

## SECTOR LEVEL RISK ASSESSMENT AND RISK MANAGEMENT PLAN<sup>1</sup>

### EXECUTIVE SUMMARY

1. The Asian Development Bank (ADB) is in the process of developing the Country Partnership Strategy (CPS) for Papua New Guinea (PNG) in consultation with the Government of PNG (the Government) and other stakeholders. The CPS is informed by a number of pre-CPS diagnostic studies for sectors where ADB is active. This document assesses the public financial management (PFM), procurement, and corruption risks in both the transport and energy sectors and prepares the necessary risk mitigation plan in line with ADB's Guidelines for Implementing the Governance and Anticorruption Action Plan II (Guidelines for Implementing GACAP II), and constitutes part of a series of background assessments and diagnostics commissioned by the ADB. The findings, risk assessments and risk mitigation plans of this study, pertaining to the transport and energy sectors of PNG, are primarily based on: (i) literature review, web research and updating; and (ii) primary research mainly comprising interviews and consultations with officials in government agencies, donors, state owned enterprises and related projects.

2. PNG faces significant development challenges. Although the country is endowed with vast natural resources, its inhabitants have not enjoyed sustained increases in their incomes as around 40% of PNG's population lives in poverty, that is, on less than US\$1 a day. Since independence in 1975, large-scale developments in the mining and petroleum sector caused the country's economic growth to be characterized by periods of boom and bust with the country's economic situation deteriorating markedly at the end of the mining boom in the 1990s. Years of poor governance, political instability, poor fiscal management and inadequate physical infrastructure and utilities all contributed to the economic and social decline. Falling real gross domestic product (GDP) combined with high population growth had led to a rapid decline in PNG's per capita income. The current consensus among donors is that PNG is unlikely to achieve any of the Millennium Development Goals by 2015.

3. In recent years, however, PNG has experienced improved economic management and budgetary performance, and lower interest rates. PNG now faces challenges in maintaining these improvements, including: ensuring government expenditure is affordable and targeted towards priority development needs; creating the right regulatory environment for sustained economic growth and private sector activity; and ensuring adequate funding to sub-national levels of government for basic service delivery—most especially in the transport and energy sectors. The growth in demand for transport and energy, and its implications, have not been understood well and adequately addressed by policy makers and planners to date. Owing to insufficient financial resources, lack of qualified human resources and low institutional capacity, government agencies have been unable to keep pace with growing demand for services with commensurate infrastructural facilities and administered by good governance.

4. Governance issues have been a major factor undermining the effectiveness of government spending. These are characterized by, amongst others, excessive involvement of political parties during selection and implementation of projects; and increasing level of fraud, mismanagement and corruption. In general, mobilization of financial resources by the requisite agencies is hampered by both lack of a sound financial management system and innovative approaches to develop institutional capacity to manage their financial affairs. Government

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<sup>1</sup> This report was prepared by K. Kepore, funded under TA6499-REG: Strengthening Governance and Accountability in Pacific Island Countries (Phase 2).

revenue is usually overestimated to match budgets for capital and current expenditure and the tendency for an annual increment in revenue targets by a certain percentage without a systematic assessment of the portfolio is prevalent. However, in reality, revenue generally falls short of planned targets, thus adversely affecting expenditure outruns. Systems on how to complement development plans with financial plans, assess potential resources, assess and collect tax, and carry out accounting and auditing exercises are weak and need major improvement. Transparency in financial management also varies among government agencies. A multi-year perspective in fiscal planning, expenditure and budgeting<sup>2</sup> are not normally practiced by government agencies. Internal audit units are also not in place in most of the agencies, and a backlog of audits is quite common.

5. All procurement constraints generally in evidence at the national level are also exhibited in the transport and energy sectors. Within these sectors, government agencies are required to follow the *Public Finances (Management) Act 1995* (PFM Act) but do not have proper procurement plans and are not guided by specific procurement manuals. Also, awareness of the basic elements of the PFM Act and the improvements made in procurements procedures is low in the agencies. There is relatively limited degree of integration of procurement plans in the overall financial management system. Furthermore, a lack of transparency and access to information that surrounds many agencies functions and undermines nearly all aspects of accountability. This has hindered citizens' participation in policy discussions and oversight of agency functions in procurement.

6. Corruption is widely acknowledged as a serious issue in PNG, yet the lack of concerted actions against corruption is damaging the country's image.<sup>3</sup> In the public sector particularly, corruption is endemic. Transparency International (2003)<sup>4</sup> found that, with the exception of the judiciary and Ombudsman Commission, government institutions are "perhaps tolerant and passive towards corruption". As in many other resource-rich and capacity-poor economies, policy and institutional weaknesses have facilitated rent-seeking behavior by public officials, led to pervasive corruption in public administration, and weakened confidence in the Government. Critical areas of concern continue to include budget management, and public procurement. As with most of PNG's governance challenges, the legal, structural and policy frameworks in place to prevent and address corruption are adequate. The weakness lies in implementation—including lack of political will and the limited capacity (financial and human) of relevant agencies to fight corruption. A series of inquiries in recent years into misappropriations and other abuses publicly exposed instances of corruption. However, even with rigorous inquiries, almost no subsequent prosecutions were pursued, despite the large misappropriation or other abuses recorded, although some of the inquiries did at least result in valuable institutional reforms being made. Broad reforms that improve governance will contribute significantly both to reducing corruption and reducing tolerance of corruption in PNG. Key issues include depoliticizing public administration; strengthening the quality of leadership, financial management, and transparency; enforcing existing policies, legislation, regulations and other systems; and encouraging greater openness and participation in the operations of government. More specifically, continued support is needed for accountability institutions and to ensure the rule of law is enforced and therefore reliable.

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<sup>2</sup> Preparation of multi-year fiscal forecast and functional allocations; scope and frequency and debt sustainability analysis; existence of sector strategies with multi-year costing of recurrent and investment expenditure; linkages between investment budget and forward estimates.

<sup>3</sup> In the 2004 Transparency International Corruption Perceptions Index, PNG ranks 102 out of 145 countries, where 1 is least corrupt and 145 is most corrupt.

<sup>4</sup> *National Integrity Systems: Transparency International Country Study Report Papua New Guinea*, Report prepared by PNG Institute of National Affairs for Transparency International. 2003.

7. By and large, PNG's policy and legislative frameworks are strong, but the Government continues to struggle with compliance and implementation. Although there are local champions for intensive reform aimed at improving governance and corruption, a critical mass of support has yet to be built. The transport and energy sectors in PNG face numerous risks associated with PFM, procurement and corruption. Many of them are major risks that need to be mitigated and/or managed for the success of ADB's grants, loans and technical assistance for development interventions in these sectors.

## I. INTRODUCTION

### A. Introduction

8. The CPS is informed by a number of pre-CPS diagnostic studies, including an assessment of governance,<sup>5</sup> institutional and corruption risks for sectors where ADB is active. This document, which assesses risks related to the transport and energy sectors and formulates a mitigation management plan in alignment with ADB's Guidelines for Implementing the Governance and Anticorruption Action Plan II (Guidelines for GACAP II), is part of a series of background assessments and diagnostics commissioned by the ADB.

### B. Objective

9. The objective of this document is to assess the public financial management (PFM), procurement and corruption risks in the transport and energy sectors, and prepare the necessary risk mitigation plan in line with the requirements, approach and formats as set out in the Guidelines for GACAP II.

### C. Methodology

10. (i) Literature review, web search and updating: Recent publications and diagnostics for the sector, relevant to the assessment, were identified and obtained to research whether the risks identified remain current, or have been successfully remedied (Appendix 1).
- (ii) Primary research: This was used as the main source of evidence for the Risk Assessment (RA) to assemble reliable evidence on the PFM, procurement and corruption risks. It mainly comprised interviews and consultations with officials in government agencies, donors, municipalities and relevant projects. Interviews and consultations involved with persons from the organizations listed in Appendix 2.
- (iii) Identification of major risks and formulation of risk management plan: All current and planned mitigation and reform actions were mapped during primary research. Assessments are also focused on identifying major risks using the approach<sup>6</sup> in the Guidelines for GACAP II. The major risks were then carried forward to the Risk Management Plan.

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<sup>5</sup> ADB's Governance: Sound Development Management, 1995 defines governance as "...the manner in which power is exercised in the management of a country's economic and social resources for development." It identified the basic elements of good governance as accountability, predictability, participation and transparency.

<sup>6</sup> Sector risk assessment was undertaken as part of the sector assessment, including an assessment of the PFM, procurement, and corruption risks. Risk assessment was undertaken in an open and transparent manner and with the relevant stakeholders and partners to encourage a shared understanding and consensus of the associated risks. Risks assessed as likely, relatively serious and unlikely to be mitigated over the CSP period were identified

## II. CONTEXT

### A. Context

11. PNG is the largest developing country in the South Pacific region. Its 463,000 square kilometers of land area, a sea area of 3.12 million square kilometers and over 600 separate islands, make up one of the most diverse repositories of geographic, biological,<sup>7</sup> linguistic and cultural wealth on earth.<sup>8</sup> According to the National Statistical Office of PNG (NSO), PNG's population in 2009 is estimated at 6 million and is growing by an annual average rate of 2.7%, and about 40% of PNG's total populations is under 15 years old. Most Papua New Guineans live in rural communities based on the traditional village structure and dependent on subsistence farming supplemented by cash cropping, with around 13% of the PNG population living in urban areas.

12. PNG faces significant development challenges as by almost any measure, it is one of the most socially and economically disadvantaged countries in the Asia-Pacific region. Whilst endowed with vast natural resources, its inhabitants have not enjoyed sustained increases in their incomes with around 40% of PNG's population living in poverty, that is, on less than US\$1 a day. Despite the potential of its natural resources, PNG's economic performance has fallen short of expectations. Following a relatively stable macroeconomic performance in the first decade after independence, PNG experienced a series of macroeconomic crises in the 1990s. Years of poor governance, political instability, poor fiscal management and inadequate physical infrastructure and utilities, all contributed to the economic and social decline. Falling real GDP, combined with high population growth, had led to a rapid decline in PNG's per capita income.

13. The PNG economy returned to growth in 2003 after several years of decline and PNG is currently experiencing an economic recovery, with improvements in several macroeconomic indicators. PNG now faces challenges in maintaining these improvements, including: ensuring government expenditure is affordable and targeted towards priority development needs; creating the right regulatory environment for sustained economic growth and private sector activity; and ensuring adequate funding to sub-national levels of government for basic service delivery—most especially in the transport and energy sectors.

