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Republic of Palau: Facility for Economic and Infrastructure Management

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For Government of Palau
and Asian Development Bank

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Infrastructure Specialist Assessment Report

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PINZ

Education... Global Specialists

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Acronyms

ADB	Asian Development Bank
BED	Bureau of Economic Development
BMR	Bureau of Marine Resources
BOA	Bureau of Agriculture
BTA	Belau Tourism Association
CCRA	Code of Conduct for Responsible Aquaculture
CSO	Community Service Obligation
DOI	Department of Interior (of USA)
EDP	Economic Development Plan of ROP, 1994
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EQPB	Environmental Quality Protection Board
FAO	United Nations Food and Agriculture Organization
FTZ	Free Trade Zone
GAO	Government Accounting Office (of USA)
GOP	Government of Palau
HDI	Human Development Index (of UNDP)
JICA	Japanese International Cooperation Agency
KFC	Kuniyoshi Fishing Company
NGO	Non-government agencies
NMDP	National Master Development Plan
NASDP	National Aquaculture Strategy and Development Plan
NTFMP	National Tuna Fisheries Management Plan
PACA	Palau Aquaculture Clam Association
PAN	Protected Areas Network
PCC	Palau Community College
PHS	Palau High School
PIF	Pacific Islands Forum (based in Fiji)
PITI	Palau International Traders
PMDC	Palau Mariculture Demonstration Center
PMIC	Palau Marine Industries Corporation
PMSCBP	Performance Management and Strategic Planning Capacity Building
PNCC	Palau National Communications Corporation
PPTA	Project Preparation Technical Assistance
PVA	Palau Visitors Authority
RETA	Regional Technical Assistance (of ADB)
ROC	Republic of China (Taiwan)
ROP	Republic of Palau
SWM	Solid Waste Management
TA	Technical Assistance
UFW	Unaccounted-for water
UNDP	United Nations Development Programme

Executive Summary

The Infrastructure Specialist is largely responsible to assess infrastructure needs, service delivery and institutional capacity, develop plans and options for alternative forms of delivery. In this first visit, the Specialist has concisely reviewed progress in relation to the NMDP, and current needs and strategies, and proposed some strategic criteria for prioritizing the agenda in policies, institutions, capabilities, funding and works (see Summary of Objectives, Strategies and Activities in the Table below). The overview of progress by CRC is now with the GOP, and studies from other projects are due in water, electricity, solid waste, telecoms, taxation, tourism and privatization.

Since the NMDP was finalized in 1996, some significant achievements have been realized in institutional and economic development of the Republic of Palau. Public security has been maintained and some basic services extended, and there has been some progress in settling land titles. But changes in institutions, laws and capacity in infrastructure sector have been inadequate to serve the national strategy of reduced government subsidies and direct government involvement in the sector.

The problem of the persistently large deficits in Palau's budget and in operations of utilities is being compounded by major ongoing service needs and the growth of tourism. In addition the proposed high end strategy in tourism demands major improvements in quality and reliability. The burden of maintenance management, planning and financing has greatly increased. There is an urgent need to achieve improvements in productivity, reliability, quality, equity and customer servicing in all aspects of infrastructure, so as to support and enhance confidence in services and to promote a more sustainable willingness to pay.

There is no effective regulation and no competitive pressure on the price and standards for any of the utilities (except telecoms), ports, or the airport. The GOP deficit limits public investment, and there are inadequate capacity and resources in many agencies to do their mandated work. The solution is to develop alternative commercial arrangements for utilities, and make use of skills developed in recent major projects.

Loans and grants (water, sewerage, solid waste, electricity, buildings, airport, roads, ports, telecoms, education and health) have given the Palauans some 'space' in which to reform for more sustainable and equitable systems. In practice, the 'space' has been realized as 'less pressure', thereby reducing the compulsion to decide and to act on matters which are often strange to the majority, contentious and socially divisive.

There has been broad public resistance to proposals for change. Consistent planning is constrained by the many sources and locations of power. But an opportunity for resolute leadership is forming, supported by many studies. The challenge is to socialize the issues, synthesize with consensus, and prioritize the options so as to make use of the increasing public recognition of the agenda, and of the need to act.

The major gaps and needs are in financing and management of maintenance, a concerted public and private program to raise productivity and quality, and a legal framework which is fairly enforced and which attracts resources and skills to the activities most needed to sustain the people and the state. A crucial gap is the commitment and cooperation for the tourism sector across all interest groups. Particular attention is required in labor and immigration policies, and land titling on sites of public services and investment opportunities.

In addition to developing a strong consensus for reform, there is a long list of detailed needs. These include: a) higher user charges for power, water, sewerage, waste and roads; b) improved

management and productivity in power generation, road maintenance, building maintenance, water and sewerage operations and landfill sites; c) increased regulation in building standards, styles, zoning and landscapes.

Some strategies are suggested so as to guide the agenda and the criteria for choices in policies and investments in infrastructure: 1. Protect what we have; 2. Develop credible information; 3. Educate and lead to consensus; 4. Improve productivity and efficiency; 5. Make rules and enforcement for a more efficient, equitable and attractive business environment.

Matrix of Issues and Options in Infrastructure

	Objective, strategy or activity	Progress	Main concerns, questions, issues	Existing / proposed policies, actions etc	Implementation issues / interests	Recommendations for policies and actions
1	Strategy in NMDP: Contain the costs of GOP operations while creating expanded opportunities for private sector growth; shifting economic activity from the public sector to the private sector, including the increased use of user fees, outsourcing and corporatization of governmental services.	There have been some shifts which might be related to the high level of spending on major infrastructure 1996-2007 and construction of hotels and houses, especially 2000-07. The increasing use of 'front enterprises' and foreign managers and workers, with associated tax evasion, mean that GOP and Palauans generally have not benefited as much as expected from this unique period of national development	There has been little progress in containing costs and reforming GOV services in this period of building the nation and making use of donors' support	Many proposals are still being considered (tax, foreign investment and labour, charges for services, corporatisation, tourism strategy); but a consensus on priorities is yet to emerge.	Uncertainty about future funding, and the accumulation of liabilities (pensions, maintenance, basic social services) without solid progress on revenue and the essential factors for economic growth, impede the collective commitment to any of the five major elements of the Strategy [costs, growth, privatisation, user charges and GOV agencies' reform]. Section 10 of this Visit Report suggests 5 high-priority strategies while the external support and conditions are favorable: Protection; Information; Education; Productivity; Regulation]	
2	Objective in NMDP – Provide and maintain infrastructure on an efficient, sustainable and equitable basis, to improve access and support expansion of economic activity	The Objective is still valid and necessary. The emphasis now should be on efficiency, affordability and sustainability (including fair user charges) - without those, there will be no gains in equity, access or support to economy.	How to raise productivity and quality while enabling the foreign investment and skills needed to support the standards expected by Palauans?	Many important changes are yet to be achieved in the strategies, policies, laws, regulations, organizations, and staff capacity which are necessary to raise productivity, diversity and profitability and so to support a sustainable and equitable socio-economic environment.		
3	Overall: NMDP identified \$400m of projects including the top priorities of 16 states	Much progress in the basics of the new Palau, through CIP and the Compact Road, major road connectors, Airport Upgrade, new Capitol and public buildings, water supply, sewerage, solid waste, power generators and telecomms. In private sector: investment in trading, hotels, tourism activities, construction, technical and personal services.	The next generation of major projects is less 'obvious', and less assured of grant funding.	Works and commitments continue on sewerage, waste, major roads and Airport.	Some important land right cases to be resolved	It might be a better option to curb new major projects [such as a port] for ten years or so, and give more attention to maintenance and minor works (drainage, public health, navigation, landscaping)
4	NMDP proposed a system of screening, appraisal and prioritising of projects	GOP and UNDP are gradually improving the procedures and the personnel skills for more objective and transparent appraisal and prioritising.	Action Plans and agenda are 'too full' - reflecting the urgency for Palau to move ahead on many issues and in many fields. THERE IS A NEED TO SET CRITERIA FOR NATIONAL DEVELOPMENT SO AS TO FOCUS ON THE MORE CRITICAL ACTIONS in both public and private sectors and civil society.			
5	PSIP - In 2001-2, NMDP long lists screened into PSIP tiers A, B, C, Ongoing. ABC contained 66 Projects for \$354m, to do as funds become available; and Ongoing contained 10 Projects at \$189m.	CIP implements the major projects, mostly by contract administration - with an annual load of about 50 contracts and \$ 18 - 30 million of works and services	The rate of work depends mainly on the rate of external funding			
6	Water: NMDP recommended to develop a reliable, safe cost effective system, and to recover sufficient revenues to influence demand and meet system requirements in maintenance and depreciation.	The water treatment plant has been upgraded recently. Progress on piped water in ten states. Water losses are up to 50% UFW, including 20% in leaks	Continuing subsidy and waste? or increasing consumer responsibility? how to set equitable charges?	ADB and GOP study for Babeldaob and Koror WS will demonstrate conditions, needs and options	Consensus is not clear on legislating for a corporatized utility for WS and S	Raising the tariffs, restricting wasteful use, investigating and repairing leaks are critical and appear to be doable priorities. Monitoring of service should be public information

