Program	Ti-01	0
Telecommunication	20	Radio Tower-Marine Safety	Ti-04	5,000
	Total			

Source: JICA Study Team

Note: * Costs for the following related infrastructure development projects are included: Tr-09 Improvement of Peleliu Airport, Tr-12 Improvement of Peleliu Port (Elocheh), Ut-05 Construction of New Water Supply System in Peleliu, and Ut-16 Development of New Final Dump & Purchase of Vehicles.

** Only cost for Master Plan is included.

7. Fiscal Policy Adjustment of the GOP

The ROP needs the implementation of the fiscal policy adjustment as soon as possible for the following objectives:

- To reduce the public sector,
- To eliminate the inherent budget deficit,
- To reduce the dependency on external ODA resources, and
- To establish self-sufficient budget structure in the long-term period.

7.1 Budgetary Reform of the GOP in Mid-term Period

7.1.1 Budget Size and Foreign Aid

The budget expenditure of the GOP has exceeded by far potential budget revenues. The government sector is oversized and the administrative structure needs considerable streamlining. Palau needs to downsize public expenditure including the reduction of wages and salary and to decrease the over-dependence on foreign aid. It is proposed that the GOP challenge the reduction of the budget size, which accounted for 60% of the nominal GDP in 1998/99, to about 40% of the nominal GDP in 2009/10..

7.1.2 Revenue Structure and Level

The GOP is currently proceeding with the Tax Reform Program, which will produce the increase in tax revenue. Additionally, the following tax and fees/charges will be major potential sources of government revenue increase:

Vehicle operation related tax

The cost to own and operate vehicles is comparatively low for the people in Palau because fuel tax as well as vehicle tax is very low. Taxation on motor vehicles, consisting of value-added tax, registration fee, auto tax and other, as well as fuel levy, is very popular among countries. These taxes comprise one of basic components in the national revenue and are usually earmarked for road development in some countries.

Property tax

For the introduction of property tax on the assets other than land, it is the premise to establish the valuation system of assets.

PPP and utility revenue

With a view to reducing the budget deficit, it is urgently necessary for the GOP to introduce the PPP aiming at cost recovery of the public utility services such as water supply, wastewater management and solid waste management. As the results of introducing the PPP, simultaneously, changes in people's behavior are also expected to reduce pollutant loads on economic resources and improve the cost effectiveness of those management programs. It is proposed to impose charges under the following policies:

- In the Mid-term period, it is a minimum requirement for the GOP that residential users will bear the operation and maintenance costs by user charges and industrial and commercial users will shoulder the full costs of utilities by user charges.
- In the Long-term period, the full cost should be recovered by user charges, whether residential or not. Thus, privatization will be inevitable.

7.1.3 Expenditure Structure and Level

(1) Current expenditure

Wages and salaries

It would be required in the ROP to reduce the number of workforce as well as the salary and wage expenditure in the budget in a view to achieving the following objectives.

- To reduce the government budget; and
- To convert work forces to the private sector, especially to provide them for tourism industries.

It is proposed that the number of government workers be decreased from the current 3,200 workers to 1,900 workers in 2008/09, or a 40% reduction rate, during the period of eight years. On the other hand, it is also proposed that the average level of salary & wage payment be frozen at current level until 2003/4 and then increased by an assumed inflation rate at 4% annum. The government workers will account for 9% of the population in 2008/09.

Other current expenditure

The other current expenditure is assumed as follows:

- To stay at the current expenditure level of amount up to 2008/09; and
- To grow after that parallel to nominal GDP growth.

(2) Development expenditure

The future development expenditure comprises two components (1) historic capital expenditure of the GOP, (2) capital expenditure and operation and maintenance expenditure of Projects and Programs proposed in this JICA Study.

The required public investment expenditure for the proposed projects and programs is estimated at \$152 million at constant 2000 prices or \$187 million at current prices. For operation and maintenance of those projects and programs about \$60 million at constant 2000 prices or about \$75 million at current prices is additionally necessary during the same period.

Table 7.1.1 Required Public Development Budget (current prices)

Fiscal Year	(Unit: \$ million)									Total
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	
2000 price										
Capital Cost	8.7	18.5	16.9	23.6	20.3	7.3	21.1	19.2	16.2	151.8
Maintenance	4.4	4.7	4.9	7.7	6.8	6.8	10.8	6.9	6.9	60.1
Current price										
Capital Cost	9.0	20.0	19.0	27.7	24.7	9.3	27.7	26.3	23.1	186.7
Maintenance	4.6	5.1	5.5	9.0	8.3	8.7	14.2	9.5	9.9	74.8

Source: JICA Study Team

The proposed fiscal adjustment programs of the central government are summarized in Table 7.1.2. The program aims to balance the annual budget in 2008/09.

Table 7.1.2 Summary of Fiscal Adjustment Programs of Central Government 2000/01 to 2019/20

Item		2000/01-2008/09	2010/11-2019/20
Revenues	Tax revenue	To grow double to nominal GDP	To grow parallel to nominal GDP
	Utility charge	Households will bear the O & M cost of utility services provided. Commercial and industrial firms will shoulder the full cost.	Every customer will bear the full cost of utility services provided.
	Direct payment	COFA Non-trust Fund: \$13-14 million per year	Payment of COFA Non-trust Fund will be terminated.
	Withdraw from Trust Fund (211-f)	\$5 million per year	\$10 million per year
Expenditure	Wage & salaries	Number of government workers will be reduced by 40% from 2000/01 to 2008/09. Salary & wage level will be constant from 2000/01 to 2003/04 and increase by inflation rate.	Number of government workers will be constant at 2008/09 figures. Salary & wage level will increase by inflation rate.
	Other current expenditure	To freeze at 1999/2000 level	To grow parallel to nominal GDP
	Capital expenditure (historic)	To freeze at 1999/2000 level	Capital expenditure will be 7-10% of the Nominal GDP.
	Capital expenditure (Projects & Programs)	As proposed expenditure schedule of Projects & Programs	
	O & M expenditure (Projects & Programs)	As proposed O & M expenditure schedule of Projects & Programs	To grow by inflation rate

Source: JICA Study Team

7.1.4 Balance of Budget

Based on the above programs, the budget projections for the central government from 2000/01 to 2019/20 are as follows:

- The total budget revenue is assumed to increase by 47%, from \$72.7 million in 2000/01 to \$103.9 million in 2008/09, or an average annual growth rate of 4.9%.
- Meanwhile, the total expenditure is assumed to increase from \$85.8 million in 2000/01 to \$97.4 million in 2008/09, or an average annual growth rate of 1.6%.
- It is expected that the size of budget will reduce to about 46% of the nominal GDP in 2008/09.

There will be a continuous deficit in the annual balance of budget during the mid-term period. However, in 2008/09, it will turn to surplus of \$6.5 million and thereafter the GOP would afford to balance the overall budget in the long-term perspective, provided the GOP could achieve the fiscal policy adjustment based on the proposed program.