14. To date, the improvement in macroeconomic performance has not, however, translated to improved service delivery. PNG continues to face considerable medium-term economic challenges and struggles to translate strong economic growth and political stability into improved development outcomes, and the current consensus amongst donors is that it remains unlikely that PNG will achieve any of the Millennium Development Goals by 2015. Specifically, the growth in demand for transport and energy, and its implications, have not been understood well and adequately addressed by policy makers and planners. Owing to insufficient financial resources, lack of qualified human resources and low institutional capacity, government agencies have been unable to keep pace with growing demand for services with commensurate infrastructural facilities and good governance.

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as major risks.

<sup>7</sup> PNG has more than 5% of the world's biodiversity in less than 1% of the world's total land area.

<sup>8</sup> Source of figures: PNG World Bank, World Development Indicators 2006 and 2007.

## **B. Overview of national institutions**

15. At the central level, the responsibilities for development in the transport and energy sectors falls under the jurisdiction of the Ministry for Works, Transport and Civil Aviation and the Ministry for Petroleum and Energy, respectively. The Department for National Planning and Rural Development is the apex planning body and in a position to provide strategic thrust for development. This department is the link agency between the Government and local bodies. Relevant institutions in the transport sector include:

- (i) Department of Transport and Civil Aviation
- (ii) Department of Works
- (iii) National Road Authority
- (iv) Land Transport Board
- (v) National Road Safety Council
- (vi) Motor Vehicles Insurance Ltd
- (vii) National Maritime Safety Authority
- (viii) Port Managers (the largest of which is PNG Ports Corporation Ltd)
- (ix) Civil Aviation Authority
- (x) Accident Investigation Commission
- (xi) PNG Air Services Ltd

16. Relevant institutions in the energy sector include:

- (i) Department of Petroleum and Energy
- (ii) PNG Power Ltd
- (iii) Independent Consumer and Competition Commission
- (iv) PNG Sustainable Development Program
- (v) PNG Sustainable Energy Ltd

## **C. Constraints**

### **1. Background**

17. At this early stage of GACAP II implementation, detailed country and sector-level risk assessments have yet to be undertaken in PNG. Both these sector assessments (and the earlier project-level Governance Risk Assessment Management Plans prepared for the Highlands Region Road Improvement Program and the Proposed Civil Aviation Development Investment Program) are the first analyses undertaken in PNG within the GACAP II framework. Nevertheless, there has been extensive analytical work done in recent years to determine the causes of poor governance and to identify potentially viable solutions that reflect past lessons. The findings and conclusions of these analyses are pertinent to this report.

18. Since independence in 1975, there have been spurts of reasonable economic growth interspersed with phases of very poor performance in PNG. It is widely acknowledged that these changing fortunes have stemmed from a combination of poor governance and economic management with increased corruption and the marginalization of many in the population from the development process. Indeed the quality of governance in PNG has been deteriorating gradually since the late 1980s and the effects of this are most visible in the declining standard of basic services, serious law and order problems, and institutional weaknesses that enable corruption. Accordingly, decisive action is needed to build strong public expenditure and

accountability institutions to support PNG's long-term stability.

19. Governance has been the core focus of the Government's reform efforts over the past seven years, but the task is not easy. PNG is a country characterized by extreme linguistic diversity, a fragmented clan-based social structure whose obligations are carried over into the political arena, and a fragile sense of nationhood. PNG's political system encourages instability and the accrual and dispensing of largesse by politicians; the bureaucracy has become politicized; policy-making is often ad-hoc in nature; corruption is endemic; and inter-governmental collaboration (between national, provincial, and local levels) doesn't work. A pervasive consequence of these factors has been that politicians and public servants may have short-term goals, often driven by the potential for personal gain.

20. PNG's policy and legislative frameworks are generally strong, but the Government continues to struggle with compliance and implementation. This is true at the country level, as well as across the different levels of government and within sectors such as transport and energy. Although core systems and processes are in place and appear to be sound, they are not always followed, and much more work is needed to ensure they are entrenched and well respected before more complex reforms are attempted. One of the more significant factors constraining governance and service delivery is consistent and extreme underfunding. Owing to insufficient financial resources, lack of qualified human resources, and low institutional capacity, the relevant authorities are unable to keep pace with the growing demand for services with commensurate infrastructural facilities and without the exercise of good governance in the provision of those services. Direct accountability within key agencies is made further difficult by frequent changes in executive officers that are appointed by the Government.

21. To be fiscally realistic, sector approaches also need to be unified and across government so that agencies such as the Department of Finance and the Department of Planning are in concert over policy and implementation. In practice, a key problem is the division between the recurrent budget and the (often externally funded) development budget. Typically, recurrent budgets cover staff and often, minimal operating costs, leaving capital expenditure to development budgets. Without strong sectoral leadership and analysis, and mutual commitment to a comprehensive view of funding sources and requirements, the result can be a set of externally funded capital investments that bear no relationship to the budget cycle and may have scant regard for the recurrent funds available for essential operations and maintenance.

## **2. Public Financial Management**

22. Transparency in decision-making, accountability in financial management, professionalism in the workplace, taking responsibility for decisions, respect for the rule of law, and respect for the position individuals hold are key elements of good governance. Fulfilling all these aspects of good governance in PNG remains a major issue. The Public Accounts Committee (PAC)<sup>9</sup> is a Parliamentary Committee designated with the task of investigating government expenditure and processes. In March 2010, PAC tabled 10 reports in Parliament investigating the financial reporting and accounts of 1,000 government agencies, each

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<sup>9</sup> PAC is established under the Constitution with the primary function of examining and reporting to the Parliament on the public accounts of PNG and on the control of and on transactions with or concerning the public monies and property of PNG. For many years this Committee was moribund, but since 2002, it has been operational, though under funded. The reports from the PAC are revealing with very extensive non-compliance by Departments with requirements but also a strong reticence and even failure by Departments to attend hearings when called, or to provide materials required.

examined from 2003 to 2008.<sup>10</sup> Out of these nearly 1,000 government institutions, PAC credited only five<sup>11</sup> of them who have managed themselves well with the remainder showing gross failures in record-keeping, management, transparency and/or accountability.

23. Key constraints of PFM in both the transport and energy sectors include weaknesses in implementation of the systems and processes of government administration, coupled with shortcomings in transparency and accountability in government business dealings. Relevant agencies are marked by consistent underinvestment in physical and human capital and the result has weakened capacity to implement works at all levels of government. Whilst the Government faces tight capacity constraints in terms of insufficient funds for goods and services, it repeatedly demonstrates a lack of capacity to direct funds in a coordinated, policy-driven cross-agency manner with transparency and accountability. Although a lot of resources have been invested in capacity building within key government agencies in the public sector, more needs to be done in order to instill discipline in the public agencies to make them more productive.

24. Across Government, official support for PFM reform is patchy. Public expenditure financial accountability (PEFA) assessments show limited improvements in PFM in the last decade, with mixed results across indicators.<sup>12</sup> Accountability mechanisms have not kept pace with the growth of public businesses associated with a buoyant economy and higher windfall revenues. Accordingly, improvements continue to be pursued through the Public Expenditure Review and Rationalization (PERR) process, the preparation of an integrated financial management system, and the development of a medium-term financial management strategy.

**Table 1: Selected indicators for PNG from the 2008 PEFA report<sup>13</sup>**

Credibility of budgeted expenditure	Budget process	Public access to fiscal information	Multi-year budget	Procurement	Payroll controls	Internal audit	External audit	Information provided by development partners
C	A	B	C	C+	D+	D+	D+	C

25. Despite recent improvements, PMF remains weak, which impedes the Government's ability to control expenditures, disburse the budget as approved, and provide essential services. Fundamental arrangements are in place, but implementation weaknesses mean that the systems and procedures for expenditure and payroll control cannot be relied upon to ensure appropriate accountability. Transparency in budget execution is weak, with budget integrity undermined by unauthorized diversion of funds, including resources for regional development. Hence, it is difficult to track expenditures to ensure the budget is delivered as approved. Oversight has been weakened by delays in preparing and releasing public accounts and audit reports. Statutory authority monitoring and accountability is particularly weak.

<sup>10</sup> PAC examined 33 departments, 25 subsidiary agencies including 19 provincial treasuries, 19 provincial governments, over 400 districts, 19 urban authorities, 19 hospital boards, 116 statutory corporations, commercial entities and all trust accounts including royalty trust accounts.

<sup>11</sup> They were the Bank of Papua New Guinea, PNG Institute of Public Administration, Post PNG, Goroka Base Hospital and Alotau General Hospital.

<sup>12</sup> The trend from the ratings for 30 indicators is of modest improvement from 2002 to 2005, further improvement from 2005 to 2006, and relative stability from 2006 to 2008. Since 2008, no further PEFA assessment has been conducted in PNG.

<sup>13</sup> Some ratings are yet to be endorsed officially. Systems are graded A (strongest) to D (weakest) on a comprehensive range of 31 PFM indicators. To date, Samoa is the only Pacific country that has used its PEFA assessment to help develop a plan to reform its PFM.

26. In common with many developing member countries, PNG has a shortage of skills in general management, financial management, financial analysis, and management accounting. In particular, few accounts staff possess practical skills beyond basic book-keeping. The impact of these skill shortages on government operations is amplified by high demand for financial skills from the private sector, which pay higher remuneration and, in most cases, provide better conditions.

### 3. Procurement

27. The core principles of PNG's legislative requirements for the purchase of goods and services are value for money (including quality), transparency, effective competition, and fair and ethical behavior. The PFM Act established the Central Supply and Tenders Board (CSTB) to control and regulate procurement across government, with the exception of public bodies.<sup>14</sup> In policy terms too, the PNG Government is committed to instituting sound and transparent public procurement processes. However, as with most governance issues, while PNG's policies and systems are generally of high quality, implementation is troublesome.

28. The most recent PNG Country Procurement Assessment Report was published by the World Bank Group (World Bank) in mid-2006, having been undertaken jointly with ADB.<sup>15</sup> In addition, the Auditor-General reviewed procurement procedures and practices in 2005.<sup>16</sup> Both reports concluded that the control environment (corporate governance) was very poor overall. Specifically, it was reported that procurement planning, monitoring, and senior management oversight were inadequate; there was significant non-compliance with legislative requirements; contract management was very poor; and risks were not being properly identified, assessed or managed. Further, managers were able to override procurement controls, increasing the risk of corrupt activities or other irregularities. Internal audit units were either dysfunctional or did not exist; and there had been few internal evaluations to determine the effectiveness and efficiency of procurement processes. Many of the reasons for ineffective control of procurement related to central agency failings, which limited the CSTB's effectiveness. Added to this, the CSTB itself was found to be failing to function effectively and "not sufficiently independent to act without fear or favour."<sup>17</sup> Board of Director (Board) meetings were not being conducted in a proper manner; key members of the Board rarely attended meetings; the structure and composition of the Board did not ensure an adequate quorum was present to ensure decisions have a legal basis; and the CSTB's funding was limited.