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Progress	Main concerns, questions, issues	Existing / proposed policies, actions etc	Implementation issues / interests	Recommendations for policies and actions
7	Waste: NMDP objectives were to provide adequate facilities, improve management and operations, increase community responsibility including user fees, and increase the commercialisation of SWM	Good progress in rehabilitation of Koror (Ngerbeched) dump landfill, public education, recycling, deposits on some products; but enforcement is still inadequate to protect environment and appearances	How to recover costs of SWM? How to acquire and prepare the new landfill at Aimeliik?	A SWM Strategy is now in public review	A single charge on imports might be the most efficient way to fund the SW services?	Access and use of Aimeliik site must be concluded soon. Monitoring imports and waste could lead to user charges which affect consumption, packaging and disposal by households and businesses
8	Sewerage and Waste Water : NMDP objectives to upgrade/ extend systems, and improve management & pricing so as to ensure maintenance and efficiency	New system built for Melekeok and new Capitol; Koror collector system improved in three phases 2005-8; Rural facilities are being gradually upgraded.	No user charges; and 'implied fee' is included in water tariffs	Some sewerage leaks at pump stations are currently being repaired	Need for independent monitoring of outfall and any leaks; with results published	Collect the data for assessing full costs and determining equitable charges
9	Drainage	Most run off is directly to the mangroves and bays; very few sieves/grates, and no oil traps	Need for Building Code and Master Land Use Plans	No schemes	Increase environ'tal monitoring of rubbish and silt in waters	Do detailed localised planning and works, along roadsides and major building sites
10	Roads: NMDP objectives: the Compact Road; set up capacity for building and maintaining assets; improve other main and access roads; and improve resources and capability of BPW	There has been good progress in physical works, mostly through CIP, US Army, and contractors under grants from Japan and ROC. Compact Road, Airport - Ngerikiil, Airport- Koror - Malakal roads, Babledaob inter-state roads, upgrading of Koror roads. These investments presage a big maintenance burden (Compact Road alone will need 1.5 - 2.0 \$m.)	Financing and management of maintenance remain critical issues. Car ownership is near saturation, fuel tax is low, and more travel per vehicle may be expected.	Completion of 'obvious' needs - Airport to Malakal rehabilitation, connector roads in Koror and across the centre of Babedaob	Main question is the level of external grants. Also, pollution by older cars is a growing concern.	Implement a simple road asset management system (RAMS). Revenue? It seems equitable and efficient to raise charges on fuel, tied to management, maintenance and enforcement in roads and bridges.
11	Ports: NMDP recommended a Master Plan for Ports; a shift from Malakal to a new port at Gamliangle Bay; acquisition of Malakal area as National Estate; shift the fish-port to T-Dock; and strengthen Port Manager's Unit of the DoTC	No significant changes. A resort hotel has been built adjacent to Malakal port. There have been proposals for a FTZ port in Ngardmau; and for development in Aimeliik. Simple improvements were made at T Dock, but traffic is minimal. Peleliu dock and channel have been improved, but economic gain is minimal	Are port service costs fair? Are there ways to improve efficiency? Do port operations detract from tourism values?	PSIP plans to upgrade Okotol (Ngarchelong), for \$1m. Unless this stimulates investment in a resort hotel, the economic gains are minimal	Demand may level off (major projects completed, import consumption already high). Capacity may be adequate for the next decade	There is still a need for a national strategy plan for ports; and for monitoring port charges
12	Airports: NMDP recommended: upgrade Airport and terminal, resolve land rights, laws to substitute for US regulation; improve the DoT; and promote competition among carriers	Major project 2006-8 of resurfacing and upgrading runways, buildings and facilities \$29m	How to stabilise scheduled carriers? And fare increases after demise of Asian Spirit	Some smaller works to complete the Upgrade	Ned to set service prices so as to build reserve funds for future maintenance	PVA-BTA Tourism Strategy must involve agreements with airlines

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Progress	Main concerns, questions, issues	Existing / proposed policies, actions etc	Implementation issues / interests	Recommendations for policies and actions
13	Electricity: NMDP objectives: provide power to all communities, upgrade all plants and grids, and improve efficiency of PPUC, raise charges to cover full costs.	Improvements made in PPUC management and productivity. Extensions have been made Tariffs were raised to 22 cents in 1997. Subsidy is still provided by GOP, but operating deficit has been reduced, and new engines installed / overhauled.	Private users might install generators, and not share in the grid costs. Are there feasible alternatives? How far can wasteful consumption be reduced?	In 2007, facing very high oil prices, there is inadequate revenue to maintain and upgrade the system, and still unclear regulations and obligations. THERE IS AN IMMEDIATE NEED FOR SETTING A NEW BASE PRICE PLUS AN ADJUSTED RATE OF INCREASE FOR FUEL COSTS. This might be the recommendation from a detailed study of costs, rates and relative pricing, funded by Office of Interior, and due in November 2007. In addition, there is a need to try for solar power, and biofuels.		
14	Telecomms: NMDP objectives: to provide high quality services to all communities, at competitive prices, and provide a return to GOP	Expansion, service and productivity were greatly improved with a \$39m loan. The Loan could not anticipate the growth in mobiles and internet. The market is saturated, so servicing the Loan is a big constraint on PNCC profitability and competitiveness	Universal Service is a major burden - 12% of remote users make up 53% of costs. How to link to fibre optic cable, better than satellite for internet?	There is much controversy about a competing company, which provides services but does not contribute to Loan servicing.	Main constraint is the unclear market for competition	It is necessary to quickly reform the laws and regulations. New competitors can erode the revenue needed to service the Loan and maintain customer services.. Also, explore options to link to Guam-Philippines cable
15	Public Buildings: NMDP objectives: adequate maintenance, settling of land issues, investment in certain vital facilities, and a uniform building code	Major buildings have been completed, under CIP; but land, maintenance, and a building code remain to be resolved. New Capitol maintenance will be 1.5 - 2 m\$	Inheritance of old buildings is being reduced; new liabilities in maintenance from many new modern buildings	A large burden of maintenance and replacement is forming, with 'maturity' about 2012 - PCC, PHS, gymnasium, Ministry of Education, new Capitol, PNCC, private hotels, some private houses and commercial buildings and facilities		There is emerging enough demand to support a competitive industry in management, maintenance and replacement; but this will add to foreign employment
16	Building codes and zoning	There is no general Code. Donor-funded building is subject to donors' standards	How to build a pleasant, low impact, safe, equitable and maintainable envirt?	Standards and styles could contribute to the overall image and service to the high yield tourist strategy		Need to review the progress made on previous State Land Master Plans
17	Organizations NMDP proposed: to improve GOP corporatized and service entities by creating a commercial and competitive environment, formalising relations with GOP and the Community Service Obligations, clarifying objectives and standards, improving tariffs, performance measurement and monitoring of quality, and establishing a price regulation function		The needs and issues remain very much the same as in 1994. The strategy underestimated the amount of work and negotiation to achieve reform. Reform implies job losses / shifts, which is strongly resisted by staff and leaders. There is no money for reform. Studies due on electricity, telecomms, SWM Strategy and privatisation might bring together the 'mass' of information and argument to support decisions, education and action.			The long term solution is in improved governance arrangements and other initiatives to increase productivity. A 20 year strategy for "productivity and harmony" might focus on the aptitudes and attitudes for competitive employment and enterprise. (Learning through Parenting, Education, Training, Employment = PETE)

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Progress	Main concerns, questions, issues	Existing / proposed policies, actions etc	Implementation issues / interests	Recommendations for policies and actions
18	Institutional arrangements: NMDP proposed an infras planning framework for feasibility study, EIA, policy analysis, HR development, private participation, and criteria for selection of investments	GOP has yet to set up such a framework; and has depended very much on external assistance. The big issues in state building were 'obvious'	The major need in 2007 is for policy analysis, by which to assist the public and leaders in decisions and consensus	The PMSCBP is setting up an Integrated Planning Process, to enable appraisal of investments	There seems to be an opportunity emerging for strong leadership by GOP - in convergence of the public agenda, growing public awareness and detailed studies on most sectors. GOP could now implement the steps and capability for more objective / less political decisions on policies, regulations, use of funds for investment, maintenance and HRD	