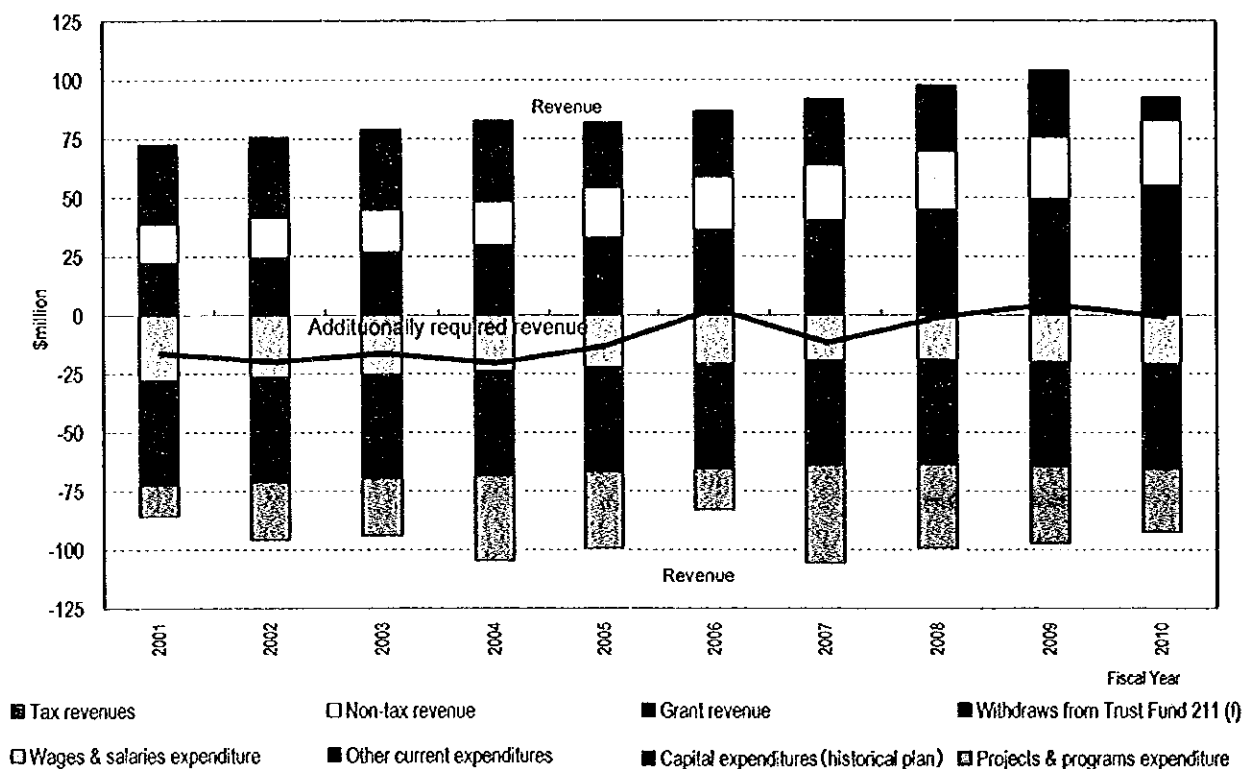
SUMMARY

Table 7.1.3 Budget Projection as Percentage of GDP (2000/01 to 2019/20)

	Mid-term Period									Long-term Period		
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2014/15	2019/20
Nominal GDP (\$ million)	141.3	148.3	155.7	163.7	172.2	181.4	191.3	201.8	212.7	224.7	298.6	404.1
Revenues & Grants (% of GDP)												
Tax revenues	16	16	17	18	19	20	21	22	23	24	24	24
Non-tax revenue	12	12	12	11	12	12	12	12	12	12	9	9
Grants	21	20	19	18	13	13	12	12	11	0	0	0
Withdrawals from Trust Fund	4	3	3	3	3	3	3	2	2	4	3	0
Total Revenues & Grants	51	51	51	51	48	48	48	48	49	41	37	34
Expenditures (% of GDP)												
Current expenditures												
Wages & salaries	20	18	16	15	13	12	10	10	9	9	9	8
Other current expenditure	24	23	22	21	19	19	18	17	16	15	15	15
Capital expenditures	17	24	23	29	25	16	28	23	21	17	14	11
Total expenditure (%)	61	65	60	64	58	46	55	49	46	41	37	34
Overall Budget Balance (% of GDP)	-9	-14	-10	-13	-10	2	-7	-1	3	0	0	0

Source: JICA Study Team

Figure 7.1.1 Balance of Budget of Central Government 200/01 to 2009/10



Source: JICA Study Team

7.2 External Assistance Requirements, Coordination and Potential Mechanism

7.2.1 Assistance Requirements

During the mid-term period, the annual budgetary balance of the GOP will remain in deficit at about \$20 million on average. However under the proposed fiscal policy adjustment, the budget of the GOP is assessed to be financially capable by the 2009/10. In spite of that, the GOP will suffer from a budget shortage during the mid-term period.

7.2.2 Assistance Coordination

The following is proposed for consideration as regards aid coordination and management on the internal ROP side:

- In view of its overriding importance for the country, the ROP should centralize and strengthen the aid coordination and management function either in the Office of the President or the Bureau of Foreign Affairs. The centralized function should cover “policy dialogue” with donors; aid coordination & management; monitoring; appraisal and evaluations;
- The above is likely to entail reshuffling of functions between the Office of the President, the Bureau of Foreign Affairs; the Bureau of Program Budget and Management; the Bureau of Public Services System; and other line ministries, boards and advisory groups;
- The ROP should set and publish the aid strategy until it can establish a self-sufficient budget system in 2008/9. Not only infrastructure development but also developments of institutional arrangement should be addressed in the strategy;
- The ROP should implement some recommendations on “AID CO-ORDINATION AND AID MANAGEMENT,” as prepared by the UNDP public sector enhancement project. Especially, “Technical Assistance and Training under Aid” should be emphasized; and
- The ROP should seek new potential donors. It is recommended that the ROP apply for membership in the Asian Development Bank and avail itself of the opportunity to receive technical assistance for the Reform Program, such as structural adjustment and capacity building, similar to the Marshall Islands and FSM.

8. Pre-Feasibility Study on Peleliu Tourism Development Plan

8.1 Objective

To improve tourism industry performance and increase the number of tourists, diversification of tourism products and tourist base in Palau is strongly recommended. In order to expand accommodation capacity with international standard, and diversify the tourism base in Palau, establishment of new tourist base(s) is the most effective and urgent.

Peleliu Island is located in the midst of the most attractive diving and fishing field in Palau. Most of the popular diving areas are at a distance of 30 minutes by speedboat from the Island. And also one of the areas with the most potential for recreational fishing is situated between Peleliu and Angaur Island.

JICA Study team select Peleliu Tourism Development Plan as one of pre-feasibility studies because it can achieve two national development goals, "self-sufficient economy" and "balanced regional development" and can promote national development.

8.2 Planning Framework

Number of visitors is estimated based upon the number of divers and general tourists that are expected to use a hotel in Peleliu.

In general, divers do not require luxury accommodation facilities. Therefore, type of hotels to be developed, in other words, classification of hotel, are distributed to meet with the requirement.

Table 8.2.1 shows the number of visitors to Peleliu as well as number of rooms by year, and Table 8.2.2 shows the number of hotel rooms by classification.