29. Other than institutional and resource constraints, further procurement constraints in implementing projects in the transport and energy sectors include poor law and order situation deterring contractors and adding to cost of works; poor social mapping adds to confusion regarding landowner rights for projects and deterring contractors and adding to cost of works; and the processes of obtaining access to land is often extremely difficult and time consuming.

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<sup>14</sup> The PFM Act also established 19 Provincial Supply and Tender Boards and four Specialised Tender Boards.

<sup>15</sup> World Bank. *Papua New Guinea: Country Procurement Assessment Report*. June 2006. Washington DC.

<sup>16</sup> Auditor General of PNG. *The Report of the Auditor General on Procurement Procedures and Practices*. December 2005. Port Moresby.

<sup>17</sup> Auditor General of PNG. *The Report of the Auditor General on Procurement Procedures and Practices*. December 2005. Port Moresby.

#### 4. Corruption

30. The perception in PNG is that corruption is widespread.<sup>18</sup> PNG's laws regarding anti-corruption are internationally commended but in practice, they are not enforced in dealing with accountability. The United Nations Convention Against Corruption was ratified by PNG on 16 July 2007<sup>19</sup> and there is a comprehensive legal framework for anticorruption (with laws that seek to improve efficiency in the delivery of government service to the public, prevent graft and corruption and provide penalties for breaches), yet there is a lack of concerted effort against corruption by the Government<sup>20</sup> and instead, there is widespread abuse of laws by politicians and high level bureaucrats. Abuse of power and process is the norm rather than the exception and in most cases goes unpunished and the lack of effective sanctions by the Government on corruption is clearly undermining any effort to promote sustainable development. Further to this, political influence in decision-making at all government levels is chronic in PNG. There are many implications resulting from political interference in the operation of the Governments' key institutions. One consequence is the erosion of commitment in the leadership by those who are responsible for implementing policies.

31. Regarding the pervasiveness of corruption at all levels of government, the key constraints with relation to the transport and energy sectors, are weak public institutions, leadership, and governance; lack of transparency; politicization of the bureaucracy; and the use of public resources for private gain. PNG faces (i) uncertain norms in corporate institutions; (ii) underdeveloped control mechanisms; and (iii) a poorly paid civil service - elements that have aggravated unethical tendencies. Common practices - giving gifts to employers, superiors, and other influential people, for example - are inherently inimical to procedures such as formal tendering. Corruption has damaged the public procurement process<sup>21</sup>, reduced confidence in the Government, and slackened competition for government contracts, rendering public procurement less economical.

32. Broad reforms that improve governance will contribute significantly both to reducing corruption and reducing tolerance of corruption in PNG. Key issues include depoliticizing public administration; strengthening the quality of leadership, financial management and transparency; enforcing existing policies, legislation, regulations and other systems; and encouraging greater openness and participation in the operations of government. More specifically, continued support is needed for accountability institutions and to ensure the rule of law is enforced and therefore reliable.

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<sup>18</sup> Recent Corruption Perception Index data on PNG by Transparency International reinforces this view with PNG receiving a low rating – in 2009 PNG ranked 154 out of 180 countries, where 1 is least corrupt and 180 is most corrupt.

<sup>19</sup> The Convention seeks to promote and strengthen measures to prevent and combat corruption more efficiently and effectively; promote, facilitate and support international cooperation and technical assistance in the prevention of and fight against corruption.

<sup>20</sup> There have been several serious cases of public service corruption in the last decade and there has been much media attention directed towards possible serious cases; however, there have been very few successful prosecutions in PNG. In April 2008, the Auditor General released a report that indicated corrupt officials stole about \$318 million annually in recent years – this report implicated several prominent officials including the Prime Minister and the finance department's chief secretary, although no charges have been brought.

<sup>21</sup> In this respect, it is particularly important that all parties involved in the award of contracts strictly understand and observe the law governing procurement (i.e., the PFM Act and its Financial Instructions) and the terms and conditions of the bidding documents and the legal penalties for illegal acts. The cost of the present distortions to the award and implementation of contracts is difficult to estimate (one procurement specialist, knowledgeable of PNG, has estimated the cost at more than K100 million per year).

### III. TRANSPORT SECTOR

#### A. Description of the Sector

33. PNG's population of approximately 6 million is one of the most isolated in the world. Four out of five people live in rugged mountainous or coastal terrain, many without even rudimentary access to a road. Most of the 6,500 km of coastline in the maritime provinces are accessible only by sea. Pockets of population elsewhere, particularly along the Sepik, Fly and Ramu river systems, can only be reached by transport as basic as dugout canoes. Roads, where they exist, are poorly maintained and provide unreliable, infrequent, high-cost road transport services. Even major highways, once well maintained and offering modern, efficient and competitive services, now experience closure in wet weather and frequent vehicle breakdowns. Air services are prohibitively expensive for the rural population. The country, therefore, faces challenges unlike any other country in the region.

34. The transport system of PNG is multimodal, comprising about 27,000 km of roads; 22 ports; countless wharves, jetties, and landings; 21 airports; and hundreds of airstrips. Accordingly, this sector report focuses on the subsectors of roads, airports and ports. In all transport sub-sectors in PNG, there is a severely dilapidated state of infrastructure that is largely the result of inadequate maintenance and poor management over a long period of time. For roads, annual maintenance budgets have fallen consistently; they are now little more than 10% of estimated needs. The situation is similar in other sub-sectors. This is in spite of a government policy of preserving existing assets rather than developing new ones. With a lack of maintenance culture, investment is wasted, and because maintenance has been neglected for so long, the need for rehabilitation—to bring assets back to a state in which they can be maintained—has mushroomed. Other than those in commercial centers, the majority of wharves, jetties and airstrips have fallen into disrepair and disuse. The lack of funds, and a related decline in management skills, budget discipline and financial controls, have critically diminished the capacity of institutions responsible for transport infrastructure and services.

35. Almost all of these institutional weaknesses are attributable to inadequate funding, but they are also linked to a more general failure of governance: stated policies and strategies often fail to influence decisions; planning and priority-setting is neither objective nor transparent; budget controls and systems of financial management and reporting have become weakened and are often ineffective; technical standards have fallen; project supervision is weak; staff have not been adequately trained; career incentives are weak; supervision of works is lax; and staff morale is low. The political leadership pursues long-term aims, but often postpones them in favor of short-term political benefits and to date the Government has failed to implement most of its stated reform goals in the transport sector. This is due on the one hand to the lack of political will among political decision-makers to really develop and implement their policies and to the lack of administrative capacity on the other.

36. Better transport infrastructure is a critical pre-condition for growth in PNG. The current state of transport infrastructure impedes access to markets and services for rural populations and imposes high costs on producers and consumers. The lack of competition in aviation, and the poor condition of the highways and ports, both act as deterrents to development in PNG. Significant levels of both capital and maintenance expenditure are required for roads, maritime services and ports, and aviation. In the case of roads, stronger institutional arrangements are needed to ensure that existing resources are properly spent on road maintenance. In the shipping and maritime sector, institutional strengthening and introduction of competition to port

management and coastal shipping are crucial. The requirements for better transportation in PNG include clear and consistent policy making at the national level; reliable, transparent and accountable resource allocation to the core institutions responsible for each sub-sector; and, where applicable, the introduction of private capital and management.<sup>22</sup>

## **B. Findings**

### **1. Roads**

37. The road network is classified into national, provincial, and district roads. National roads link provincial capitals and the main population centers.<sup>23</sup> The national road network is 7,600 km, of which 2,600 km are sealed and the rest are gravel roads. Provincial and district roads provide the secondary and tertiary links to the national road network - their total length is about 10,000 km, of which only about 1,000 km are sealed and the remainder are gravel or unpaved. The traffic volumes on the national highway network are low,<sup>24</sup> except for the urban centers of Port Moresby and Lae. Only about 40% of the national road network is considered to be in a maintainable condition and the remainder requires some significant rehabilitation, restoration, or reconstruction to make the roads usable. Based on the Department of Works (DOW) road asset management system (RAMS), the condition of national roads in the highlands region is poorer than the overall national road network. The annual investment in the road sector has averaged K500 million over the last 3 years, with a very small proportion spent on maintenance.

38. **Responsible agencies.** The PNG Government's Medium Term Development Strategy (MTDS) identifies maintaining existing infrastructure, particularly the transport network, as a priority. PNG's National Transport Development Plan 2006–2010 (NTDP) provides the policies, plans and asset maintenance programs for the sector. The Department of Transport and Civil Aviation (DOT) is responsible for national transport policy formulation, planning, safety, and regulation whilst DOW is responsible for carrying out works on the national road network. The provincial and local governments are responsible for the maintenance and development of all provincial and district roads and accordingly the provincial offices of the DOW provide technical advice and support to the provincial governments. As part of the Government's efforts to create autonomous organizations to manage transport, the National Roads Authority (NRA) was established in 2003 to take over the responsibility of maintaining the national road network, starting with the roads in the highlands region. In addition, a road fund financed from road user charges was created to provide a sustainable source of finance for road maintenance. An independent board oversees the functions of the NRA and the use of the road fund.<sup>25</sup> To promote road safety, in 1997, the Government established a National Road Safety Council to advise the government on road safety matters, recommend road safety actions to the appropriate authorities, conduct educational campaigns, and promote road safety research.<sup>26</sup> It

<sup>22</sup> Regulatory institutions need to be strengthened to ensure security for private investment in transportation and competitive prices for consumers.

<sup>23</sup> The longest road in the country is the Highlands Highway that links Lae and Madang to the Highlands region. The Boluminski Highway links Kavieng and Namatanai in New Ireland Province. A highway linking Wewak in East Sepik Province and Vanimo in West Sepik Province was completed in September 2007. The Kiunga-Tabubil Highway is a privately maintained road that links highland communities in the Western Province.

<sup>24</sup> Traffic on 74% of the national road network is fewer than 500 vehicles per day.

<sup>25</sup> The 11-member board comprises representative of the private sector (chamber of commerce), road users (commercial transporters), institutions (engineering and accounting) and the Government (departments of transport, works, planning and treasury).