I. Introduction

1. The Infrastructure Specialist was deployed in Palau from 22 October to 2 November 2007. During the deployment the Consultant conducted a review and assessment of the Infrastructure issues, gaps, needs and strategies within Palau and developed the approach for the additional deployments in 2008.
2. Four additional deployments are scheduled for the Infrastructure Specialist throughout 2008 and 2009. They are provisionally scheduled for 4 - 29 February 2008, 2 - 27 June 2008, 1 - 12 September 2008, and 19 January - 6 February 2009.
3. The Infrastructure Specialist is largely responsible for drafting Component 2 of the project. The key activities for Component 2 are to assess infrastructure needs, service delivery and institutional capacity, develop plans and options for alternative forms of delivery and prepare an environmental and natural resource development plan taking account of infrastructure plans. The infrastructure plan will include (i) an assessment of existing infrastructure stock and future infrastructure needs, with attention to sustainable standards; (ii) policies on financing of infrastructure operation and maintenance costs, covering important issues of affordability and equity; and (iii) policies on mainstream environmental protection in the infrastructure sector.
4. The Infrastructure Specialist will assess infrastructure needs, service delivery and institutional capacity, develop plans and options for alternative forms of delivery. In this first visit, the Specialist has concisely reviewed progress in relation to NMDP, current needs and strategies, and proposed some strategic criteria for prioritizing the agenda in policies, institutions, capabilities, funding and works (see Summary, attached to this Executive Summary). The overview of CRC and studies from other projects are due in water, electricity, solid waste, telecoms, taxation, tourism and privatization.
5. Since NMDP, some significant achievements have been realized in the material building of the Republic. Public security has been maintained and some basic services extended, and there has been some progress in settling land titles. But changes in institutions, laws and capacity in infrastructure sector have been inadequate to serve the national strategy of reduced government subsidies and operations with competitive services by private sector.
6. There are large deficits in Palau's budget and in operations of utilities, even as major service needs persist and the proposed high yield strategy in tourism demands major improvements in quality and reliability. The burden of maintenance management, planning and financing has greatly increased. There is an urgent need to achieve improvements in productivity, efficiency, reliability, quality, equity and customer servicing in all aspects of infrastructure, so as to support and enhance confidence in services and to promote a more sustainable willingness to pay.
7. There is no effective regulation and no competitive pressure on the price and standards for any of the utilities, ports, or the airport (except in telecoms). The GOP deficit limits public investment, and there is inadequate capacity and resources in many agencies to do their mandated work, so there is a need to develop alternative commercial arrangements for utilities.
8. Loans and grants in essential infrastructure (water, sewerage, solid waste, electricity, buildings, airport, roads, ports, telecoms, education and health) have given the Palauans some 'space' in which to adjust and reform for more sustainable and equitable systems. In practice, the 'space' has been realized as 'less pressure', thereby reducing the compulsion to decide and to act on matters which are often strange to the majority, contentious and socially divisive.

9. There has been consistent public resistance to many needed changes. Consistent planning is constrained by the many sources and locations of power. But there are signs that an opportunity for resolute leadership is forming, supported by many studies. The main challenge is to socialize the issues, synthesize with consensus, and prioritize the options so as to use the increasing public recognition of the agenda, and of the need to act.

10. The major gaps and needs are in financing and management of maintenance, a concerted public and private program to raise productivity and quality, and a legal framework which is fairly enforced and which attracts resources and skills to the activities most needed to sustain the people and the state. A crucial gap is the commitment and cooperation in the tourism sector.

11. More detailed needs, with a positive/strong consensus, include power generation and user charges, road maintenance, buildings management and maintenance, water and sewerage (tariffs, leaks, consumption), solid waste landfill sites, regulations to be determined in all sectors, labour and immigration policy so as to clarify the market supply factors, and land titling on sites of public services and of major investment opportunities.

12. Some strategies are suggested so as to guide the agenda and the criteria for choices in policies and investments: Protect what we have; Develop credible information; Educate and lead to consensus; Improve productivity and efficiency; Make rules and enforcement for a more efficient, equitable and attractive business environment.

II. Background

13. There are still large deficits in Palau's budget, even while major service needs persist. Two very serious challenges approaching are the takeover of maintenance for the Compact Road, and an expected reduction in US funding for the GOP's recurrent and capital expenditures.

14. Major improvements are needed in water supply, where physical leaks may be 25% of production and other UFW may be an additional 25%. Wasteful consumption has been recognized by some community groups and agencies, and is being addressed in terms of education. Power generators should be replaced / overhauled, for more efficiency and reliability.

15. The main dump for solid wastes (SW) is being rehabilitated, and will be shifted away from crowded Koror. Services and charges in telecommunications need to be improved, while a \$40 million loan must be paid off.

16. Building codes, standards and styles, and major land use zoning, must be addressed if Palau is to preserve and enhance its natural advantages. Evaluation and selection of investments and policies must be improved with information, analysis and dialogue, so as to maximize benefits to the country.

17. Some significant achievements have been made, mostly with specific donor funding – the Compact Road, Airport upgrading, fibre optic cable extensions, upgrading telecoms capability, mobile telephone services, the sewerage treatment plant and pump stations, rehabilitation of the Ngerbedched dump, upgrading of the road and bridge to the hospital and the Japanese Friendship Bridge, water supply systems outside of Koror-Airai, support to PPUC's management, and some major public buildings including the new Capitol, PNCC, Gymnasium, PCC and PHS. All of these add to the challenges of maintenance management and funding.

18. The quality and extent of services will be enhanced in the next few years with the implementation of donor-supported works and studies in waste management, the Babeldaob Water Supply, pumps for sewerage, new power generators, upgrading of the mid-island link road in

Babeldaob, and upgrading of the central Airai-Koror road from the Airport to Malakal. However, the costs to GOP and the demands on staff will increase, with increasing needs to review and raise consumer tariffs. Thus there is an urgent need to achieve improvements in productivity, efficiency, reliability, quality, equity and customer servicing in all aspects of infrastructure, so as to support and enhance confidence in services and to promote a more sustainable willingness to pay.

19. There is no effective regulation of the price and service standards for any of the utilities, ports, or the airport. Limited competition has recently brought price reductions in telecommunications. In other sectors, there is no competitive pressure on pricing or service standards. The public sector deficit limits GOP investment, and so there is a need to develop alternative commercial arrangements for utilities.

III. Approach

20. In the short time available, the work of this first visit sought to cover a concise 'stocktake' of progress in relation to NMDP objectives, current needs, institutions, major issues and strategies, and finance constraints; then to propose some criteria for prioritizing the agenda of around 100 proposed projects and 40-50 policy and institutional changes affecting infrastructure provision and use. This coverage inevitably draws in concerns for related sectors (especially tourism), and trends in the overall society, economy and polity. Most of the detailed comments are contained in Annex 1 Issues and Options; while the text provides summary comments on background, progress, lessons, needs, strategies and criteria.

21. The work on infrastructure takes in the many studies and plans dating back to 1989 (see Section 6). It will also be coordinated with contemporary work under the regional TA "*Strengthening Pro-Poor Policy in the Pacific*", as well as current studies in waste management, preparing the Babeldaob Water Supply Project, the debate on tax reform, aspects of privatization, legislation for telecommunications, preparations for COFA negotiations, and BTA-PVA "*Tourism Action Plan*".

22. It is obvious that there is a very large amount of information, knowledge, opinions and recommendations available to the people, enterprises and leaders in Palau. There are a few innovations which the infrastructure studies might offer – such as in energy, waste management and road maintenance - but generally the main challenge is to "Socialize the issues, synthesize with consensus, and prioritize the options".

23. The public agenda in Palau seems to be overwhelmingly crowded, such that people and leaders may have only partial awareness, information, understanding and voice on any number of important issues. There is a need to 'socialize' by more effective information, canvassing, advocacy and dialogue. The many interdependent issues across the small and highly sensitive society delay decision-making, implementation and enforcement on any particular issue. For example, the tourism sector action plans (1997, 2002) contain 120 actions with designated persons; now the 2007 action plan is still striving to give focus and priority. Without some consensus on priorities, debate and decision-making on any one issue will not noticeably advance, partly because of a low level of shared knowledge on any one issue, and partly because proponents can be distracted by criticism derived from their positions on other less important issues.

24. So the infrastructure work will proceed deliberately to socialize, synthesize and prioritize the many concerns, needs and opportunities which have been or are being presented in many detailed studies. The emphasis in socializing information will be to propagate evidence and facts, as a

counter to the highly personalized ('subjective') consideration and discussion which prevail in most public issues.