Table 8.2.1 Number of Visitors to Peleliu

Target	2000	2005	2010	2020	Remarks
Number of Visitors (persons)	1,665	3,400	22,500	45,000	Persons who will use a hotel
Average Length of Stay (days)	5	5	5	5	
Total bed nights (nights)	8,323	17,000	95,000	225,000	
Number of rooms (rooms)	28	55	300	600	
Accompany Rate (persons per hotel room)	1.7	1.7	1.7	1.7	
Room Occupancy Rate (%)	46	50	60	60	

Source: JICA Study Team

Table 8.2.2 Number of Rooms by Classification of Hotel

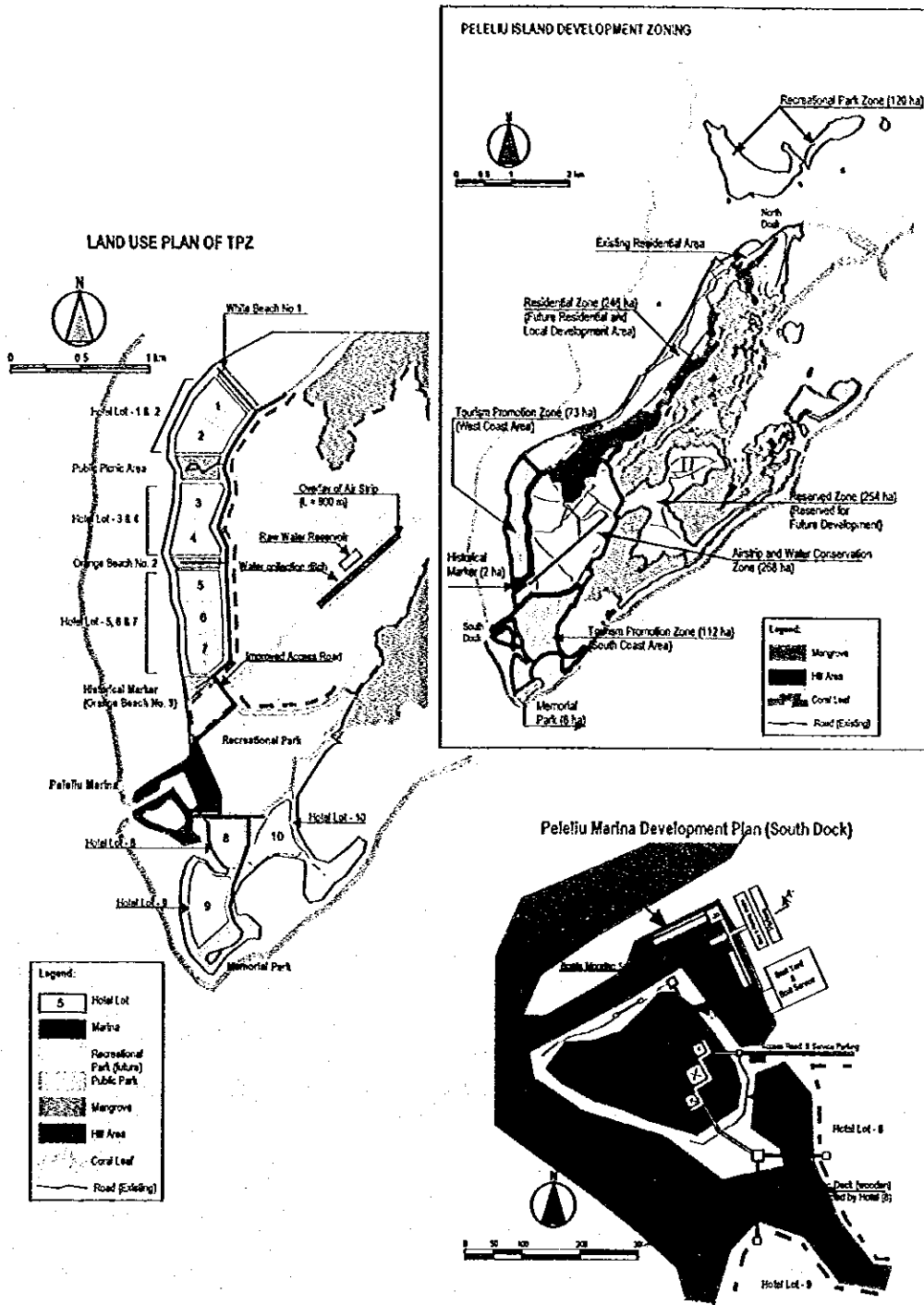
Year	(Unit: rooms)				Note
	2000*	2005	2010	2020	
Total	28	55	300	600	International hotel class
S class hotel	0	0	0	0	5 star
A class Hotel	0	0	50	100	4 star
B class Hotel	0	0	50	100	3 star
C class Hotel	0	0	200	400	2 star
Unclassified Hotel	28	55	0	0	To be used as apartment

Source: JICA study team

8.3 Site Planning and Project Design of Tourism Promotion Zone (TPZ)

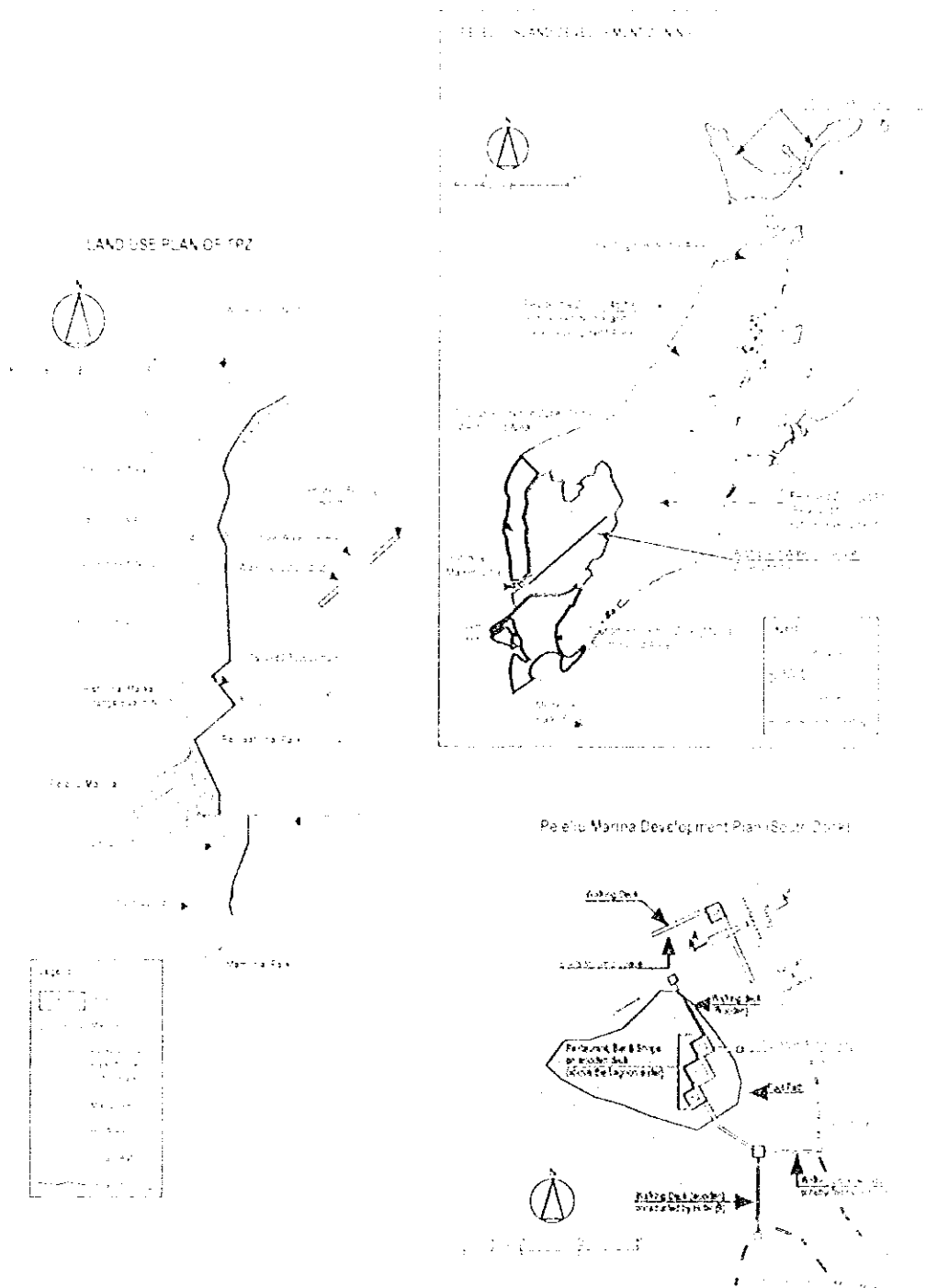
Figure 8.3.1 shows the land use zoning of Peleliu Island, layout plan of TPZ and schematic design of Peleliu Marina. Infrastructure for Peleliu Island, except the inside of the TPZ, will be provided by the national government.