<sup>26</sup> The 14 members of NRSC include the representatives of the departments of transport and works, finance and planning, health, education, provincial and local government, lands and physical planning, national capital district commission, motor vehicles insurance trust, chamber of commerce, and universities.

is funded from a 5% levy on motor vehicle insurance premiums.

39. **Governance.** Governance has been a focus of the Government's reform efforts since 2000, but the task is not easy. The Government's policy and legislative frameworks are generally adequate, but the Government continues to struggle with compliance and implementation. A key factor is weak capacity at all levels (institutional, organizational, and individual). ADB's project procurement-related audit of the ongoing road project in 2005 and 2006 found no clear indications of fraud or corruption, but it did identify control weaknesses and project implementation concerns, including (i) deficiencies in internal project management; (ii) lapses in the supervision consultant's financial management; (iii) inadequate due diligence in assessing the experience and capacity of potential contractors; (iv) delays in administering and constructing subprojects because of administrative requirements and law and order concerns on work sites; and (v) poor subproject designs and difficult contract implementation.

40. **Public Financial Management.** The poor state of PNG's road infrastructure is the result of inadequate maintenance and poor management over an extended period. Insufficient funds have been allocated and spent, especially on maintenance, consistently over the past 15 years. Government policy for some time has been to preserve existing assets rather than develop new ones, but the reality has been a continued emphasis on major works and the neglect of basic maintenance. In addition to the persistent lack of adequate funding, the transport sector has suffered from a range of institutional weaknesses (such as declining management skills, budget discipline and financial controls) that reflect more general governance failure. Budget controls and systems of financial management and reporting have become weakened and are often ineffective; technical standards have fallen; project supervision is weak; staff have not been adequately trained; career incentives are weak; supervisions of works is lax; and staff morale is low<sup>27</sup>. Importantly, priorities continue to be influenced by political, "strategic" and other non-economic considerations. Development partner-sponsored efforts to help strengthen institutional capacity over the years have had limited success at best as their sustainability is often undermined by management limitations, lack of follow-up funding and the absence of performance incentives.

41. **Capacity.** The weak capacity of the Government and the private sector is a feature of most Pacific countries. While institutional reforms have been undertaken in PNG, policies and strategies outlined, and development plans prepared, implementation has often suffered because of weak capacity. There is a need to identify capacity development needs in close consultation with the Government and private sector counterparts and to undertake capacity development through lending and non-lending products. AusAID began a major long-term initiative in 2007 to improve capacity, service delivery, and governance of key transport infrastructure agencies, including the DOW.

42. **Road Maintenance.** About 70% of the road network in the Highlands region is in a poor condition. Although some road improvement projects financed by the Government, ADB and AusAID are being implemented, roads quickly fall back into disrepair because of the lack of regular maintenance. The poor condition of the network has resulted in longer journey times, higher vehicle operating costs, and the isolation of rural communities. Consequently, significant income from agricultural and other exports is lost and social conditions worsen, exacerbating social unrest and lack of security. The reasons for the failure to maintain roads are both financial

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<sup>27</sup> World Bank. *Papua New Guinea: Transport Sector Review Note with an emphasis on the Roads Sector*. January 2004. Washington DC.

and institutional. At the national level, the DOW relies on its annual budget submission and allocation to fund routine and periodic road maintenance. In practice, the DOW's budget request is cut back and even the agreed amount is only partly received. As a result, the network deteriorates and emergency repairs take up an increasingly large proportion of the available funds, undermining the DOW's ability to institute a planned maintenance program based on RAMS. Road improvements have relied increasingly on major rehabilitation and reconstruction projects funded by the international development partners. The maintenance of provincial and lower level roads is in an equally distressed state, with low budgets leading to a reactive approach to repairs to keep routes open to traffic.

43. The Government has reflected the need for sustainable road maintenance in the NTDP. The NTDP proposes to collect revenues from road users through a special levy on fuel and special vehicle registration and license fees. The resulting revenues are to be deposited into a road fund to be managed by the NRA and used exclusively on road maintenance. The successful implementation of the NTDP will enable the large routine and periodic maintenance program to be implemented. The initial focus will be on maintaining national roads, followed by provincial and district roads.

## **2. Airports**

44. Transport in PNG is heavily limited by the country's mountainous terrain. Port Moresby is not linked by road to any of the other major towns, and many remote villages can only be reached by light aircraft or on foot. As a result, air travel is the single most important form of transport for human and high value freight. For its size and population, PNG has a relatively well-developed system of air services (though it has been more extensive in the past), necessitated by its topography, the isolation of pockets of population and the difficulties in establishing road access. There are an estimated 580 airports of which only 21 are paved. Rapidly deteriorating infrastructure caused by accelerated wear and tear due to higher air traffic volumes, use of heavier aircraft and intense weather conditions have left the country's 21 national airports struggling to meet International Civil Aviation Organization safety and security standards. Aging systems in place that are meant to support the aviation industry such as airstrips, controllers, air safety, regulations, legislation, investment and training, need to be addressed, however, a recurrent shortage of funds has threatened sustainability of service delivery. Rehabilitation and upgrades of airport infrastructure are urgently needed to improve the safety and reliability of flights and to lower costs - factors that will help expand economic opportunities and access to social services, particularly for remote, rural communities.

45. Two key institutions administer, regulate, and manage the civil aviation sector. DOW is the lead agency for transport strategy and planning, including the monitoring of international obligations, the negotiation of air service agreements, economic regulation, the investigation of air accidents, and sector policy formulation and planning. The Civil Aviation Authority (CAA) is responsible for airports, air traffic management, and regulatory oversight. Three major airlines and more than 20 other operators provide international and domestic services. Passenger traffic has recently grown by about 3% yearly on average, and freight demand by about 1%. Both rates are well below the growth in gross domestic product, which has averaged 6.4% in recent years.

46. In common with the equivalent facilities in the maritime sector, airport and air infrastructure has suffered from funding shortages. With a lack of Government budget-funded investment and maintenance, there has been a deterioration in the condition of runways, taxiways, aprons and visual aids in most major airports and of runways at secondary airports,

frequently causing the diversion and cancellation of services. An AusAID-funded Airport Maintenance Project is currently providing assistance with the restoration and maintenance of airport facilities, as well as the preparation of new regulatory material to upgrade the air safety standards and practices of the new CAA. This project follows on from an earlier AusAID-funded Airport Maintenance and Upgrading Project completed in 2000. In the longer term, sustainability of airport and air safety infrastructure maintenance is intended to be ensured by the CAA's requirement to cover its costs through user charges. It has not achieved full cost recovery yet and its annual deficit is running at about K8 million.

47. Despite the lack of government investment in the sector to date, the NTDP has seven key priorities, one of which is the "rehabilitation and maintenance of transport infrastructure." The NTDP vision for the aviation sector involves (i) competition on domestic routes and access to these routes by foreign airlines as part of the long-term upgrading plan for selected airports with international flight facilities; (ii) larger aircraft operating in major national airports; (iii) accessible, safe, reliable, efficient, and affordable air transport; (iv) improved and reasonably priced international services to establish PNG as a gateway between continents; and (v) lower-cost and safer passenger and cargo movements. To fulfill these priorities, the Government, through the National Executive Council (NEC), has endorsed the CAA's Infrastructure Investment Plan—Long Term (2010–2030) as its sector plan. Certification, rehabilitation of national airports, and upgrading of six major national airports will require a total investment of K1.710 billion.

48. To help the Government establish a sustainable network, in November 2009, the ADB approved a US\$480 million multitranchise financing facility to support the PNG Civil Aviation Development Investment Program.<sup>28</sup> The funds will support infrastructure rehabilitation and upgrades including the re-development of a number of the country's regional airports; build the capacity of the CAA, the industry regulator, to operate on a more commercial footing; and establish ten-year performance-based maintenance contracts. A key aspect of the program is to strengthen CAA's capabilities and help it become more self-sufficient.

49. **CAA.** The CAA is the senior safety regulator for the aviation industry in PNG and responsible for owning, operating, managing and maintaining airports and other related installations. The CAA is also responsible for promoting safety, providing air traffic services, aeronautical communication services and navigation services. The Government established the CAA under the *Civil Aviation Authority Act 2001* as part of the reform agenda, an attempt to move from a bureaucratic departmental structure to an accountable and financially self-sufficient authority responsible for infrastructure. But it has not been successful. The transition process suffered from several shortcomings that have compromised CAA's ability to offer efficient, well-managed services to its airline customers. Indeed, the latest Auditor-General's report into the CAA (for the financial year 2004) found that the CAA was "utterly incapable at maintaining records, accounts or properly and lawfully managing its own internal affairs to any degree of competence"<sup>29</sup>. The CAA took some time to adjust and from a governance perspective, effective

<sup>28</sup> ADB's multitranchise facility will cover 75% of the total program cost of US\$640 million with the private sector expected to contribute US\$75 million for Jackson's, and the Government providing counterpart funds of US\$85 million equivalent. In the first tranche, ADB will provide US\$95 million, out of a total estimated cost of US\$112 million, for improvements at five airports that serve about 1.5 million people. The project will be managed by the state-owned National Airports Corporation and is expected to be completed in around 2020.

<sup>29</sup> The most recently published Auditor-General's report into the CAA (for the financial year 2004) was severely limited by the lack of an audit trail as the CAA did not maintain records for several account balances and transactions. The CAA had also been shown to fail with legislative requirements regarding the transfer of state assets and liabilities and indeed there was no register of fixed assets. The Auditor General was unable to satisfy

financial management and reporting systems are still not fully in place: there appears to be little effective control over costs and revenues; and ill-considered investments are still being put forward for Government budget support.

50. Most recently, the CAA embarked on a major reform program with a restructuring in 2007 and 2008. The restructure broke up the organization into two divisions: regulatory and non-regulatory. The regulatory division retains all regulatory activity whilst the non-regulatory division has three arms with a largely commercial mandate: PNG Air Services will look after operational matters such as air traffic control, PNG Airports Ltd will be responsible for airport infrastructure development and PNG Airport City Developments will be charged with projects related to the development of airport precincts.

51. **Air Niugini.** Government policy encourages competition in air services, but the market is so thin that Air Niugini still holds an effective monopoly over some important routes. Even so, its financial performance has been very poor, the result of poor management, low load factors, poor selection of aircraft, lack of investment, heavy debt repayment obligations, poor management and the difficulty of meeting dollar-denominated costs with revenues largely in devalued Kina. An attempt to sell 49 percent of the airline in 1998 failed; it is still the Government's policy to privatize, but this is unlikely until its financial performance improves.