IV. Tasks in 2007-08

25. The Infrastructure Specialist will do the following:

- i. Review relevant legislation, strategies, reports, and studies on infrastructure in Palau.
- ii. Consult with the national and state governments, representatives from the private sector, community members, and other stakeholders as appropriate.
- iii. Assess the status of infrastructure service provision with respect to institutions efficiency, effectiveness, costs, access, and expectations.
- iv. Identify future infrastructure needs for delivering against the NMDP objectives, providing approximate values, operating costs, and maintenance costs, with a view to assessing the appropriateness of the NMDP strategies and to informing future Government fiscal planning.
- v. Assess the maintenance cost of existing infrastructure. Based on the assessment, identify approximate financing needs in the short, medium, and long term (e.g., 5–15 year outlook) for the infrastructure sector.
- vi. Liaise with the privatization specialist to provide an inventory of available modalities for infrastructure financing, potential partnering opportunities to meet needs, and related institutional arrangements; assess the relevance of each modality (including, but not limited to, economic, institutional, cultural, social, regulatory, and financial aspects).
- vii. In the report, discuss success or failure of different modalities in other countries and similar settings; based on some examples, make proper recommendations for infrastructure maintenance.
- viii. Review best practices for subsidies and affordable access to infrastructure services and recommend proper systems to implement in Palau

V. Tasks in First Visit October 2007

26. The Infrastructure Specialist will conduct a concise 'stocktake' of progress in relation to NMDP objectives, review contemporary needs and current strategies, and propose some criteria for prioritizing the agenda of around 100 proposed projects and 40-50 policy and institutional changes affecting infrastructure provision and use. The specific output is a "preliminary outline of potential infrastructure needs and issues to be addressed to meet NMDP goals consistent with feasible finance constraints;" and the deliverable is described as an "overview of the status of institutional arrangements and the approach to the infrastructure sector."

VI. Tasks in 2008

27. In a second visit – and benefiting from the team's work in provider models, user charges, tourism strategy, and environmental risks and management, and from GOP staff work in updating demands, progress, the 2009 budgets and lessons learned – the Infrastructure Specialist will work closely with departmental and bureau staff to draft a set of priority actions in maintenance,

regulation and investment. A working paper on needs, priorities, costs and methods in relation to maintenance, regulation and investment.

28. In the third visit, the policies and plans will be detailed and refined in relation to other sectors' progress, other ROP laws, the GOP sector strategy plans, a clearer appreciation of future external funding and related obligations, and a clearer link with trends and regulations in tourism sector, and trends in productivity and capacity in both public and private agencies. The specific output will be a "paper on infrastructure assessment and needs to meet NMDP goals, within feasible financing constraints, by end-June 2008." This will be accompanied by "a position paper on public-private partnerships for the delivery of Government services."

29. In the fourth visit, the outputs will be a "final paper on costing for infrastructure maintenance and infrastructure development, and an action plan, by mid-September 2008. " This will be accompanied by "an options paper on possible outsourcing of Government infrastructure maintenance responsibilities".

VII. Planning & Development Documents/ Reports

30. The large amount of documents for planning reflects the complexity of issues in government and society of Palau, and the waves of interest of foreign partners, especially the USA. These plans include the GOP *Economic Development Plan* of 1994; the *National Master Development Plan* (NMDP) prepared in 1993-96; *Sustainable Tourism Development Strategy prepared in 1997-2002*; the *JICA 2000 Study for Promotion of Economic Development in the Republic of Palau*; the *GOP Public Sector Investment Program for 2003-07*, the *GOP National Assessment Report on 'Barbados Programme of Action Plus 10' in 2005*, and the *Progress Reports of CIP* and the *Annual Report on Implementation of COFA*. A medium term economic development framework - a one page outline of broad economic and fiscal objectives - was formulated in 2001, and is still current.

31. In February 2006, the National Leadership Conference called for an independent commission to guide the self-assessment process and to make recommendations regarding re-negotiation of the COFA. The OEK created a Compact Review Commission (CRC) responsible to review, prepare, and make confidential recommendations to the President and OEK regarding the COFA. The work included "extensive economic analysis, social inquiry and analysis, environmental assessment and analysis, governance planning, and predictions about where Palau is headed." (*RPPL No 7-15, Section 1*). The nine-member CRC began its work in March 2006, and submitted its confidential report in October 2007.

32. To encourage broad community participation in the national self-assessment process, the CRC hosted a National Economic Symposium in February, 2007. The Symposium focused on the sustainable economic development of ROP and the integration of economic, environmental, social, and security concerns over the coming fifteen years. The Symposium was open to the public and brought together Palauans from all interest groups to share ideas and information about development opportunities and challenges before the country. International experts were invited to share information about global trends that impact upon Palau today and into the future. From many excellent presentations, a "*Report on National Economic Symposium*" was prepared by GOP staff and Gerald Johnson of ADB.

33. Specific information and ideas are also presented in the regional ADB TA "*Strengthening Pro-Poor Policy in the Pacific*", the recent "*National Strategy and Country Report*" from ADB, the JICA-supported "*Waste Management Strategy Study*", the PIF-supported review of options in telecoms, the upcoming ADB PPTA "*Preparing the Babeldaob Water Supply Project*", the ongoing UNDP PMSCBP project, the upcoming GAO review and ADB Economic Review, and recent studies on

aspects of privatization. There is also a large supply of information and ideas in the ROP *"Management Action Plans"* of 1992, the DOI-supported enquiry into costs, rates and equitable charges for electricity, the draft legislation for telecommunications, the work-in-progress strategy plans for each sector and the BTA-PVA *"Tourism Action Plan"*, and the expected handover reports for the Compact Road and the Airport Upgrading.

VIII. Summary of Progress in Infrastructure Planning, Financing, Management, Provision and Maintenance

34. A detailed assessment of progress and constraints is expected in the CRC Report, the GAO review, documents for COFA negotiations, an ADB Economic Review and some sector reports, all due in the next six months.

35. Overall, there is good progress in construction of the basics of the new Palau, mostly through CIP and the Compact Road, major road connectors, an upgraded Airport, new Capitol and public buildings, improved water, sewerage, solid waste, electricity systems and telecoms, and in monitoring and protection of the environment. In the private sector, there has been investment in trading, banking, hotels, tourism activities, personal services, construction and technical services - much of that providing jobs for low-paid foreigners and opportunities for foreign investors and managers facilitated by 'front operators'. Public security has been maintained and some basic services extended, and there has been some progress in settling land titles.

36. There has been small progress in financing the budget and shifting to more reliance on private sector. Much of this shift is related to the high level of spending on major infrastructure and continuation of US grants in health and education in 1996-2007, and construction of hotels and houses especially in 2000-07. However, the increasing use of 'front enterprises' with foreign managers, low-cost foreign workers, emigration of skilled people, tax evasion, unreliable business dealings and unstable agreements on use of land and fish resources mean that GOP and Palauans generally have not benefited as much as expected from this unique period of national development.

37. Annex 1: Matrix of Issues and Options in Infrastructure, summarises many of the findings and ideas from reports studied and discussions held in October 2007. The Matrix reflects the convergence, over the last fifteen years, of ideas for change in Palau. Such convergence is the result of mainly three factors:

- a) The completion of some major and contentious works (such as Compact Road, Airport Upgrade, new Capitol, hospital extension, sewerage system upgrade, replacement of some electricity generators, the Japanese Friendship Bridge, Peleliu channel and wharf, cleanup of the Koror waste dump, rejection of the Koror "Reef Road" bypass, and the commitment for resurfacing the much-degraded Airport-Malakal road);
- b) The lack of decisions/actions on urgent matters (such as foreign investment laws and procedure, reserved businesses and front operations, taxation, government service agencies / corporate entities, tourism strategy, building regulations, foreign workers, immigration policy, Palauan productivity and wages);
- c) The lack of objective science to offer the evidence and knowledge required for decision making on complex, inter-related issues.

38. GOP and the NMDP gave factor c) a high priority in the NMDP, in terms of the building of an infrastructure planning framework to:

- Develop capability for feasibility and appraisal to guide priorities;
- Eia capability to incorporate environmental issues including risks and impacts;

- Human resource capacity building to maximize the useful life and distribution of benefits of a project;
- Arranging opportunities for private sector partnership to take advantage of alternative financing resources;
- And to limit debt financing to projects that have a strong capacity to generate revenue.