Figure 8.3.1 Pelellu Tourism Development Plan



Source: JICA Study Team

Figure 8.3.1 Peleliu Tourism Development Plan



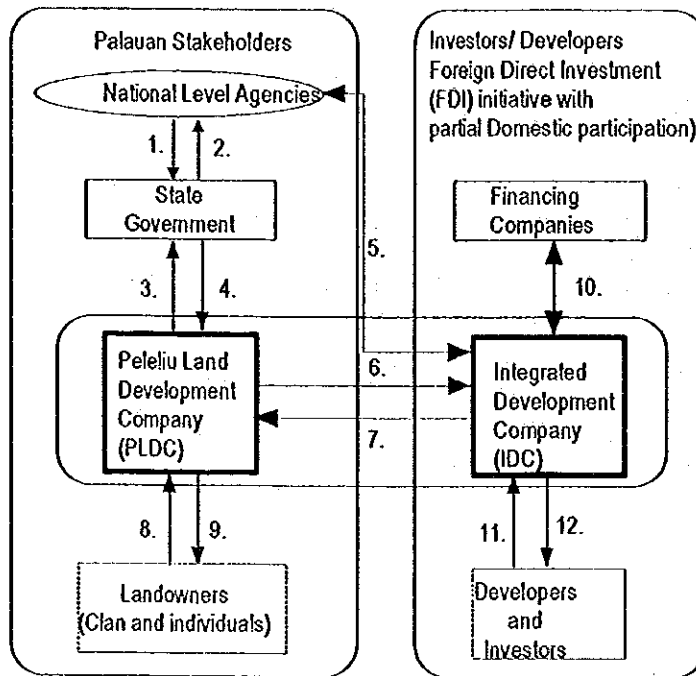
Source: USA Study Team

8.4 Implementation Procedure

To implement the project, the Study Team proposes the formulation of the Peleliu Land Development Company (PLDC) by Palauans, and the PLDC, in turn, will appoint an Integrated Development Company (IDC) from the international business society. Support with timely infrastructure development by the national government is indispensable.

The following figures show the Implementation Organizations and Procedure for Peleliu Tourism Development Plan.

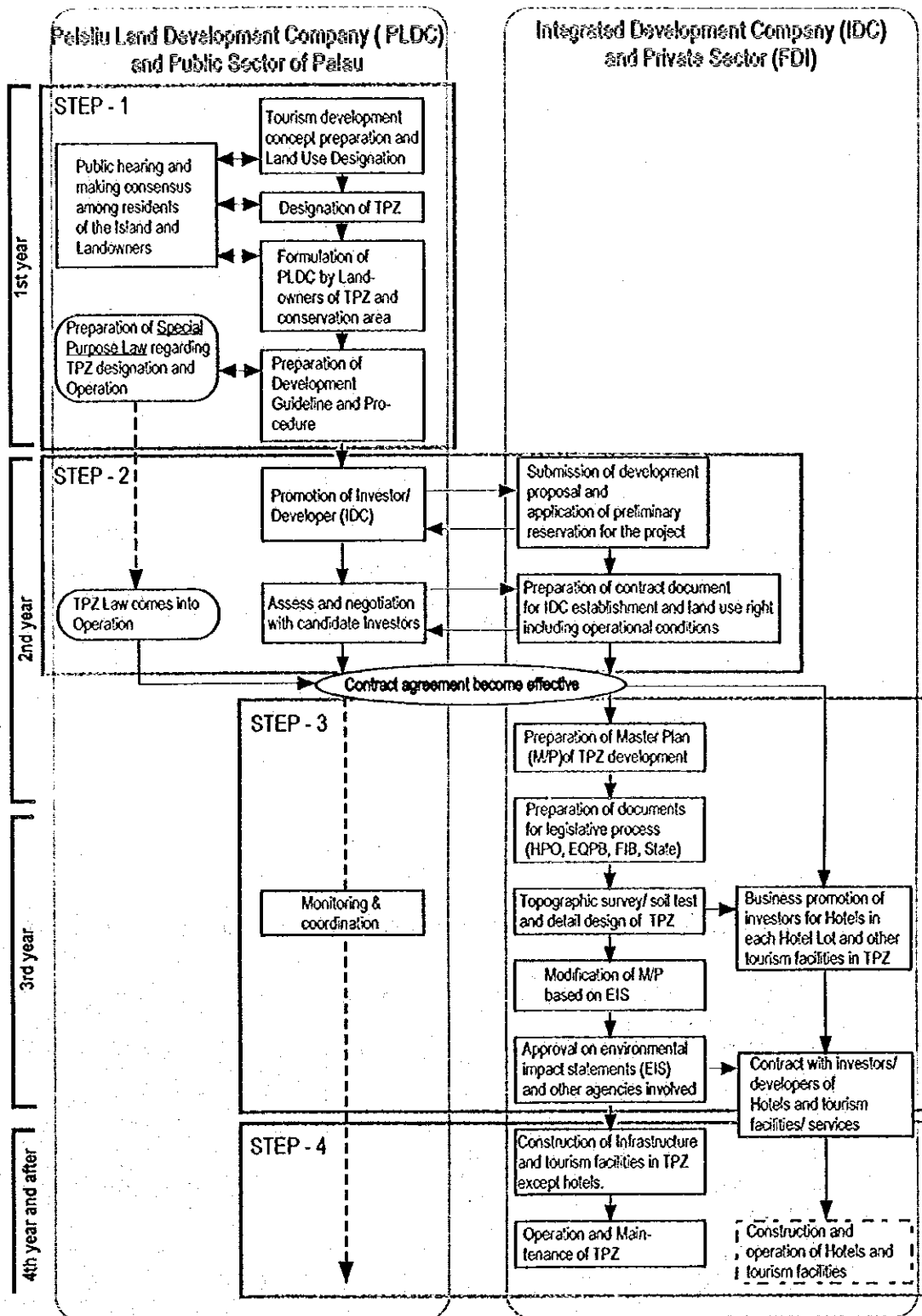
Figure 8.4.1 Organizations for Peleliu Tourism Development Plan



- | | |
|---|---|
| 7. Pay for rent of land for TPZ | 1. Infrastructure development for Peleliu Island |
| 8. Agreement on land use arrangement | 2. Legislative arrangement for TPZ law |
| 9. Distribute land use fee to landowners | 3. Request on Land use Zoning approval |
| 10. Financial arrangement | 4. Land Use Right approval |
| 11. Pay for rent of hotel land, building and services | 5. Approval on EIS and legislative process required |
| 12. Lease hotel lots & facilities in TPZ | 6. Lease land for TPZ |