### 3. Ports

52. PNG is very much an island country. It occupies the eastern half of the island of New Guinea plus numerous other islands, the larger of which include Bougainville, Manus, New Britain, and New Ireland. Fourteen of the country's 19 provinces are coastal, as is the national capital region. The country has an estimated coastline of about 6,500 kilometers, much of which is only accessible by sea. As there are no land links between the national capital, Port Moresby, and most of the rest of the country, the main commercial transport links with the capital are by sea. PNG is thus heavily dependent on maritime transport for the development of vital economic sectors, markets, and social services.

53. The most important contribution the Government can make to improve international and domestic shipping services to PNG is to ensure the country's ports have adequate facilities and operate efficiently. The country has 10,940 km of waterways and there are 22 ports, most of which are small and in poor condition. PNG Ports Corporation Ltd (PNG Ports), a state owned company, operates 16 of the 22 ports with commercial port facilities at Port Moresby, Alotau, Oro Bay, Lae, Kimbe, Kieta, Madang, Buka, Rabaul, Kiunga, Wewak and Vanimo. The major port is at Lae, which accounts for 50% of the revenue of PNG Ports. Port Moresby, Madang, Kimbe, and Rabaul also handle international cargo.

54. Ports in PNG are diverse, but generally run-down and range from basic wharves to more sophisticated facilities with significant cargo handling capability. A few are more modern, with better-equipped container and dedicated bulk facilities,<sup>30</sup> but most are well below international standards for infrastructure and operations. Generally, equipment is old and maintenance poor. Most ports lack shore-based container cranes, relying instead on slower ship-based lifting gear.

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himself as to the completeness, existence and accuracy of outstanding trade and other creditor's and debtor's balances, including long terms debt documentation.

<sup>30</sup> The Port Moresby port comes close to achieving the World Bank's Doing Business indicators. It is the Pacific's most efficient port, with relatively short clearance times (three days for exports) and reasonable costs (US\$200 per 20-foot container).

Regional port facilities are also in poor condition. They tend to be under-funded and in the past were managed to varying degrees of competence by public works departments or similar organizations, rather than by reputable national port authorities. Most are cramped, poorly maintained, lack adequate cargo sheds and passenger terminals and possess little or nothing in the way of cargo handling facilities. The subsector has further been characterized by a lack of expertise in business and financial management, particularly in government activity. There is also a shortage of skills in almost all professions, including crucially, engineers. Significant levels of both capital and maintenance expenditure are required for maritime services and ports where the need for institutional strengthening and introduction of competition to port management and coastal shipping are crucial. The privatization of PNG Ports is a key factor in the improvement of PNG's maritime sector.

55. Two key organizations are PNG Ports<sup>31</sup> and the National Maritime Safety Authority (NMSA). Both are members of the TSCIMC and contribute to broader transport sector deliberations and decisions. PNG Ports is a state owned entity that has the responsibility for the operation, maintenance and rehabilitation of the country's 16 declared national ports under the Government's National Transport Development Plan (NTDP), however, only two, Port Moresby and Lae, are commercially viable. PNG's economic regulator, the ICCC, and PNG Ports have entered into a regulatory contract that controls the prices PNG Ports can charge for essential port services. The contract also includes commitments from PNG Ports on service levels and future investment. PNG Ports does not undertake stevedoring (loading and unloading), but issues licenses to private companies to carry this out. Licenses are issued for 5 years and are then renewed annually. In Port Moresby, two separate companies handle international and domestic stevedoring. In Lae, the biggest port, three operators share the market and two are engaged in servicing coastal and overseas shipping. Since the extent of competition is limited, the ICCC monitors prices.

56. The predecessor to PNG Ports, PNG Harbours Ltd (PNGHL), was created in the Government's attempt to privatize the provision of key maritime services. The final Auditor-General's report into PNGHL (for the financial years 2002 & 2003) found the poor PFM performance of PNGHL to be endemic and inexcusable. The report cited that PNGHL, amongst other examples of poor PFM, did not maintain proper accounting records; did not prepare financial statements in full; exhibited weaknesses in the overall internal control environment; failed to revalue its operational assets; and existed under a climate of corruption and lack of transparency. Since its incorporation in 2006, PNG Ports as PNGHL's successor company has exhibited improved PFM and transparent procedures. Furthermore, PNG Ports is currently undergoing an organizational restructure in a bid to increase investor confidence in the form of commercial loans and public private partnerships (PPPs). Notwithstanding that there are currently promising signs in terms of the future management of PNG Ports, there is much to be achieved and there has been a significant loss of time in addressing some of the more significant shortfalls in port facilities and service capabilities. However, PNG Ports have instituted a number of major new capital investment projects in recent years and more are scheduled over the next 5 years. The question that must be asked is whether PNG Ports in its present form will be capable of making the long term, commercial financial commitment that is required to see these improvements through in terms of the ports for which it is responsible.

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<sup>31</sup> Since its launching on 13 November 2006, the transition of the PNG Ports Corporation Limited had evolved from Papua and New Guinea Harbours Board (1963-1969), Papua New Guinea Harbours Board (1970-2002) and PNG Harbours Board Limited (2002-2006) and then PNG Ports Corporation Ltd. PNG Ports is a fully corporatized entity owned by the state and is a successor company to the PNG Harbours Board. The Independent Public Business Corporation (IPBC) is the sole shareholder; holds shares in the company on behalf of the state.

57. The NSMA has the responsibility of ensuring effective sea transportation to all maritime provinces, by improving the safety of ships, preventing and controlling marine pollution by ships, and carrying out search and rescue operations throughout PNG waters. In 2000, the ADB approved a US\$20.6 million loan (of a total project cost of US\$30.2 million) to (i) restructure management of the maritime transport sector by establishing an autonomous NMSA,<sup>32</sup> (ii) reconstruct the navigation aids network to an acceptable international maritime standard; (iii) establish a self-reliant hydrographic service; and (iv) in view of the high incidence of vandalism, implement community programs contributing to effective network maintenance. ADB's Completion Report in 2009,<sup>33</sup> reviewing the project, assessed sustainability as 'likely' rather than 'most likely' because uncertainties remain. NMSA staff members are still in need of specific technical training in order to take on all of their intended responsibilities, and the full impact of the navigation aids system will not be achieved until all community lighthouse committees are working and vandalism is fully deterred. Despite the continued risks, the project is likely to have significant positive institutional impact. The newly established NMSA is functioning well because it is self-financing and because it is staffed and headed by competent individuals. PNG has a history of damaging political interference in the affairs of autonomous statutory authorities, however, and this risk remains.

#### **a. Lae Port**

58. Lae port is a victim of its own success. A 15% rise in cargo volume since 2003 has stretched the port beyond capacity. Located in the business hub of PNG, and linking the agricultural commodities of the highlands to global markets, the port cannot cope with the dramatic increase in demand created by the commodity boom. Up to 60% of the country's imports and exports go through Lae, and a growing economy results in bottlenecks. On 20 December 2007, ADB announced, along with several international institutions, including the OPEC Fund for International Development, that it will provide US\$108.25 million in financing to upgrade and expand the port of Lae. The upgrading project involves expanding the cargo handling capacity, constructing a multipurpose berth, expanding storage areas and improving the drainage, electricity, water and sewage systems, increasing the port's capacity by 50%. Onshore cranes will reduce turnaround times, and dredging will make the port more easily accessible. Procurement and anti-corruption procedures shall be implemented in accordance with ADB policy and government processes.

### **C. Donor Engagement**

#### **1. Recent donor engagement**

59. PNG's foreign aid policy states that all aid should be directed towards preparation and implementation of priority programs and projects of the Government. In the absence of any strategic national development plans, the Government's Public Investment Program guided by the MTDS continues to be the main vehicle to channel foreign aid towards priority programs. The main aid donors to PNG are: ADB, Australia, Commonwealth Fund for Technical Cooperation, European Union, Germany, International Fund for Agricultural Development, Japan, Kuwait Development Fund, New Zealand, People's Republic of China, Republic of Korea, United Nations systems, USA, and the World Bank group. PNG receives the following

<sup>32</sup> Autonomous maritime safety authority established with independent financial management, including land compensation system.

<sup>33</sup> While originally expected to close on 30 April 2006, physical completion of the project was on 31 March 2008.

types of aid: (i) direct budgetary support grants; (ii) program or project grants; (iii) micro-project grants; (iv) concessional loans; (v) technical assistance; and (vi) ad-hoc aid. In PNG, ADB, Australian Agency of International Development (AusAID), Japan, and the World Bank have been major donors involved in capacity building of government institutions involved in the transport sector.

60. **AusAID:**<sup>34</sup> Australia is the largest bilateral aid donor to PNG. According to the Organization for Economic Co-operation and Development's Development Assistance Committee (OECD-DAC) figures, net aid to PNG in 2006 was equivalent to 5.5% of PNG's gross national income and in recent years, Australia has provided more than 85% of net aid.<sup>35</sup> AusAID's Official Development Assistance in PNG for 2009-2010 is estimated at A\$414.3 million. AusAID works with a variety of partners including the Government, other government donor agencies, multilateral organizations and NGOs.<sup>36</sup> In March 2008, the Port Moresby Declaration embodying Australia's new approach to the Pacific region was co-signed by the Prime Ministers of Australia and PNG in Port Moresby. It symbolizes Australia's commitment to, amongst other things, improve governance and increase investment in economic infrastructure in PNG.

61. Recent AusAID engagements relating to its program area of Governance are as follows:

- Advisory Support Facility Phase 2.<sup>37 38</sup> Duration 2003–2008. Contribution of up to A\$81.7 million.
- Enhances Cooperation Program–Economic and Public Sector Reform component.<sup>39</sup> Duration 2004-2008. Contribution of A\$26.3 million.
- PNG Australia Treasury Twinning Scheme.<sup>40</sup> Duration 1999–ongoing. Contribution of A\$5 million up to 2006.
- Public Sector Workforce Development initiative. Duration 2005–2007. Contribution of A\$2 million.
- PNG-Australia Targeted Training Facility. Duration 2001-2008. Contribution of A\$47.1 million.

<sup>34</sup> <http://www.aisaid.gov.au/country/papua.cfm>

<sup>35</sup> AusAID "Working Paper 1 Papua New Guinea Country Report" June 2009, page 18.

<sup>36</sup> In 2009 Prime Ministers Rudd and Somare agreed that the two governments would undertake a review of the current Treaty on Development Cooperation that guides the Australian aid program in PNG. The review team will be consulting with key stakeholders in 2010 and present its report and recommendations to Ministers at the PNG-Australia Ministerial forum.