39. Only recently have there been some gains in procedures and capability, partly due to PMSCBP.

40. In financing, GOP has not made the hard decisions on user costs and taxation. In general, all services are subsidized, while user tariffs are lower than in other Pacific countries, where per capita income is lower than Palau. There is evidence of subsequent wasteful consumption in utilities, even as credit for housing and consumption (cars, boats, travel) has been rising rapidly. All of this is unaffordable for Palau as a whole, and is almost certainly adding to socio-economic and physical differentiation.

41. Similarly in organization, GOP has not taken the decisions to reduce government control and employment in several services which could be more commercialized, such as in management and maintenance of roads and public buildings, water, sewerage, solid waste, electricity, telecoms and some technical services in fishing, aquaculture and agriculture.

42. Loans and grants for essential infrastructure (water, sewerage, solid waste, electricity, buildings, airport, roads, ports, telecoms, education and health) have given the Palauans some 'space' in which to adjust and reform for more sustainable and equitable systems. In practice, the 'space' has been realized as 'less pressure', thereby reducing the compulsion to decide and to act on matters which are often strange to the majority, contentious and socially divisive.

43. For example, the operating deficit of PPUC has been reduced, and new engines installed with a grant from ROC. However, in 2007 as in 1993, facing very high oil prices, there is inadequate revenue to maintain and upgrade the system, and still unclear regulations and obligations.

44. Telecommunications have been expanded, and service and productivity greatly improved with a US\$39m loan. Plans for the loan could not have anticipated the growth in demand for mobiles and internet. Servicing the loan is a big constraint on PNCC profitability.

45. Concerning port services, no changes have been accomplished. Crowding and conflicting uses persist. A large resort hotel has been built adjacent to Malakal port. There have been proposals for a FTZ port in Ngardmau, and for port development in Aimeliik. The current Malakal port operator is considering a landfill extension to improve container operations.

46. Major buildings have been completed, under CIP; but land, maintenance, a building code and master planning for zoning remain to be resolved. Sufficient demand is emerging to support a competitive industry in management, security, maintenance and replacement; but this will probably result in more employment for foreign workers.

47. Roads have been much expanded. With low cost vehicle imports, low fuel taxes and new access to ancestral lands in Babeldaob, there has been a large increase in the total travel 'consumed'. However, planning, managing and financing road maintenance have not yet improved.

IX. Lessons learned related to Infrastructure

48. The generosity and strategic interests of USA, ROC, Japan and other donors have enabled Palauans to postpone or 'dilute' many of the hard decisions about greater self-reliance and a more sustainable and equitable socio-economy. More recent interests from mainland China and Korea may extend the period of dependency and the complexity of international relations.

49. There will probably be pressure from donors for future assistance to be made conditional on some of those hard decisions, such as increased revenue from imports, taxation and offshore fishing, reduced losses in utilities, a legislated long-term tourism plan, reform in foreign investment, immigration and labor laws and enforcement, improved judicial performance in relation to commerce and land titling, and legislated maintenance commitments which are less dependent on annual budget approvals.

50. Consistent planning is constrained by the many sources and locations of power in Palau (social, cultural, economic, moral, political), which require that any proposal (public, family, business, government) must be widely challenged and patiently negotiated. Alliances change from issue to issue, such that consensus and consistency are very difficult to achieve and to retain. Mobilization of labor and resources is constrained, decision-making is burdensome, and implementation problematic.

51. The evolution of the ROP state over the last thirty years indicates that any acceleration in changes will require the emergence and coincidence of at least:

- i. Some external pressure on funding sources and conditions, plus
- ii. A severe economic or natural shock or threat, plus improved education and information for consensus building, plus a stable alliance of strong leaders in politics, business, civil society and local communities.

52. There is low probability of these factors coinciding – for example, an event in ii) might change any pressure in i); and some events in i) or ii) could add to division rather than alliance in iv). The general lesson, in late 2007, is towards pessimism with regard to improved financing, planning, management and maintenance of infrastructure and services. However, there is a possibility that responses to CRC Report, tax reform and COFA negotiations could alter that opinion.

53. The evidence from employment, immigration, investment and taxation shows that deficiencies in laws and enforcement, and low productivity and quality of works and services, together compose a major threat to Palauans' control of and the benefits from a balanced socio-economic system. Commercialization in infrastructure and services could reduce the Palauans' share of control and benefits.

54. It is not likely to be possible to continue the relatively extravagant modes of management and operations which have characterized US, Japanese and ROC managers and contractors in major projects over the past twenty years. GOP must try to retain and enhance the resulting capability in contract management and monitoring, as future projects will be smaller and more dispersed, and States might require support in investment and maintenance.

55. According to senior staff, there is inadequate capacity and resources in many agencies to do their mandated work. For public asset maintenance, planning, budgeting and management are lacking and there is no estimate of the annual requirements in most sectors. Perhaps the variety and complexity of work demands in the modernizing society have grown faster than the local

capability and funds in centralized agencies – hence the need to assess other, more dispersed modalities for providing services.

56. Finding a balance between demands and capacity requires at least a large increase in productivity, increases in efficiency of all services, reduced consumption and expectations, and higher user charges. Improved systems and a more certain business environment might induce some Palauans to return and contribute to capacity, productivity, efficiency and leadership – but the indications are that opportunities and rewards are rising faster offshore than in ROP. Informants report a growing 'readiness to pay' in the community. Many recognize that there is scope to reduce consumption, through higher charges and more education and more inspections of consumers. Many customers of PPUC and PNCC have taken up Prepaid Metering, so as to manage household consumption. There is some progress in recycling, scrap recovery and sales.

57. There is also a growing recognition of the need to apply regulations to buildings and land, including some forms of zoning, and to share some costs in education and restraint on uses of natural resources. In each case, the risks and relative costs to the "First Mover" are formidable – hence the urgent need for strong leadership, well-founded reasons and consensus building to realize the changes while external support and conditions, and demands of tourists, are still favourable for most Palauans.

X. Apparent Gaps and Needs in Infrastructure

A. Maintenance

58. The financing and management of maintenance remain critical issues. Car ownership is near saturation, but more travel per vehicle may be expected. It seems equitable and efficient to raise charges on fuel, with that revenue tied to management, maintenance and enforcement of roads and bridges. In other sectors, it is necessary to increase tariffs to recover costs of assets and maintenance, with attention to equitable pricing.

59. A large burden of maintenance and replacement is forming, with 'maturity' in about 2012 - gymnasium, PCC, PHS, Ministry of Education, new Capitol, private hotels, some private houses and commercial buildings and facilities.

60. It is now possible to outsource more services and works in all sectors. Construction projects in 1996-2007 have generated more skills and capability in contract management and technical works. There seems to be adequate capacity for competitive management and maintenance.

61. GOP must accurately assess depreciation, maintenance, equipment and staff skill needs so as to set charges to cover actual costs.

B. Productivity

62. It seems likely that commercialization of many services is feasible and would enhance overall productivity. A correlated program is required to raise productivity and quality in those services which would be retained by GOP. GOP staff could be shifted to maintenance planning, management, supervision and quality assurance. This move would openly recognize the comparative advantage of (mostly) Filipino employees in cost, skills and productivity: but it would have to be accompanied by reform and enforcement in immigration policy.

63. The building of a consensus for large changes in productivity would require the leaders and educators to inform and involve parents and children on the relationships between education, training, working, consuming, standards of living and infrastructure, and social and economic

change. There is now enough well-understood evidence in infrastructure, services, administration, enterprises, domestic help and resource management to show where, as stated by several informants, “Palauans are losing Palau”. Public shocks in 2007 include the naming of ‘fronts’ during the Symposium, the closure of PMIC (tuna), the withdrawal of Asian Spirit Airlines and the delay in approving a national budget – each is adding to the awareness of the need for significant change.

C. Investment, Enterprise and Responsibility

64. Some informants reported that leaders, investors, landowners and employers are more openly challenging the enterprises and households that are undermining the laws on foreign investment, ownership, employment, taxation and business contracts – and thus corrupting the practice and image of the business environment and depriving other Palauans of opportunities, infrastructure and services which would otherwise be affordable and sustainable from national or international providers. The collapse and financial losses of the Pacific Savings Bank in 2006 created a new level of awareness in business; the withdrawal, after 8 years of negotiating, of the golf course proponent propagates a message about fidelity in agreements and land dealings. Such events, and the interpretations of them, have an impact on the prospects for reform, commercialization and pricing in infrastructure and services.

65. The crucial field of cooperation is in the tourism sector:

- i. Reaching a consensus on strategy, ways and means;
- ii. In quality and standards with existing volumes; and
- iii. How to promote, enable and retain a slowly increasing stream of high-yield visitors (in step with the infrastructure and services which palau can reliably provide, pay for and maintain).