Source: JICA Study Team

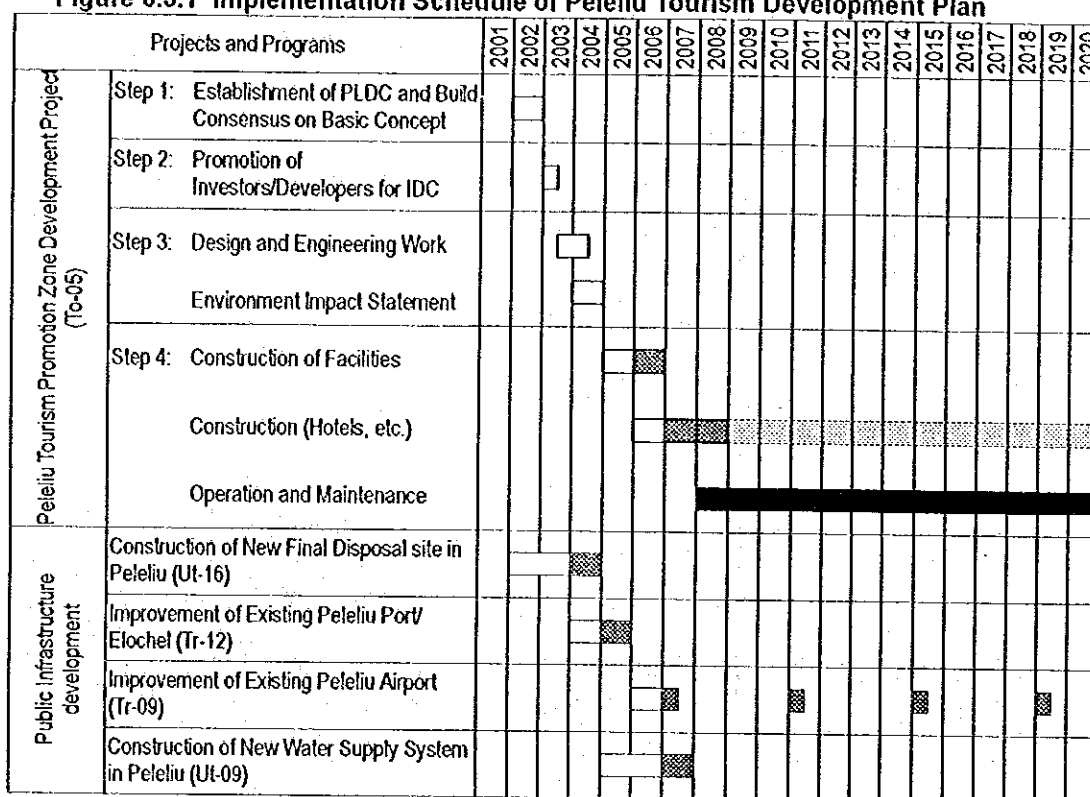
Figure 8.4.2 Implementation Procedure for Peleliu Tourism Development Plan



Source: JICA Study Team

8.5 Implementation schedule

Figure 8.5.1 Implementation Schedule of Peleliu Tourism Development Plan



Source: JICA Study Team

Legend: Preparatory work, Design, EIS, etc. Construction Operation & Maintenance

8.6 Development Costs

Development cost of the Peleliu Tourism Development Plan consists of the public infrastructure development costs and the TPZ development costs as follows:

Table 8.6.1 Development Cost of Peleliu Tourism Development Plan (2000 prices)
(Unit: \$ thousand)

Projects and Programs	Mid-term (2000/01-08/09)	Long-term (2009/10-19/20)	Total cost (2000/01-19/20)	Implementing Body
Public infrastructure development				
Construction of New Final Disposal site in Peleliu	1,723	851	2,574	Ministry of Resources & Development
Improvement of Existing Peleliu Port (Elochel)	3,600	0	3,600	Ministry of Trade & Commerce
Improvement of Existing Peleliu Airport	431	1,200	1,631	Ministry of Trade & Commerce
Construction of New Water Supply System in Peleliu	3,982	0	3,982	Ministry of Resources & Development
Total	9,736	2,051	11,787	
Investment Cost of TPZ				
Infrastructure and Tourism Facility	15,000	0	15,000	IDC
Hotel lots (600 rooms)	24,000	24,000	48,000	Individual private investors
Total	39,000	24,000	63,000	

Source: JICA Study Team

8.7 Economic & Financial Analyses

(1) Economic analysis

The benefits of the plan are indicated in the table below.

Table 8.7.1 Benefits of Peleliu Development Plan in 2020

	2019/20	Note
Number of Visitors	45,000 persons	
Average expenditure	\$150 per day	
Average length of stay	6 days	
Total expenditure	\$40.5 million	
GDP Contribution	\$22.3 million	Coefficient of Value Added: 0.55 *
Government Revenue	\$5.0 million	\$110 per visitor **
Direct employment	750 employment	1.25 employment per room
Indirect employment	600 employment	1.0 employment per room
EIRR	17%	Benefit includes direct and indirect contribution to GDP

Source: JICA Study Team

(2) Financial analysis

Public infrastructure development

The total public cost of the Plan is estimated at \$11.8 million and \$3.7 million for investment and operation & maintenance, respectively, during the project period. On the other hand, assuming that the government could recover the full cost of waste management and water supply for the services in the TPZ through user charges, about \$2.9 million could be recovered by user charges from the IDC. Furthermore, the government could impose the user charge on the residential use.

The government would also expect to receive revenue through tax and fee/charge from tourists and tourism industries in Peleliu. Aggregate revenue is estimated at \$44 million over the period from 2007/08 to 2019/20 at 2000 prices. It is about four times as much as the public development cost of the Plan.

Peleliu Tourism Promotion Zone Development Project (TPZ)

The Financial Internal Rate of Return (FIRR) is calculated at 13.9% during the project period, which shows the minimum rate to reveal the financial viability of the project. The sensitivity of the project is examined under the following assumptions:

- Occupancy rate of hotel will increase to 70%;
- Occupancy rate of hotel will decrease to 50%; and
- Initial investment of the IDC will be financed with subsidized conditions: Interest rate: 6%, Payment period of principal: 10 years and Grace period: 5 years.

Table 8.7.2 Results of Sensitivity Analysis

(Unit: percent)

	No special loan arrangement	Loan arrangement with subsidized conditions
Base case/Occupancy rate: 60%	13.9	15.3
Occupancy rate: 70%	16.6	18.6
Occupancy rate: 50%	11.0	11.6

Source: JICA Study Team

9. Pre-Feasibility Study on the Solid Waste Management Program for Koror and Babeldaob

9.1 Objectives

The objectives of the Solid Waste Management Program for Koror and Babeldaob (K-B SWMP) are as follows:

- To prepare a pre-feasibility study on a new final disposal site in Aimeliik State including a closure plan of the existing dumpsite near the M-Dock in Koror State; and
- To prepare a program for a new collection and haulage system in Koror State and Babeldaob Island after the utilization of the new disposal site from 2004/05 to 2019/20 and examine the pre-feasibility of the program

JICA Study Team selects the Solid Waste Management Program for Koror and Babeldaob as one of pre-feasibility studies because it can contribute a national development objectives "Development of natural and human resource with the promotion of natural environment and culture".

9.2 Planning Framework

The amount of future waste is estimated on the municipal waste and industrial waste based on the projection of population and number of hotel rooms and waste generation rate in Koror State and Babeldaob Island until year 2020.

9.3 Collection and Haulage of Waste

The proposed future service area after 2005 is divided into the following four (4) areas:

- Koror State;
- South Babeldaob: Airai;
- North and West Babeldaob: Aimeliik, Ngatpang, Ngeremlengui, Ngiwal, Ngardmau, Ngaraard and Ngarchlong; and
- East Babeldaob: Ngchesar and Melekeok.

Table 9.3.1 shows daily collection and haulage volume by public and private sectors for the four service areas.

Table 9.3.1 Daily Collection and Haulage Volume by Public and Private Sectors

Area		Collection & haulage (m ³ /day)	
		Public	Private
Koror		21.49	10.80
Babeldaob	South	3.01	
	North & West	1.68	
	East	2.70	
	Total of Babeldaob	7.39	0.16
Total of Koror & Babeldaob		28.85	10.96

Source: JICA Study Team

9.4 Final Disposal Site

The new final disposal site should have enough capacity for a long period so as to receive waste from Koror and Babeldaob. Furthermore, it should be considered to maintain the site including the surrounding area in environmentally good condition.