<sup>37</sup> <http://www.pngasf.com/>

<sup>38</sup> This activity addresses the priority development and reform needs in public sector management and administration. The aim is to strengthen the skills base and institutional capacity of PNG Government agencies. Advisers work with PNG public servants to develop and implement Government policies, plans and systems that will improve the delivery of services.

<sup>39</sup> This program works to improve economic and financial management and budget processes within PNG, with a special focus on anti-corruption. The program places senior Australian government officials in PNG to work alongside their counterparts, mainly in central agencies. Other placements ensure system-wide linkages on policy and management issues. Australia provides most resources to the Departments of Finance and Treasury and the Internal Revenue Commission.

<sup>40</sup> AusAID and the Australian Government's Department of Treasury jointly manage the program. The objective is to improve PNG Treasury officials' abilities to perform their core duties and build a strong institutional relationship between the agencies. The program focuses on building PNG Treasury officials' technical skills such as developing and implementing economic and fiscal policy, and their professional skills such as writing, time and workflow management, liaison and coordination.

62. Recently, the PNG Transport Sector Coordination, Monitoring and Implementation Committee (TSCMIC)<sup>41</sup> was formed by the NEC to oversee implementation of the NTDP and the Public Reform Strategy. AusAID's major aid activity relating to the transport sector is the Transport Sector Support Program (TSSP)<sup>42 43</sup> and the TSSP was designed specifically to support the work of the TSCMIC. Through TSSP, transport agencies are able to access AusAID funding for strengthening of land, sea and air infrastructure as well as public sector management. It is envisaged that the program will be in place for 10 to 15 years with the first phase set for 2007–2012 with a contribution of A\$280 million. AusAID has allocated around A\$50 million each year for TSSP initiatives. TSSP is assisting to build capacity within key Government departments and relevant transport sub-sector organizations. The emphasis of TSSP is directed towards improving governance (including transparency and accountability in government procurement), public sector management and technical capacity building while continuing to provide funding of priority maintenance and rehabilitation works.

63. The following are the major AusAID projects that will be incorporated into the TSSP:

- Bridge Restoration Project. Duration 2006–2010. Contribution of A\$60 million.
- Key Roads for Growth Management Project. Duration 2005-2009. Contribution of A\$50 million.
- Bougainville Coastal Trunk Maintenance Project. Duration 2002-2007. Contribution of A\$26 million.

64. **World Bank:**<sup>44</sup> According to the Articles of Agreement by which the World Bank is bound, loans are provided to a country only through its national government. While various parties can identify ideas for new projects, only the central government can formally propose a specific project and request financial assistance from the World Bank. The World Bank's method of operation is to provide financing and advice for projects which are a logical part of a comprehensive development agenda. The World Bank also provides lending support and policy advice in the areas of financial sector reform, local government and private sector participation in basic infrastructure services. The World Bank works with multiple development partners – the Government, other bilateral and multilateral donor organizations, NGOs, the private sector and the general public.

65. Recent World Bank engagements relating to the transport sector are as follows:

- Road Maintenance and Rehabilitation Project. Duration 2002–2011. Total project cost US\$59.18 million.
- Road Maintenance and Rehabilitation Project (Supplemental). Approved 2007. Total Project Cost US\$58.91 million.

66. **Japan International Cooperation Agency (JICA):** JICA is an independent governmental agency that coordinates official development assistance in the form of technical

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<sup>41</sup> Membership of the TSCMIC comprises: Department of Transport; Department of Works; Civil Aviation Authority; PNG Ports Corporation Ltd; National Maritime Safety Authority; National Road Authority; National Road Safety Council; Department of National Planning and Monitoring; Department of Prime Minister and National Executive Council; Department of Treasury; and Department of Finance.

<sup>42</sup> <http://www.pngtssp.com/>

<sup>43</sup> Australia supports the implementation of PNG's National Transport Development Plan through the Transport Sector Support Program, and aims to improve governance and capacity building and strengthen PNG's institutions, resulting in better service delivery.

<sup>44</sup> <http://www.worldbank.org/pg/>

assistance, grant aid and yen loans for the government of Japan. It is chartered with assisting economic and social growth in developing countries, and the promotion of international cooperation.

67. Recent JICA engagements relating to the transport sector in PNG are as follows:

- Highlands Highway Bridge Replacement Program.<sup>45</sup> Appropriation: K1 million.
- Project for the Urgent Rehabilitation of Markham Bridge. Appropriation: K8.37 million.
- Project for Construction of Bridges on Bougainville Coastal Trunk Road.

## 2. Recent ADB engagement

68. ADB's strategy emphasizes improving the quality and efficiency of public sector management as well as creating an enabling environment for private sector development. To address poverty reduction issues and promote sustained economic growth and equity, ADB's strategy supports investment in transportation and rural development. In addition, ADB has provided a substantial amount of grants for technical assistance (TA) with a focus on institutional development covering a wide range of sectors including transport and finance. One of the major elements of ADB's current loan and TA program is public sector reform.

69. However, ADB projects in PNG in recent years have performed poorly, relative to other ADB developing member countries in terms of both implementation and development outcomes. Historically, the major portfolio implementation issues have included: (i) delays in NEC endorsement of contracts; (ii) counterpart funds not being provided in a timely manner; and (iii) delays in the submission of audited annual project accounts. Particular issues involved the submission of supporting documentation to substantiate the liquidation of imprest funds; difficulties in auditing annual project accounts (in part due to poor project record-keeping); unreconciled bank accounts and ledger accounts; and lengthy delays in receiving responses to audit queries.

70. Recent ADB engagements in the Transport Sector are as follows:

- TA 43060 - Improving Road User Charges and Private Sector Participation in Road Development. Approved December 2009. TA amount US\$800,000.
- Loan 43141 - Civil Aviation Development Investment Program - Project 1. Approved December 2009. Loan amount US\$94 million.
- Loan 43141 - Civil Aviation Development Investment Program. Approved November 2009. Loan amount US\$480 million.
- TA 43141 - Small-Scale TA for Civil Aviation Development Investment Program. Approved April 2009. TA amount US\$225,000.
- Grant 40173 - Extending the Socioeconomic Benefits of an Improved Road Network to Roadside Communities. Approved March 2009. Grant amount US\$2 million.
- Loan 40173 - Highlands Region Road Improvement Investment Program - Project 1. Approved December 2008. Loan amount US\$100 million.
- TA 40173 - The National Transport Development Plan (2011–2020). Approved December 2008.
- Loan 40173 – Multi tranche Financing Facility - Highlands Region Road Improvement Investment Program. Approved December 2008. Loan amount US\$400 million.

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<sup>45</sup> JICA is funding the replacement of 12 bridges along the Highlands Highway in the Eastern Highlands Province.

- Loan 40037 - Lae Port Development Project. Approved December 2007. Loan amount US\$100 million.
- Grant 40037 - Lae Port Development Project: Mobilizing the Private Sector to Respond to Gender and HIV/AIDS Issues (funded by the Cooperation Fund for Fighting HIV/AIDS in Asia and the Pacific). Approved December 2007. Grant amount US\$750,000.
- TA 40173 - Preparing the Highlands Highway (Southern Highlands and Enga Provinces Network) Rehabilitation Project (formerly Highlands Highway/Feeder Roads Upgrading). Approved June 2007. TA amount US\$500,000.
- TA 40037 - Preparing the Lae Port Development Project -Tidal Basin Phase I (Supplementary). Approved June 2007. TA amount US\$160,000
- Loan 32124 - Road Maintenance and Upgrading (Sector) Project (Supplementary Loans). Approved June 2006. Loan amount US\$53 million.
- TA 40037 - Lae Port Development Project-Tidal Basin Phase I. Approved May 2006. TA amount US\$900,000.
- Loan 34121 - Community Water Transport Project. Approved March 2004. Loan amount US\$19.005 million
- TA 32473 - Road Authority Development. Approved September 2001. TA amount US\$700,000.
- TA 34122 - Southern Road Maintenance and Upgrading. Approved September 2001. TA amount US\$400,000.
- TA 34121 - Community Water-Transport Project (formerly listed as Remote Water Transport Improvement Project). Approved December 2000. TA amount US\$580,000.
- TA 32184 - Rehabilitation of the Maritime Navigation Aids System (grant cofinancing to be provided by AusAID as part of Loan 1754-PNG: Rehabilitation of the Maritime Navigation Aids System). Approved December 2000. TA amount US\$800,000.
- Loan 32184 - Rehabilitation of the Maritime Navigation Aids System. Approved September 2000. Loan amount US\$20.6 million.

71. Recent ADB engagements relating to the program area of public sector management are as follows:

- TA 41510 - Supporting Public Financial Management. Approved December 2009. TA amount US\$1 million.
- TA 40260 - Support for Public Expenditure Review and Rationalization (formerly "Public Expenditure Review and Rationalization"). Approved June 2007. TA amount US\$500,000.
- TA 30535 - Preparing Supplementary Financing for the Financial Management Project. Approved August 2006. TA amount US\$15,000.
- TA 37733 - Strengthening the Capacity of the Parliamentary Accounts Committee. Approved September 2004. TA amount US\$500,000.
- TA 34126 - Improving Economic and Social Statistics (formerly Improving National Accounts and Statistics). Approved October 2002. TA amount US\$800,000.
- TA 33145 - Strengthening Public Sector Management. Approved December 2001. TA amount US\$850,000.
- Loan 33145 - Public Service Program. Approved December 2001. Loan amount US\$70 million.

#### D. Summary Risk Matrix

72. From the foregone findings, it can be concluded that the transport sector faces many risks associated with financial management, procurement, and corruption. The summary of these risks is presented here:

#### SUMMARY RISK MATRIX

	<b>Risks Identified</b>	<b>Likely</b>	<b>Relatively Serious</b>	<b>Not Mitigated Over The CPS Period</b>	<b>Major Risk</b>
<b>Public Financial Management</b>	1. Weak country-level public financial management arrangements, particularly regarding budget execution.	√	√	√	√
	2. Shortage of skills and capacity in general management, financial management and financial analysis.	√	√	√	√
	3. Transparency and accountability issues in the statutory authority sector.	√	√	√	√
<b>Procurement</b>	1. Capacity of implementing agencies to manage procurement.	√	√	√	√
	2. Long contracting timeframes.	√	√	√	√
	3. Weaknesses in procurement controls that threaten probity, transparency or effectiveness.	√	√	√	√
<b>Corruption</b>	1. Weak capacity and impact of accountability oversight institutions.	√	√	√	√
	2. Manipulation of investment choices by politicians and officials.	√	√	√	√
	3. Malfeasance in design and bidding of facilities and services.	√	√	√	√
	4. Vulnerabilities in construction and	√	√	√	√

	<b>Risks Identified</b>	<b>Likely</b>	<b>Relatively Serious</b>	<b>Not Mitigated Over The CPS Period</b>	<b>Major Risk</b>
	operations.				
	5. Weaknesses in landowner compensation procedures and practices.	√	√	√	√

CPS = country partnership strategy.