66. Most of the agenda for sustainable tourism which was detailed in reports of 1997, 2000 and 2002 is still valid and urgent.

D. Specific Needs in infrastructure, first assessment

67. Most of these details are contained in Annex 1: Matrix of Issues and Options in Infrastructure. It is premature to suggest any priorities, until other sectors have progressed further in their specific studies. However, from reports and consultations, there are compelling needs, and a positive/strong consensus, on:

- iv. Electricity generation reliability
- v. Increases in electricity tariff structure
- vi. Road maintenance planning and funding
- vii. Buildings management and maintenance, especially the new Capitol
- viii. Water and sewerage – tariffs, leaks, consumption, quality, reliability
- ix. Solid waste landfill sites and their management
- x. Regulations to be determined in all sectors, with priority for telecommunications

- xi. Labour and immigration policy so as to clarify the market supply factors
- xii. Land titling on sites of both public buildings and services and of major investment opportunities.

XI. Strategies

68. Strategies for infrastructure cannot be formulated separately from many other sectors and interests. From the foregoing stocktake and assessment, it seems that feasible and acceptable strategies must include:

A. Protection - Protect what we have

69. This includes environment, diving and water sports; affinities with the people of Japan and Taiwan, and of Marianas and Hawaii; social peace, literacy, good water, low cost foreign workers (each of these require improved regulations and enforcement), the positive aspects of access to US education, retaining and updating Palauan skills built up in construction, PPUC, ports, environmental research, education and monitoring.

B. Information - Develop credible information about improved policies and practices

70. There is a need to develop a better information base in terms of performance of government policies and activities and the effects of proposed changes. There is a need for a common understanding of affordability, willingness to pay, customer preferences, responsiveness of consumption of to price increases, demands of "Custom", liabilities in the formal and informal credit markets; and among tourists of various sources and market segments.

C. Consensus - Educate and lead in the challenges to consensus

71. There is a need to communicate the desirability of changes in government policies and programs so as to gain wider support for much needed improvements, and to improve the quality and processes of public discussion, negotiation and consensus building.

D. Productivity - Improve productivity and efficiency, in relation to competing tourist destinations

72. A 20 year strategy for "productivity and harmony" is required to arrange and focus the factors of "PETE" towards the basic conditions of aptitude and attitude for competitive employment and enterprise. (PETE = the learning through Parenting, Education, Training, Employment)

E. Business - Clarify rules and enforcement for a more efficient, equitable and attractive business environment

73. The trends in standards and sustainability of infrastructure and services depend on the level of external grant funding, the number of visitors and the nature of their visits; and on the amount and kinds of foreign investment. Tourism, investment and foreign support are partly related to the image and the business environment of Palau - hence the need for GOP to reform laws and enforcement in taxation, ownership, foreign investment, employment, business regulation, building codes and zoning of land uses.

XII. Criteria for Prioritising Improvements in Infrastructure

74. Criteria for prioritising the agenda of around 100 proposed projects (see PSIP 2003-7) and 40-50 policy and institutional changes affecting infrastructure provision and use will emerge from the five strategies suggested above (Protection, Information, Consensus, Productivity, Business), and from other strategies provided by GOP and other specialists.

75. The second and third visits of the Infrastructure Specialist as part of the project will include consultations to build a consensus about the definition and priority of the criteria, with:

- A 'mapping' of persons, groups or categories who are most responsible to act, or most affected by such changes; and
- A rating of feasibility of achieving a desired change, including costs in finance, resources and personnel, and the administrative and legislating efforts required.

Annex 1: Matrix of Issues and Options in Infrastructure

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
	GOP strategy affecting Infrastructure	Contain the costs of governmental operations while simultaneously creating expanded opportunities for private sector growth; shifting economic activity from the public sector to the private sector, including the increased use of user fees, outsourcing and corporatization of governmental services.							
1	Objective – Provide and maintain infrastructure on an efficient, sustainable and equitable basis, to improve access and support expansion of economic activity						The Objective as in NMDP is still valid and necessary. The emphasis in strategy and action plans should be on efficiency and sustainability (including fair user charges) - without those, there will be no gains in equity, access or support to economy.		
2	Overall activities	There is much good progress in construction of the basics of the new Palau, mostly through CIP and the Compact Road, major road connectors, an upgraded Airport, new Capitol and public buildings, improved water, sewerage, solid waste systems and telecomms. In private sector, there has been development in trading, hotels, tourism activities, personal services, construction and technical services - much of that providing jobs for low-paid foreigners and opportunities for foreign investors and managers facilitated by 'front operators'.			How to raise Palauan productivity while enabling the flow of foreign investment and skills needed to support the living standards expected by Palauans?	Many important changes are yet to be achieved in the strategies, policies, laws, regulations, organizations, and staff capacity which are necessary to raise productivity, diversity, efficiency and profitability and so to support a sustainable and equitable socio-economy.		Low productivity and quality are a major threat to Palauans' maintaining control and the benefits from a balanced socio-economic system in this fragile resource base	
3	NMDP	NMDP identified \$400 million of infrastructure as 'required' by Ministries and States	NMDP strongly recommended a system of screening, appraisal and prioritising of projects so as to improve the annual, 'political' budgeting process	Most of the objectives, strategies, programs and projects are still relevant and in progress [mostly through CIP]		Action Plans and agenda are 'too full' - reflecting the urgency for Palau to move ahead on many issues and in many fields. THERE IS A NEED TO SET CRITERIA FOR NATIONAL DEVELOPMENT SO AS TO FOCUS ON THE MORE CRITICAL ACTIONS in both public and private sectors and civil society.		There is inadequate capacity in many agencies to do their mandated work	
4	PSIP	NMDP recommended that GOP should 'improve evaluation, prioritisation and monitoring.' In 2001-2, the long lists of projects were screened into the PSIP, with categories (tiers) A, B, C, and Ongoing. ABC contained 66 Projects for \$354m, to be funded as funds become available; and Ongoing contained 10 Projects at \$189m.(including Compact Road, whose estimate had grown from \$49m in 1994, to \$122m in 2001, and to \$149m in 2007)					GOP and UNDP are gradually improving the procedures and the personnel skills for more objective and transparent appraisal and prioritising.		There is still a need for appraisal of investments and maintenance
5	CIP	CIP implements the projects, mostly by contract administration - with an annual load of about 50 contracts and \$ 18 - 30 million of works and services					GOP must retain and enhance the contract management and monitoring capability, as future projects will be smaller and more dispersed, and States might require support in investment and maintenance		

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	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
6	Maintenance in general	Severe under-funding in all sectors	All users are subsidised - can this expectation be changed?	Tariff increase rejected by OEK, "protecting consumers".		Tariffs are lower than other Pacific countries, where per capita income is lower than Palau	Increase tariffs?	Increase tariffs to recover costs of assets and maintenance, with attention to equitable pricing: Outsource more services and works A concerted program to raise productivity and quality in services retained by GOP	Shift GOP staff to maintenance planning, management, supervision and value - for - money
7	Water supply	NMDP recommended to develop a reliable, safe cost effective system, and to recover sufficient revenues to influence demand and meet system requirements in maintenance and depreciation.					Raising the tariffs, restricting wasteful use and repairing leaks are critical and doable priorities		
		WS volume and quality are good.	Continuing subsidy and waste? or increasing consumer responsibility?	The water treatment plant has been upgraded recently. Progress on piped water in ten states?	Water quality and effluent quality is poorly monitored		Transfer WS and S to PPUC?	Legislate a corporatized utility for WS and S	A corporation would need to raise productivity, perhaps reduce employees
		No CSO defined.	Is there a need to define CSO?					Design and implement a CSO policy	
		The sector is not regulated.	Is there a need to regulate the sector?					Introduce water sector economic regulation	
		Metered rates are very low	All users are subsidised - can this expectation be changed?	Tariff increase rejected by OEK, "protecting consumers".		Tariffs are lower than other Pacific countries	Increase tariffs?	Increase tariffs to recover full costs, based on user data and a Study of equitable pricing	
		Low cost recovery - deficit is around \$1 m	Can there be a concerted effort to change the low cost recovery?			Paying for services? or depending on subsidies	Decide on cost recovery or subsidy	Public monitoring of results	
		Many faulty meters	Why are these tolerated?	Very slow progress in repairs			Repair / Replace meters	Public monitoring of results	Low staff productivity
		Illegal connections	Why are these tolerated?	Very slow progress in checking			Make scheme with users to Install meters	Public monitoring of results	
		Incomplete revenue collections	What factors can be changed in work and				Collect 100% from users	Public monitoring of results	Constraints of staff