Basic volume of operation and maintenance works for sanitary landfill in 2005 is shown in Table 9.4.1.

Table 9.4.1 Daily Volume of Operation and Maintenance Works at Final Disposal Site

Item	Unit	Volume	Remarks
Daily Work in 2005			
Daily Incoming Solid Waste amount *1	ton	19.91	
Daily Incoming Solid Waste Volume	m ³	39.82	0.5ton/m ³ of *1
Daily Disposal Solid Waste Volume*2	m ³	24.89	0.8ton/m ³ of *1
Daily Covering Soil	m ³	3.73	15% of *2
Soil excavated per day	m ³	3.73	

Source: JICA Study Team

The final disposal site, which is expected to last 16 years, is required to have a capacity of 169,000 m³, including disposed waste and covering soil, as shown in Table 9.4.2.

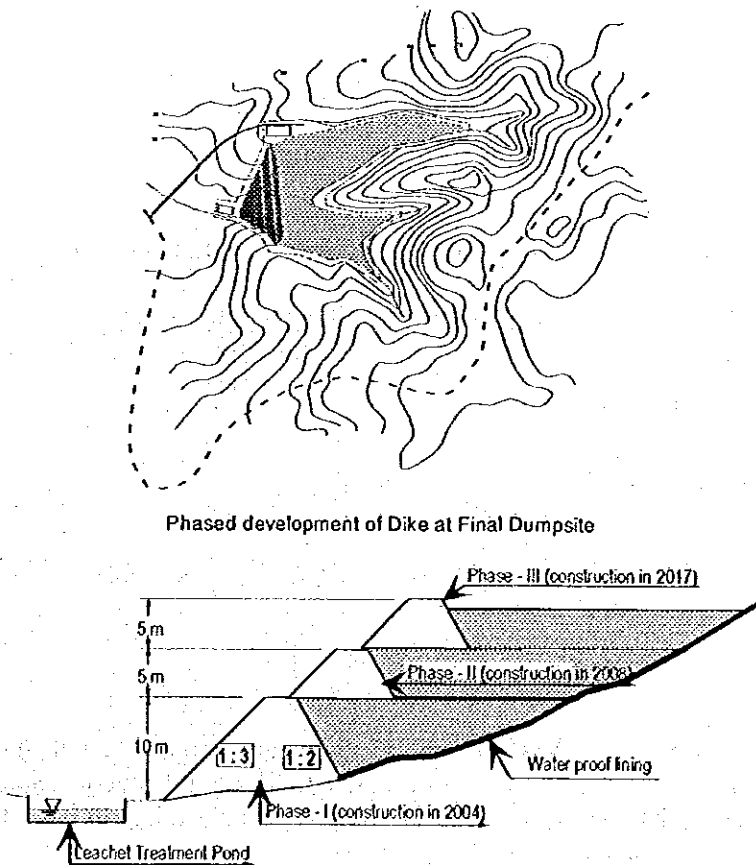
Table 9.4.2 Estimated Total Volume of Waste (2005-2020)

Item	Unit	Volume	Remark
Total Waste generated*	ton	117,600	Total of 16 years
Total Waste incoming	m ³	235,200	Waste 1m ³ = 0.5ton (*0.5)
Total Waste disposed**	m ³	147,000	Disposed or compacted waste 1m ³ =0.8ton (*0.8)
Total covering soil required***	m ³	22,000	15% of *2
Total Capacity of Dumpsite	m ³	169,000	**+ ***

Source: JICA Study Team

A dike is to be constructed by three phases to secure enough capacity of the disposal site. The phased development is illustrated in Figure 9.4.1.

Figure 9.4.1 Phased Development of Disposal Site



Source: JICA Study Team

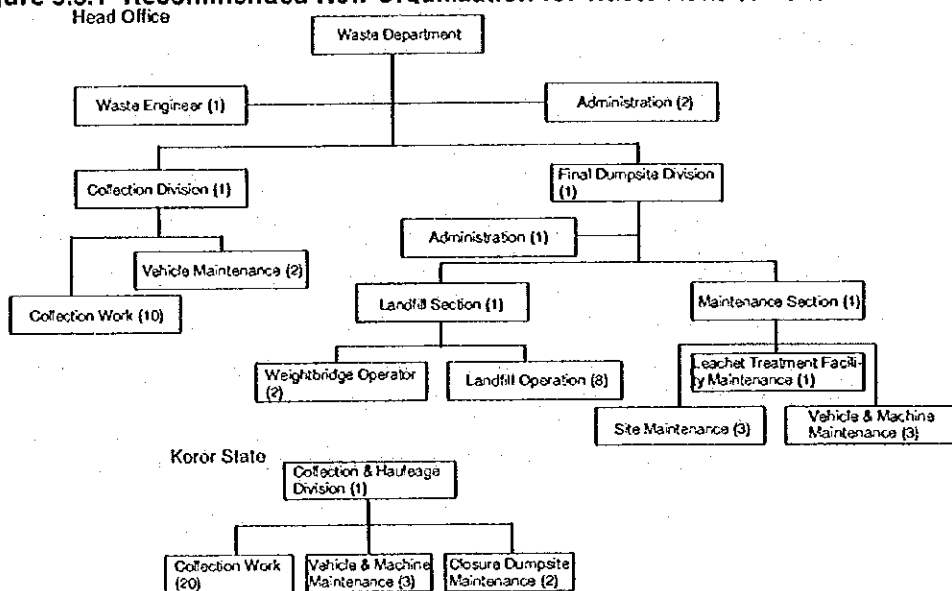
9.5 Implementing Organization

Figure 9.5.1 shows a new organization recommended for the management of the K-B SWMP. It is proposed that the central government establish this new organization not only for the management of collection and haulage in Babeldaob, but also for the operation and maintenance of the new final dumpsite.

On the other hand, Koror State should be responsible for the collection and haulage of municipal waste generated within the State.

Business and industries should be responsible for own-generated waste, i.e. collection and haulage to the final disposal site.

Figure 9.5.1 Recommended New Organization for Waste Management



Source: JICA Study Team

9.6 Implementation Schedule

Figure 9.6.1 shows the implementation schedule of the K-B SWM Program.

Figure 9.6.1 K-B SWM Program Implementation Schedule

	2000/01-03/04	2004/05-08/09	2009/10-14/15	2015/16-19/20
Development of new dumpsite	■	■		■
Closure of existing dumpsite		■		
New collection & haulage program		■		

Source: JICA Study Team

Legend: □ Preparatory work ■ Implementation

9.7 Cost

Total cost of the K-B SWMP amounts to \$34.0 million at constant 2000 prices. Out of the amount, 60%, 15% and 25% are allocated to the central government for disposal site development, the central government for collection and haulage in Babeldaob Island and Koror State for implementation, respectively.

Table 9.7.1 Total Cost of K-B SWMP by Implementing Body (at 2000 price)

(Unit: \$ thousand)

Cost items	Mid-term (2000/01-200 8/09)	Long-term (2009/10-201 9/20)	Total cost (2000/01-201 9/20)	Implementing body		
				Central government		State government (Koror State)
				Central government	Collection & haulage in Babeldaob*	
Master plan study	500	0	500	500		
Closure of existing dumpsite	1,906	15	1,921	1,921		
Capital cost						
(1) New final dumpsite	7,784	2,695	10,479	10,479		
(2) Purchase of vehicles (Dumpsite)	719	719	1,438	1,438		
(3) Transfer station in Koror	1,948	0	1,948			1,948
(4) Purchase of vehicles (Collection)	637	637	1,274		338	936
Sub-total of capital cost	11,088	4,051	15,139	11,917	338	2,884
O/M cost (2004/05-19/20) **						
(1) New final disposal site	1,945	4,279	6,224	6,224		
(2) Collection & haulage in Koror	1,675	3,685	5,360			5,360
(3) Collection & haulage in Babeldaob	1,525	3,355	4,880		4,880	
Sub-total of O/M cost	5,145	11,319	16,464	6,224	4,880	5,360
Grand total	18,626	15,382	34,008	20,546	5,218	8,244
				60%	15%	25%

Source: JICA Study Team

Note: * Collection & haulage service in Babeldaob is provided by Central government.