## E. Risk Management Plan

73. To mitigate the major risks carried forward from the summary risk matrix, a risk management plan has been formulated. The risk management plan is presented here:

### RISK MANAGEMENT PLAN

<b>Major Risks</b>	<b>ADB Actions</b>	<b>Indicators</b>
<b>Public Financial Management</b>		
<p>1. Weak country-level public financial management (PFM) arrangements, particularly regarding budget execution.</p> <p><i>(Particular issues are record-keeping; internal controls; project accounting; reporting, understanding of and adherence to financial management policies and procedures; and delays in providing audited annual project accounts).</i></p>	<ul style="list-style-type: none"> <li>The 1966 ADB Charter (Articles of Agreement) requires ADB to take measures to ensure that the proceeds of any loan made, guaranteed or participated in by ADB are “used only for the purposes for which the loan was approved with due attention to consideration of economy and efficiency.” Consequently, ADB is not yet able to fully use country systems, but will seek to strengthen these systems to acceptable levels.</li> <li>Country-level PFM remains one of ADB’s four areas of strategic focus in PNG, per the CSP (2006–2010). ADB has been supporting strengthened PFM systems through the Financial Management Improvement Programme (FMIP) and more recently through development of the draft Medium-term Financial Management Strategy (MTFMS) 2009–2013.</li> <li>At the project level, ADB will ensure Project Implementation Units engage accounting support to ensure, among other things,</li> </ul>	<ul style="list-style-type: none"> <li>Capacity building action plans are in place.</li> <li>Accomplishment of targeted capacity building programs.</li> <li>Noticeable improvement in financial management.</li> <li>Internal audits are regular.</li> <li>Budgets are in alignment with revenue forecast.</li> <li>Effective monitoring and evaluation systems are in place.</li> </ul>

	<p>timely and rigorous reconciliations, orderly record keeping, and strict adherence to financial management policies and internal controls, and to ensure an orderly and timely year-end process for the preparation and audit of annual project accounts. Disbursement arrangements will be carefully considered – direct payment procedures will predominate, imprest accounts will only be used where necessary, and the reimbursement procedure for eligible expenditures will apply with full supporting documentation.</p> <ul style="list-style-type: none"> <li>• TA 7427-PNG: Supporting Public Financial Management implemented over 2010–2012.</li> </ul>	
<p>2. Shortage of skills and capacity at the country, sector and program levels in general management, financial management and financial analysis.</p>	<ul style="list-style-type: none"> <li>• Longer-term capacity building interventions, including those supported by ADB, include the FMIP and actions envisaged under the MTFMS. The AusAID-sponsored TSSP will also provide substantial capacity-development support.</li> <li>• The Program provides for institutional capacity building. Among other things, ADB is providing technical assistance to the NRA to establish robust financial management arrangements, including for record-keeping, internal controls, payables, receivables, budgeting, accounting, project management, and bank and trust account management (TA 3716-PNG).</li> <li>• In addition, ADB is currently processing CDTA: <i>Supporting Public Financial Management</i> to strengthen oversight and monitoring of statutory authorities in PNG,</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity building action plans are in place.</li> <li>• Accomplishment of targeted capacity building programs.</li> <li>• Noticeable improvement in financial management.</li> </ul>

	<p>including the CAA.</p> <ul style="list-style-type: none"> <li>• ADB's PNG Resident Mission (PNRM) will prepare a capacity development plan to improve the capacity of executing agencies, including DOW and NRA. The capacity development plan will be based on available ADB training resources, capacity development provision in ongoing and future ADB-financed loans, and capacity development opportunities by other development partners.</li> <li>• TA 7427-PNG: Supporting Public Financial Management implemented over 2010–2012.</li> </ul>	
<p>3. Transparency and accountability issues in the statutory authority sector.</p> <p><i>(In particular, weak capacity and impact of accountability oversight institutions.)</i></p>	<ul style="list-style-type: none"> <li>• At the country-level, through TA 4947 <i>Public Expenditure Review and Rationalization</i>, ADB is supporting government efforts to strengthen the accountability framework for statutory authorities.</li> <li>• ADB is providing technical assistance to NRA to establish robust financial management arrangements and a website on which will be published the NRA's financial statements (TA 3716-PNG).</li> <li>• ADB is currently processing CDTA: <i>Supporting Public Financial Management</i> to strengthen oversight and monitoring of statutory authorities in PNG, including the CAA.</li> <li>• TA 4947 Public Expenditure Review and Rationalization</li> <li>• TA 6499-REG: Strengthening Governance and Accountability in Pacific Island Countries (Phase 2) implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• Action plans on transparency protocols.</li> <li>• Enhanced fiscal transparency on a sustainable basis.</li> <li>• Timely and regular public access to budget documents.</li> <li>• Build in demand for seeking fiscal information.</li> </ul>
<b>Procurement</b>		
1. Capacity of implementing agencies to manage	<ul style="list-style-type: none"> <li>• TA 7427-PNG: Supporting Public Financial</li> </ul>	<ul style="list-style-type: none"> <li>• Qualified procurement staff managing public procurement</li> </ul>

procurement.	<p>Management includes support to the CSTB.</p> <ul style="list-style-type: none"> <li>• ADB's COSO will continue to convene workshops on procurement (including workshops in PNG).</li> <li>• ADB PNRM has been convening training workshops on project management, procurement and financial issues. Activities to date will be enhanced through the preparation of a capacity development plan to improve the capacity of executing agencies, including DOW and NRA. The capacity development plan will be based on available ADB training resources, capacity development provision in ongoing and future ADB-financed loans, and capacity development opportunities by other development partners.</li> </ul>	<p>– especially skills in quality control and procurement</p> <ul style="list-style-type: none"> <li>• Relevant training plans in place in selected institutions.</li> <li>• Improvement in the quality of goods, works and services procured.</li> <li>• Procurement monitoring systems in place and evidence of their application.</li> </ul>
2. Long contracting timeframes.	<ul style="list-style-type: none"> <li>• A procurement assessment is being undertaken in PNG in accordance with the OECD-DAC methodology. TA 7427-PNG: Supporting Public Financial Management provides consulting support for assisting with the implementation of the findings from this assessment.</li> <li>• In the absence of fundamental streamlining of NEC procedures and practices, contracting delays seem likely to continue. (however, it is understood that Government is considering this).</li> </ul>	<ul style="list-style-type: none"> <li>• Closer interaction amongst development partners and the Government.</li> <li>• Improvement in the contracting timeframes.</li> </ul>
3. Weaknesses in procurement controls that threaten probity, transparency or effectiveness.	<ul style="list-style-type: none"> <li>• At a project level, ADB will ensure appropriate mechanisms are put in place to address weaknesses in procurement controls, for example: (i) executing agencies websites will provide and disclose updated and</li> </ul>	<ul style="list-style-type: none"> <li>• Project design and implementation is in accordance with sound procurement practice.</li> <li>• Procurement Manuals and Financial Instructions in place and procedures followed.</li> <li>• Quality of bid evaluation enhanced.</li> </ul>

	<p>detailed information on project implementation; (ii) timely disclosure of information on selection of consultants and contractors through local newspapers and on the website; (iii) independent verification of the quantity, quality and cost of works; and (iv) information to the public will be provided, through for instance, publicizing expected service levels from performance-based contracts.</p>	<ul style="list-style-type: none"> <li>• Monitoring systems applied and effective.</li> <li>• Complaints regarding substandard use of materials reduced.</li> </ul>
<b>Corruption</b>		
<p>1. Weak capacity and impact of accountability oversight institutions.</p>	<ul style="list-style-type: none"> <li>• ADB, together with World Bank and AusAID, is an active partner with the Government in the PERR process, which is focused, among other things, on strengthening accountability mechanisms.</li> <li>• Through TA 4947 Public Expenditure Review and Rationalization, ADB is providing assistance to Government to prepare the draft MTFMS 2009–2013, which strongly emphasizes assistance to the Auditor-General's Office.</li> <li>• At the regional level, ADB is working with AusAID, the Pacific Islands Forum Secretariat, and Pacific Auditors-General, including PNG, to implement the Pacific Regional Audit Initiative, which will use regional approaches to address national needs.</li> <li>• TA 6499-REG: Strengthening Governance and Accountability in Pacific Island Countries (Phase 2) implemented.</li> <li>• TA 4947 Public Expenditure Review and Rationalization</li> </ul>	<ul style="list-style-type: none"> <li>• Anti-corruption strategy and action plan are in place and complied.</li> <li>• The capacity of oversight institutions in prevention and investigation of corruption is enhanced.</li> <li>• Decrease in level of corruption.</li> <li>• There is a notable improvement in enforcement of laws and regulation at micro and macro level.</li> <li>• There is a significant increase in the number of reports against irregularities</li> <li>• Increased interaction with donors and the Government on good governance and anticorruption agenda.</li> </ul>
<p>2. Manipulation of investment choices by politicians and officials.</p>	<ul style="list-style-type: none"> <li>• At a project level, ADB will put in place mechanisms to mitigate the risk of the manipulation of processes for</li> </ul>	<ul style="list-style-type: none"> <li>• Project design and implementation mitigates the risk of the manipulation of processes for personal gain.</li> </ul>