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
			supervision?				based on meters		productivity
		Some consumers (...%) are unmetered and on flat monthly rates	Why are these tolerated?	Very slow progress on installing meters			Make scheme with users to Install meters	Public monitoring of results	
		Low charges, and flat rates can lead to wastage	How to reduce wasteful consumption?				Study user data and target education to 'wasters'	Public monitoring of results	
		Funding for maintenance is well below needs	How to pay for major maintenance works or corrections to metering	Continued assistance is needed to improve system.			Assistance to be made conditional on increased revenue, and reduced losses		
		Water losses (about 50% UFW); leaks may be 20%.	What % is leaked? what % 'stolen', what % unpaid?				Investigate leaks and prioritise repairs	Public monitoring of results	Constraints of staff productivity
8	Waste management	NMDP objectives were to provide adequate facilities, improve management and operations, increase community responsibility including user fees, and increase the commercialisation of SWM				There is no fee. There is much effort in education and monitoring; but no pressure to reduce waste	Conclusion on rights of access and use of Aimeliik site must be concluded soon	User charges, and a new site, must be resolved as soon as possible. A tourism related fee could be allocated from the 'head tax' on visitors, taking in the average length of stay	Several contractors are competent to operate the system
		No user charges; deposits on containers appears to be working well	Informants report a growing 'readiness to pay'.	A highly respected and well socialised SW Management Strategy is close to completion. Some pilot projects are continuing in States		How to make simple and equitable charges and collection?	Legislate for specific charges to pay for present services and improved collections and the shift to the new dump site		Most work can be outsourced; so PWD can shift to supervision, price - quality monitoring and community relations
		Many businesses deliver their waste to dump; 60% of total waste dumped is from enterprises	Can collection systems be improved to take up this demand, at a fair price			A single charge on imports might be the most efficient way to fund the SW services?			Minimise the staff's work in moving waste, to focus more on system management,

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
									pricing and revenue
		Major issue is the preparation of a new landfill at Aimeliik	3-4 years capacity at Ngerbedched	Good progress in rehabilitation of Ngerbedched	Delay in concluding Aimeliik project might impact on disposal from Koror	Does PWD have capacity to provide technical support to States' landfill sites			Need to invest in skills of managing landfill sites - perhaps GOP share costs with SW contractors?
		Enforcement of regulations is inadequate to maintain a healthy and pleasant environment		Some progress in recycling and scrap recovery and sales	Special attention for vehicles and machines and dangerous elements				Education and peer pressures are the most effective 'enforcement'
		Most waste is generated by imports - mostly of packaging and containers				A single charge on imports might be the most efficient way to fund the SW services?	Research the required funds, the funding sources, and mechanisms for collection		A single charge would reduce staff required for collection and accounting
		High activity in construction has also generated much waste in recent years			There is a need to link SWM into a Building Code				
9	Sewerage and Waste Water	NMDP objectives were to upgrade and extend the systems, and to improve management and pricing so as to ensure maintenance and efficiency				There have ben major improvements, especially under the Upgrading Program 2005-8			
		No user charges; and 'implied fee' is included in water tariffs [which are too low]	Rural facilities are being gradually upgraded, with inspection by State agencies	New system built for Melekeok and new Capitol; Koror collector system improved in three phases 2005-8	Sewerage leaks at pipes and lift stations cause frequent pollution.				
		Some connections have been delayed pending the upgrading of the whole system	Three stages of Improvement continues 2005-8	Need to have independent monitoring [EQPB} of outfall and any leaks; with results published weekly					
10	Drainage	A few kms of side drains in Koror; most	Need for Building Code; with links to		Run off adds silt, rubbish			Do detailed localised planning after	

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
		run off is directly to the mangroves and bays; very limited sieves/grates to arrest rubbish, and no oil traps	localised improvements to channels to reduce erosion and rubbish		and harmful substances to bays and reefs			handover of Compact Road, and completion of Airport - Ngerikiil and Airport- Malakal roads	
11	Roads	NMDP objectives were to complete the Compact Road design and implementation; set up capacity for building and maintaining assets; improve other main and access roads; and improve the resources and capability of BPW				There has been good progress in physical works, mostly through CIP, US Army, and contractors under grants from Japan and ROC.	The financing and management of maintenance remain the critical issues. Car ownership is near saturation, and more travel per vehicle may be expected. It seems equitable and efficient to raise charges on fuel, tied to management, maintenance and enforcement in roads and bridges.		Construction 1996-2007 has generated more skills and capability in contract management and technical works. There seems to be adequate capacity for competitive management and maintenance
		All users are heavily subsidised; fuel taxes are low		Major works 2006-8: Compact Road, Airport - Ngerikiil, Airport- Koror - Malakal roads, Babledaob inter-state roads, upgrading of Koror roads			BPW to manage maintenance plans and report actual expenditures to Finance	GOP and users will accept an increasing share of maintenance cost? Target a % share phased in over six years?	
		Under-funded for maintenance; system relies on donor grants of USA, ROC, Japan		Compact Road maintenance will be \$1.5-2.5 m annually		Most maintenance is outsourced, so BPW does not have a large pool of heavy plant.	Estimate maintenance regimes and annual costs	Implement road asset management system (RAMS)	
		Car ownership is near saturation; average annual travel per car might increase with access on Babledaob	Planning and management are lacking; there is no estimate of the annual requirement				Adopt a manual for road maintenance planning, management, technical specifications, contracting and supervision		

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
		Pollutants are not monitored	Is there a need to control emissions especially of the older vehicles?		Disposal of cars and machines - try a deposit cheme for safe disposal?	Pollution and waste disposal should be assessed, to enable prioritisation of GOP and community actions			
12	Ports	NMDP recommended a study for a Master Plan for Ports and Shipping; a shift from Malakal to Gamliangle Bay; acquisition of Malakal port area as National Estate; and construction of the new port between 1998-2001, for \$20m. Also, to shift the fish-port from Malakal to T-Dock, upgrade for about \$10m, starting in 1996. NMDP also recommended the strengthening of the Port Manger's Unit of the Division of Transport and Communication			Nothing has been accomplished. A large resort hotel has been built adjacent to Malakal port. There have been proposals for a FTZ port in Ngardmau; and for port development in Aimeliik			There is still a need for a national strategy plan for ports	
		Port is a monopoly owned by Koror State; operated by PTCP	No formal mechanism for Public Interest	Peleliu dock and channel dredged \$4m. There is a commitment to upgadre Okotol port in Ngachelong in 2007, for \$1m.				Ministry of Commerce and Trade to develop a national ports strategy including regulations for interests of the public, environment and national security	Capacity building for staff at port is done by PTCP
		Capacity is limited; needs more space for containers		Proposals for second port at Aimeliik and thrid port at Ngatpang must be formul,ated into a national strategy to invest gradually and to migrate services from Malakal	Increasing space, equipment, operations conflict with environment and tourism objectives	Strategy to help determine expansion at Malakal or no?	Needs monitoring of service rates in relation to other countries		
13	Airports	NMDP recommended to upgrade the Airport and terminal, resolve land ownership, legislate to substitute for US regulation; improve the Division of Transport; and promote competition among carriers							
		Standard and capacity are adequate for the demands of tourism and business.	Standards and facilities have been significantly improved in last 12 years	Major project 2006-8 of resurfacing and upgrading \$11m		GOP must accurately assess maintenance, equipment and staff skill needs so as to set charges to cover actual costs			
		There is scope in scheduling of aircraft to organise demand on services							

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
14	Electricity	NMDP objectives were to provide power to all communities, upgrade all plants and grids, and improve the management and efficiency of PPUC. Tariffs were 9 cents/Kwh, and production was estimated at 22 cents by PPUC, and 27-30 cents by NMDP. The subsidy was estimated to be about \$8m (= about 20% of national budget).					There have been improvements to PPUC management and productivity. Extensions have been made, and some plants upgraded. Tariffs (base plus fuel cost) were raised to 22 cents in 1997. Since 1996, the operating deficit has been reduced, and new engines installed. In 2007, facing very high oil prices, there is inadequate revenue to maintain and upgrade the system, and still unclear regulations and obligations. THERE IS AN IMMEDIATE NEED FOR SETTING A NEW BASE PRICE PLUS AN ADJUSTED RATE OF INCREASE FOR FUEL COSTS. This might be the recommendation from a detailed study of costs, rates and relative pricing, funded by Office of Interior, and due in November 2007.		
		PPUC operates systems which are mostly old and costly to operate and maintain.	Failure of generators in 2006 confirms the need for replacements		Private enterprises may install their own services, and not share in the costs of generators and grid		There is a need for more detailed data and knowledge about consumer habits and preferences		
		Tariffs are low and all consumers are subsidised	There is no regulation of prices	Extensions of services continues, but with unclear marginal costs and revenues	Perennial political wrangling over tariffs				
		Consumption per capita is high relative to Pacific countries	There is scope for reduced consumption, through higher charges, and more education and more inspections of consumers	Many customers have taken up Prepaid Metering, so as to manage household consumption	Consider a proposal to legislate to phase out electric hot water systems, and support conversion to solar and gas				
		There is no regulation of enterprises or technical standards							Regulation might also set standards for productivity and quality
15	Fuel	Two suppliers with independent systems	Are there feasible alternatives for energy?			Can OTEC research prove a reasonable option?	Research biofuels' applications to Babeldaob		
		Unloading by hose at Aimelliik, with risks of spills					Monitor the incidence of spills, review equipment and procedures		