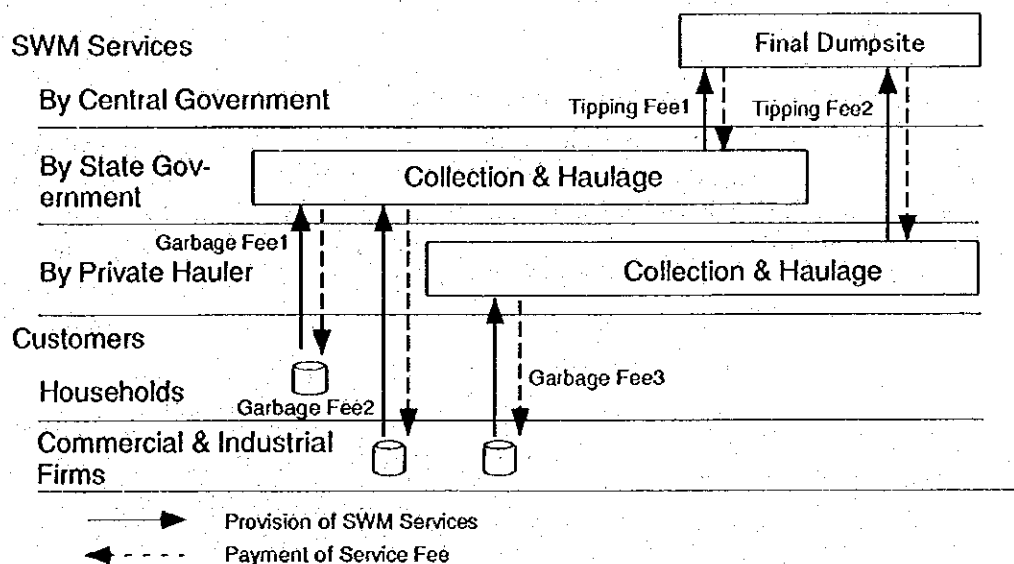
** O/M cost includes the cost of new disposal site and collection and haulage cost after the operation of new disposal site in 2005, while collection and haulage cost from 2001 to 2004 is not included.

Average unit waste management cost is calculated to be \$237 and \$316 per ton in Koror and Babeldaob, respectively.

9.8 Cost Recovery

With a view of cost recovery of the K-B SWMP, Figure 9.8.1 and Table 9.8.1 show the proposed cost burden system through user charges such as garbage fee and tipping fee.

Figure 9.8.1 SWM Services and Service Fees Proposed



Source: JICA Study Team

Table 9.8.1 Payers, Receivers and Level of Garbage Fee Rate

Fees	Payer of Fees	Receiver of Fees	Proposed Fee Rate Levels
Garbage Fee (1)	Households	State	Within estimated affordability of payment by households and to recover O/M cost of collection & haulage costs at least
Garbage Fee (2)	Commercial & industrial firms	State	To recover full cost of collection & haulage and final dumping costs
Garbage Fee (3)	Commercial & industrial firms	Private haulers	Determined through market mechanism
Tipping Fee (1)	Koror State	Central government	To recover full cost of final dumping costs
Tipping Fee (2)	Private haulers		

Source: JICA Study Team

During the project period, total cash outflow is estimated at \$34.0 million and total cash inflow from garbage fees of municipal waste and tipping fees of private haulers is estimated at \$15.8 million at constant prices. Considering the residual value of the capital as an inverse cost in 2019/20, 63% of the cost of the K-B SWMP will be recovered by proposed tipping fees and garbage fees over the project period.

Table 9.8.2 Cash Flow of K-B SWMP

	2000/01-03/04	2004/05-08/09	2009/10-19/20	Total	2000/01-03/04	2004/05-08/09	2009/10-19/20	Total
	\$ million, 2000 price				\$ million, current price			
Cash Outflow								
Capital Investment Cost	9.1	4.4	4.0	17.5	10.5	5.7	7.4	23.6
Maintenance Cost		5.1	11.3	16.4		6.8	20.6	27.4
Total Cash Outflow (1)	9.1	9.6	15.3	34.0	10.5	12.5	28.0	51.0
Cash Inflow								
Residential Garbage Fee		2.0	4.5	6.5		2.6	8.2	10.8
Commercial and Industrial Garbage Fee		1.8	4.0	5.8		2.4	7.2	9.6
Tipping Fee (Private Haulers) **		1.1	2.4	3.5		1.5	4.4	5.9
Total Cash Inflow		4.9	10.9	15.8		6.5	19.8	26.3
Net Cash Flow	-9.1	-4.7	-4.4	-18.2	-10.5	-6.0	-8.2	-24.7
Residual Value			5.6	5.6			6.9	6.9

Source: JICA Study Team

9.9 Economic and Financial Analyses

Economic internal rate of return of the projected is 3.8%. The low EIRR is due to the higher waste generation rate per person compared with their income level as well as the higher SWM cost per ton in Palau. However, there will be other benefits, which are difficult to measure. Among them, land development impacts on tourism due to the closure of the existing disposal site will be significant.

Table 9.9.1 shows Net Present Value of the project. If the capital investment cost is allocated from the general budget, the NPV of the K-B SWMP will be \$ 1.0 million with a discount rate at 8%. Even if the government could increase the garbage fee to such a level as the full cost recovery in the long-term period from 2009/10 as the following rates, the aggregated cash flow will reduce to \$5.3 million from \$12.6 million in "base case" over the project period.

Table 9.9.1 NPV of K-B SWMP with Additional Financial Arrangement

	NPV with a discount rate (\$ million)		
	0%	4%	8%
(1) Base case	-12.6	-11.8	-10.6
(2) Capital investment cost is allocated from the general budget	4.9	2.2	1.0
(3) Increase of residential garbage fee in the long-term period	-5.3	-7.5	-8.1
(4) Combination of (2) and (3)	12.2	6.4	3.5

Source: JICA Study Team

10. Conclusion and Recommendation

The Government of Palau (GOP) should aim at the development goals of (1) self-reliant economy, (2) coordinated economic development with conservation of natural environment, and (3) sustainable regional development, before termination of the Compact Direct Payment from the United States in the year 2009. The recommended development strategies and directions are established and implementation programs are formulated in this Study and future socioeconomic and environmental conditions to be achieved in the year of 2009 are illustrated in this Report.

Promotion of economic development is the most significant base for the national development to improve the budgetary imbalance of the government by expansion of the revenue sources. In accordance with the resource availability and socioeconomic conditions, the leading economic sector will be service and trade, especially tourism-related industries.

The reduction of the size of public sector, elimination of the inherent budget deficit, reduction of the dependency on external ODA resources, and establishment of self-sufficient budget structure should be realized. The Structural Adjustment Program for Palau, which is recommended in this Study, is indispensable to achieve the development goals set by the Government.

Projects and programs for social and economic infrastructure development together with environmental management to meet the long-term development strategies are selected and compiled as proposed projects and programs in the mid-term. JICA Study Team pays attention to minimize cost burdens on the government budget in the selection of priority projects and programs. The development expenditure for the proposed projects and programs, which is required to maintain the target economic development, is estimated at \$187 million at current prices. For operation and maintenance of those projects and programs about \$70 million at current prices is additionally necessary during the same period.

Implementation of the selected development projects and programs together with the structure adjustment will provide the concrete base for the sustainable and self-reliant economic development after the year 2010.

Following development plan is recommended.

Diversification of the tourism products in terms of location and type of tourism is recommended to accommodate increased number of tourists in the future. Tourism development in Peleliu and Ngarchelong is recommended for the formulation of new tourist base in Palau. Promotion of village tourism in Babeldaob Island is also recommended. In this regard, there is a need to encourage community members, as well as provide technical and institutional support. Participation of community members and strong will to implement the project by the community members are key for village tourism development.

The problem on Balance of Payment is also one of key issues in Palau. In order to gain service trade surplus, service revenues from tourism should be promoted as described above. At the same time, import substitution should be promoted. Food and beverage is one of the major import items followed by transport equipment and machinery. Vegetable and fruit garden promotion at each household in Palau especially in the rural area is recommended. Another measure to be taken is efficient use of food materials. Small-scale fish product processing factory is also recommended.

Although the private sector will be a main player of the economic development, especially the foreign direct investment (FDI), there will exist many legal and institutional constraints not only for FDI but also for investment by local people.

Provision of preferable investment environment is indispensable. Institutional reform as well as legislative modification is required.

Conservation of natural environment and enhancement of natural resource management are significant for the sustainable development. Clear and integrated enforcement and management in conjunction with state government initiative, strengthening of EQPB, and integrated management for critical watersheds with effective implementation of preservation and conservation system should be established. Integrated Ngeremedau Watershed Management, decentralization of diving bases in conjunction with tourism development, comprehensive solid waste management and establishment of natural resources management inventory are recommended as the projects and programs to be implemented in the mid-term development plan.

The estimated population and labor force until 2020 are 23.5 thousand and 14.1 thousand respectively. Labor force for Palauan will increase from the present 4.5 thousand to 8.0 thousand in 2020. Generation of employment other than government sector is an urgent matter to absorb not only newly generated labor force but also accommodate transferred labor force from the government sector. Proper training and educational system to meet labor demand is indispensable. The study recommends Government-Private-School cooperation in the vocational training to rationalize education and vocational training.

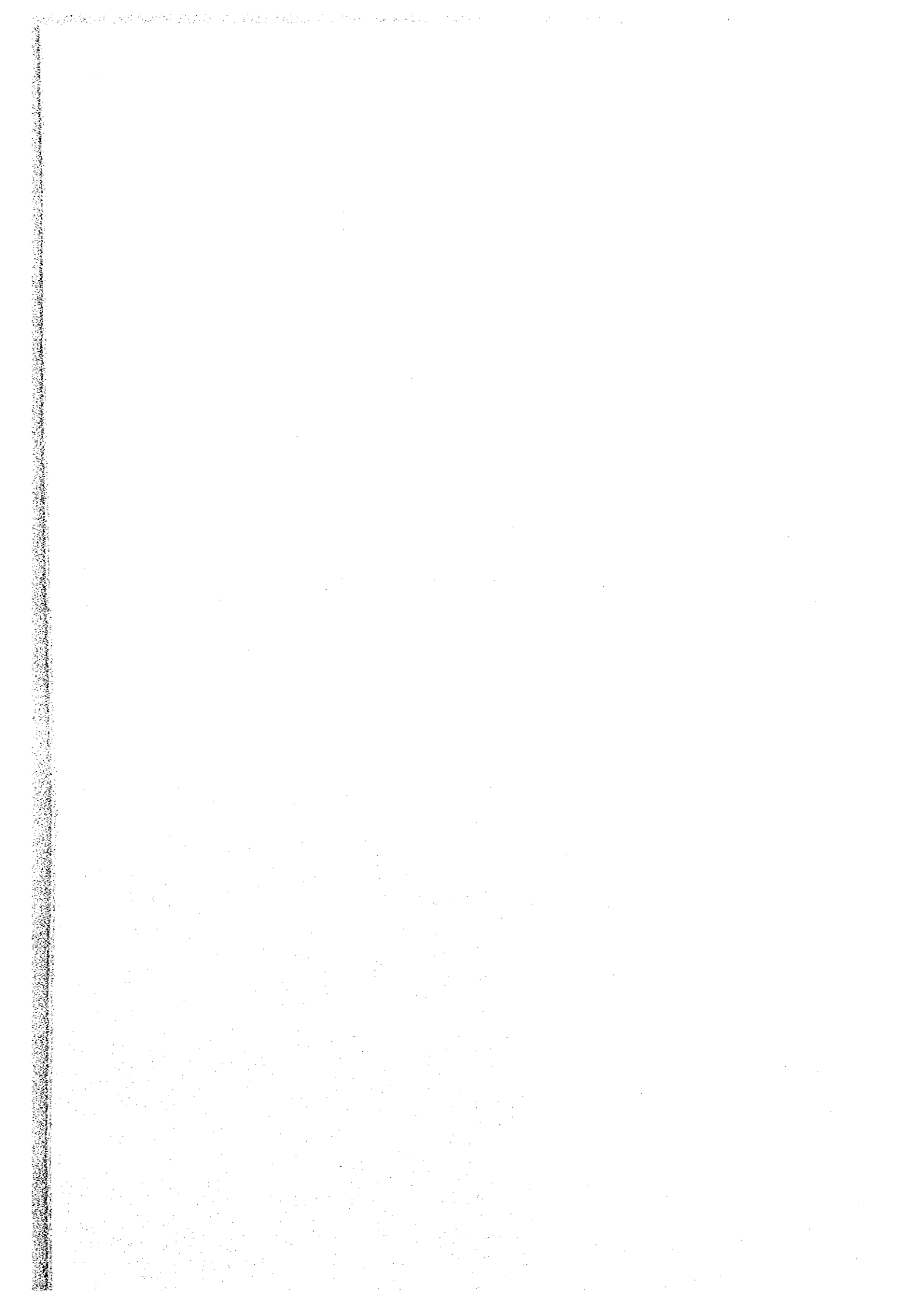
It is proposed that the GOP challenge the reduction of the budget size, which accounted for 60% of the nominal GDP in 1998/99, to about 40% of the nominal GDP in 2009/10. To reduce the recurrent cost, it is proposed that the number of government workers be decreased from the current 3,200 workers to 1,900 workers in 2008/09, a reduction rate of 40%, during the period of eight years.

In addition to the currently proceeding Tax Reform Program, vehicle operation related taxes, such as fuel levy, vehicle registration tax, auto tax, are recommended in order to increase the government revenue. Other than vehicle related tax, property tax and utilities charge come under the introduction of Polluter-Pays-Principle.

As a result of the structure adjustment program with development programs formulated in this study, the balance of governmental budget turns into a surplus of \$6.5 million in the year of 2009. Thereafter, the GOP would afford to balance the overall budget in the long-term perspective.

During the mid-term period, the annual budgetary balance of the GOP will remain in deficit at around \$20 million on average. Therefore, external assistance will continue to be needed. Aid coordination and management in conjunction with implementation of structure adjustment program is recommended.

Pre-feasibility studies on Peleliu tourism development plan and solid waste management program for Koror and Babeldaob were carried out. Implementation procedure to promote FDI is the key for the Peleliu tourism development plan. How to make sustainable by applying the appropriate user charges to the beneficiaries is the key for the implementation of the solid waste management program. Institutional and legal reforms are proposed in both studies.



JICA