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16	Telecomms	NMDP objectives were to provide high quality services throughout all islands, at competitive prices, and in a cost-effective manner which provides a return to GOP			Expansion, service and productivity were greatly improved with a \$39m loan. Plans for the loan could not anticipate the growth in demand for mobiles and internet. Servicing the loan is a big constraint on PNCC profitability		It is necessary to quickly reform the laws and regulations. New competitors can erode the revenue needed to service the loan and maintain customer services		HRD needs expensive upgrading each few years
		Market is close to saturated (22,000 users); debt service is a major constraint	PNCC and GOV do not agree on how the Universal Service community service obligation (CSO) should be interpreted	PIF study on regulatory requirements, report due Nov 07	Universal Service is a major burden - 12% of remote users make up 53% of costs				
		PNCC and private PTC compete in the mobile and internet markets.	Competition reduced the rates for mobiles						
		PNCC does not return any tax or dividends to GOP	No effective regulation of the sector		Open competition reduces PNCC ability to service the debt		Legislate to manage the present competition, pending major regulations and possible sale of shares	independent telecom price regulation.	Ministry of Commerce and Trade lack staff and funds for sector planning and management
		Internet bandwidth is by satellite is limited	Prospects of connecting to an international fibre optic cable?		Inadequate demand to pay for cable capacity			Explore affordable options for connection to undersea cable with Philippines and Guam	
17	Public Buildings	NMDP objectives emphasised adequate maintenance, settling of land issues, investment in certain vital facilities, and a uniform building code			Major buildings have been completed, under CIP; but land, maintenance and code remain to be resolved. There is emerging enough demand to support a competitive industry in maintenance and replacement; but this will add to foreign employment		A large burden of maintenance and replacement is forming, with 'maturity' about 2012 - gymnasium, PCC, PHS, Ministry of Education, new Capitol, private hotels, some private houses and commercial buildings and facilities		There is adequate capability in M works; but perhaps not in M management
		Inheritance of old buildings is being reduced; new liabilities in maintenance from many new modern buildings	Responsibility is dispersed among ministries and departments and bureaus	New Capitol completed 2006 plus major MIS. Expected annual maintenance \$1.5- 2m	Risk of underfunding for proper maintenance may reduce life of buildings		Improve the asset register and improve monitoring of condition, repairs etc		

Facility for Economic and Infrastructure Management Project

	Objective, strategy or activity	Situation	Main concerns, questions, issues	Existing proposed actions, programs, policies, timing	Risks, and who? What?	Implementation issues and interests	OPTIONS Now, 1 year	OPTIONS, 5 year	Capacity, staff and agencies
					and equipment				
	Building codes and zoning	There is no general Code. Donor-funded building is subject to donors' standards	How to build a pleasant, low impact, safe, equitable and maintainable environment?						
18	Organizations	NMDP: to improve the performance of GOP corporatized and service entities by creating a more commercial and competitive environment, formalising relations with Government and the Community Service Obligations, clarifying objectives and standards, improving price structures and adjustment mechanisms, strengthening performance measurement and monitoring of quality, and establishing a price regulation function			While Palauan productivity remains low, privatising will result in less employment and lower wages for Palauans, as investors employ foreign managers, technicians and workers.		A 20 year strategy for "productivity and harmony" is required to arrange and focus the factors of "PETE" towards the basic conditions of aptitude and attitude for competitive employment and enterprise. (PETE = the learning through Parenting, Education, Training, Employment)		
19	Institutional arrangements	Although this was a high priority in NMDP, the GOP has yet to arrange for an infrastructure planning framework to: feasibility and appraisal capability to guide priorities; EIA capability to incorporate environmental issues including risks and impacts; human resource capacity building to maximize the useful life and distribution of benefits of a project; arranging opportunities for private sector partnership to take advantage of alternative financing resources; and to limit debt financing to projects that have a strong capacity to generate revenue.					With UNDP commitment, implement the steps and capability for more objective / less political decisions on use of funds for investment, maintenance and HRD		The Project of PMSCBP is supporting strategic planning and management
		The Project of Performance Management and Strategic Planning Capacity Building is setting up an Integrated Planning Process, to enable appraisal of investments							
20	Finance	GOP continues the NMDP strategy of shifting economic activity from the public to the private sector so as to increase the productivity of public expenditures and the efficiency of resource use in general			There have been some shifts which might be related to the high level of spending on major infrastructure 1996-2007 and construction of hotels and houses, especially 2000-07. The increasing use of 'front enterprises' and foreign managers and workers, with associated tax evasion, mean that GOP and Palauns generally have not benefited as much as expected from this unique period of national development		The trend depends very much on the level of external grant funding, on the number of visitors and the nature of their visits; and on the amount and kinds of foreign investment. Tourism and investment are partly related to the image and the business environment of Palau - hence the need for GOP to reform laws and enforcement in taxation, ownership, foreign investment, employment and business regulation.		
		The strategy of 'shifting' underestimated the amount of work, time, education, consultation and negotiation to determine, design, legislate, finance and implement regulations and the related changes in institutions and personnel			The many sources and locations of power (social, cultural, economic, moral, political) requires that any proposal (public, family, business, government) must be widely challenged and patiently negotiated. Alliances change from issue to issue, such that consensus and consistency are very difficult to				

Facility for Economic and Infrastructure Management Project

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					achieve and to retain. Mobilisation of labour and resources is constrained, decision making is burdensome, and implementation problematic. Any acceleration of changes will require at least some severe external pressure, improved education and a stable alliance of strong leaders.				
		There is continuing preference for subsidies, and postponement of the hard decisions on the tariffs and user charges, and on equitable charging of costs			GDP per capita is relatively high, and user charges are low; so there appears to be a capacity to pay. However, cost of living is high because of import costs and a high material standard of living, and productivity of labour and capital is low. A significant amount of consumption is for "Custom"; and almost all Palauans are paying off commercial and personal debts.	Special attention must be given to determine and negotiate ways to soon increase user charges for electricity, water, sewerage, solid waste and road maintenance.	GOP and agencies must learn more about consumers, from better monitoring, metering, surveys and research imported from similar countries. The information should be socialised so as to improve the quality of public discussion, negotiation and consensus - building		
21	Environmental issues, general	Several agencies and NGOs are responsible for environmental protection, education, monitoring, improvement and enforcement	Monitoring and enforcement are still not adequate			A Building Code will improve environmental management, monitoring and protection			
		EQPB laboratory capacity is inadequate for its mandate	It is not certain that agencies are fully using the EQPB laboratory reports						
22	Donor issues	NMDP and PSIP aimed for and expected a reducing dependency on foreign grants. The generosity and strategic interests of donors - especially USA, ROC and Japan - enables ROP to postpone the important decisions, legislation, regulations and institutional changes which are necessary to serve the national objectives					Donors might require more conditions of performance, for future support. This would require more consistent performance and quality monitoring by GOP staff and independent assessors. It might involve an increasing dependence on foreign managers, technicians and workers (unless Palauan productivity can be improved quickly)	Increased productivity of agencies and personnel is necessary to reduce dependency, and maximise the benefits of current support	

Annex 2: References and Main Reports Consulted

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ADB 2006-7 TA 6245-REG Economic Update and Pro-poor Policy Formulation under the Strengthening Pro-Poor Policy in the Pacific

ADB 2007 National Strategy and Country Report

ADB 2007 PPTA Preparing the Babeldaob Water Supply Project

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ROP 1996. Palau 2020 National Master Development Plan, The Foundation for Development, Final Report, April 1996.

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ROP 2001 Summary of Executive Branch Reorganization. Office of the President.

ROP 2003 Public Sector Investment Program (PSIP) 2003-2007.

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ROP Annual Review of the Compact Implementation

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Annex 3: People Consulted

The following people were consulted during the first deployment of the Infrastructure Specialist. The consultant appreciates the time and contributions towards a common understanding kindly provided by:

Minister Fritz Koshiha

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