	<p>personal gain. Possible mechanisms will include: (i) international supervision consultants will monitor construction and operational activities; (ii) ADB and other involved donors will monitor and review construction and operational activities; (iii) contracts financed from ADB funds will include provisions specifying the right of ADB to audit and examine the records and accounts of all contractors, suppliers, consultants, and other service; (iv) there will be independent external auditing of contracts, project accounts, and financial statements; and (v) forensic audits will be conducted of suspected corruption cases.</p>	<ul style="list-style-type: none"> <li>• Relevant action plans and codes of ethics and integrity are in place and complied.</li> <li>• Monitoring by civil society organizations engaged in anti-corruption campaigns is enhanced.</li> <li>• Increase in number of audits prepared and made public.</li> </ul>
<p>3. Malfeasance in design and bidding of facilities and services.</p> <p><i>(Potential risks include the imposition of informal conditions, kickbacks by officials/project management, restriction of calls for tender, bid rigging/collusion/fraud, manipulation of technical evaluation, deviations from original bid documents, project design irregularity, information asymmetry to conceal corruption/ tip-offs, unexplained delays and bidding irregularities, and inconsistent application of prequalification/ eligibility screening).</i></p>	<ul style="list-style-type: none"> <li>• At a project level, ADB will put in place mechanisms to mitigate the risk of the manipulation of processes for personal gain. Possible mechanisms will include: (i) International supervision consultants will manage design and bidding activities; (ii) A website will be developed and maintained to disclose project progress and procurement activities; (iii) ADB and other involved donors will intensively monitor and review procurement activities; (iv) Forensic audits will be conducted of suspected corruption cases.</li> </ul>	<ul style="list-style-type: none"> <li>• Project design and implementation mitigates the risk of the manipulation of processes for personal gain.</li> <li>• Increase in number of audits prepared and made public.</li> <li>• Increased efficiency and transparency in procurement processes.</li> </ul>
<p>4. Vulnerabilities in construction and operations.</p> <p><i>(Potential risks and issues include theft of materials/ equipment, use of equipment for private purposes, unexplained emergency expenses, complicated processing of claims/ payments, compromised quality assurance processes)</i></p>	<ul style="list-style-type: none"> <li>• At a project level, ADB will put in place mechanisms to mitigate the risk of the manipulation of processes for personal gain. Possible mechanisms will include: (i) international supervision consultants will monitor construction and operational activities; (ii) ADB and other involved donors will monitor and review construction and operational activities; (iii)</li> </ul>	<ul style="list-style-type: none"> <li>• Project design and implementation mitigates the risk of the manipulation of processes for personal gain.</li> <li>• Increase in number of audits prepared and made public.</li> <li>• Improvement in the quality of goods, works and services procured.</li> </ul>

	<p>contracts financed from ADB funds will include provisions specifying the right of ADB to audit and examine the records and accounts of all contractors, suppliers, consultants, and other service; (iv) there will be independent external auditing of contracts, project accounts, and financial statements; and (v) forensic audits will be conducted of suspected corruption cases.</p>	
<p>5. Weaknesses in landowner compensation procedures and practices.</p> <p><i>(Procedures for making compensation payments to landowners have, in the past, been compromised with unwarranted and or inflated payments made of higher financial significance)</i></p>	<ul style="list-style-type: none"> <li>• ADB is assisting/will assist DOW and the Department of Lands and Physical Planning to identify affected landowners in the required manner and to prepare the Land Information Report, which will be the legal basis for compensation payments.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced project level disputes among local level stakeholders</li> <li>• Reduced stoppage of implementation works</li> <li>• Increased transparency in accounting for landowner payments.</li> </ul>

ADB = Asian Development Bank, AusAID = Australian Agency for International Development, CAA = Civil Aviation Authority, CDTA = capacity development technical assistance, COSO = Central Operations Services Office, CSTB = Central Supply and Tenders Board, DOW = Department of Works, FMIP = Financial Management Improvement Programme, MTFMS = Medium-term Financial Management Strategy, NRA = National Roads Authority, OECD-DAC = Organization for Economic Co-operation and Development's Development Assistance Committee, PERR = public expenditure review and rationalization, PFM = public financial management, PNRM = Papua New Guinea Resident Mission, REG = regional, TA = technical assistance, TSSP = transport sector support program.

## IV. ENERGY SECTOR

### A. Description of the sector

74. PNG has substantial oil, natural gas and hydropower resources and renewables potential in biomass, solar, wind and geothermal, and, accordingly, the energy sector plays a vital role in PNG's economic development (currently 14% of the GDP) and social development. Because electric power generation and distribution are the main focus of investment for ADB, this assessment focuses on that subsector. It is estimated that in PNG less than 10% of the population are electrified by any means available: grid, self-generation, nearby industry, small hydro or solar. The principal sectors of energy consumption by users are electricity generation, transport sector, industrial heating and cooling, and domestic heating and cooling.<sup>46</sup>

<sup>46</sup> The World Bank estimates that in 2001, about 600 MW of installed electricity capacity (both public and private generated about 2,600 Gigawatthours (GWh). Hydro provided 35% of generation and thermal 65%, (of which gas 26%; and oil 39%). It is predicted that in 2030, oil will dominate the electricity generation mix (39%), followed by natural gas (30%), hydro (25%) and other renewables (6%). In 2001, the end use consumption of commercial energy was 364 ktoe. Industry accounted for 60%, transport 17% and agriculture/residential/commercial, 24%. Petroleum provided 40% of energy consumption and other energy forms (mainly electricity) 60%.

75. **Government agencies.** The Department of Petroleum and Energy<sup>47</sup> (DPE) is responsible for the policy and oversight of the sector and for approving new investment projects and is divided into the Petroleum Division and the Energy Division. The Petroleum Division is responsible for oil and natural gas exploration and development. The Energy Division is responsible for energy policies and plans, data collection and analysis and advice to the Government on energy sector issues. In practice, the Energy Division concentrates on electric power, although PNG Power Ltd (PNG Power), the national electricity utility, undertakes most power sector planning. DPE itself reports that extremely limited resources have seriously hampered data collection and analysis (for example, renewable energy sources, data collection nearly ceased by mid 1980s). The Energy Division is divided into two main strategic areas - Planning and Policy and Engineering. The current work program of the division includes a rural electrification program and a renewable energy program that promotes the use of resources such as solar, hydro and wind - a focus intended to address the lack of access to electricity for more than 90% of the population.

76. **Policy.** The DPE appears to be placing emphasis on the oil and gas operations that generate substantial revenue for PNG. There is currently no formally endorsed energy policy in place and the lack of political will has been cited as the primary reason for this. The MTDS is the overall guiding framework for economic growth and social wellbeing for PNG and critically, energy is not captured as a priority under the MTDS. More recently, in November 2009, the Government set out its vision for development and prosperity, 2010-2050 and accordingly the Government is currently working on a Long Term Development Strategy (LTDS), 2010–2030. Although yet to be finalized, the LTDS may finally be the policy vehicle that recognizes and captures energy as a government priority for development.

77. Over the last 3 years or so, three policy drafts have been circulated within the Energy Division and discussed within the Government and with concerned stakeholders. They are the Draft Energy Policy, the Draft Electricity Industry Policy and the Draft Rural Electrification Policy<sup>48</sup>. At this point, the policy that looks the most likely to succeed is the Draft Electricity Industry Policy. The main issues brought to the forefront in the Electricity Industry Policy include: (a) promotion of competition and development of an enabling third party access regime; (b) an emphasis on rural electrification, including establishment of an Electricity Trust Fund for rural electrification purposes to be funded by the Government; (c) strengthening of the regulatory regime, with a role provided to the present regulator (the ICCC) of developing regulations for third party access, as well as a commitment to price cap regulation; and (d) formation of an Electricity Management Committee to oversee implementation of the Electricity Industry Policy, and manage the rural electrification public tender process. A number of issues and concerns on the Electricity Industry Policy have been raised as it has circulated among stakeholders, the main ones being: (a) the continued policy of providing subsidies to the power sector; (b) the exclusivity provisions granted to PNG Power in the policy; and (c) accessibility to the grid by third parties. A summary of the PNG electricity policy is in Appendix 3.

78. **Legislative framework.** Acts of Parliament that deal with energy issues include: the *Electricity Supply (Government Power Stations) Act 1970* regarding powers of the minister for energy for generation, supply and extension of electricity from power facilities built with government funds; the *Electricity Industry Act (Chapter 78)* (Electricity Industry Act) regarding the functions and powers of PNG Power; the *Independent Consumer and Competition Commission Act 2002* (ICCC Act) regulating electricity, petroleum and their pricing); the

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<sup>47</sup> <http://www.petroleum.gov.pg/>

<sup>48</sup> Another relevant policy currently being developed by the Government relates to PPPs.

*Independent Public Business Corporation Act 2002* under which the Government holds all shares of PNG Power; the *Organic Law on Provincial Governments and Local Level Governments* which grants authority to 19 provincial and 299 local governments to regulate electricity; and the *Environment Act 2000* which can require environmental impact assessments for prescribed energy investments.

79. **Industry Regulator.** The Independent Consumer and Competition Commission (ICCC)<sup>49 50</sup> is the national regulatory body that acts as a consumer and business watchdog in regulating the electricity industry. The ICCC licenses electric power, establishes electricity tariffs and controls maximum prices of some petroleum fuels. The objective of the ICCC Act is to enhance the welfare of Papua New Guineans through the promotion of competition and fair trade in the market, protection of consumer interests and regulation of prices and service delivery standards in respect of state owned entities.

80. **Industry regulation.** PNG Power is licensed under the Electricity Industry Act to generate, transmit, distribute and sell electricity in PNG and is a regulated entity under the ICCC Act. Consequently, PNG Power is subject to a regulatory contract that regulates the prices that PNG Power may charge for the supply and sale of electricity.<sup>51</sup> PNG Power applies a uniform tariff structure in all its supply areas but tariff rates are different for each customer group. The current regulatory framework provides exclusive service areas for PNG Power (defined as within 10 kilometers of the distribution network operated by PNG Power for loads under 10 MW and that uses a system of postage stamp pricing in the shape of the national single tariff (which charges the same price for customers within a particular category, regardless of location). Accordingly, inherent cross-subsidies are necessary to maintain the affordability of electricity access in high cost (largely rural) areas.

81. For the first time in the history of PNG Power, the company announced a reduction in tariffs by 2.7% beginning 1 January 2010. The reduction is an additional give away on top of the customers being issued rebates beginning December 2008 for low quality of electricity services provided in respect of each service area. These tariff reductions by PNG Power have been undertaken by permission of the ICCC in ensuring that the services provided and tariffs set are in line with the regulatory requirements.

82. **PNG Power.**<sup>52</sup> PNG Power is the state owned utility solely responsible for the commercial supply of electricity in PNG. PNG Power's electricity generation uses both hydroelectric generation and thermal generation (generally diesel powered) plant to supply power to its customers. There is at present no national grid system due mainly to challenges posed by PNG's difficult topography as well as vast distances between various towns or load centers.<sup>53</sup> The grid systems are centered in Port Moresby,<sup>54</sup> Ramu<sup>55</sup> and Gazelle<sup>56</sup> areas which

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<sup>49</sup> <http://www.iccc.gov.pg>

<sup>50</sup> In enacting the *ICCC Act*, the Government brought into being the ICCC as a body responsible to enforce competition law, pricing for regulated industries, and an organization tasked with overseeing of performance standards by public monopoly entities.

<sup>51</sup> This contract establishes the mechanism by which PNG Power applies to the ICCC for the various tariffs associated with the supply and sale of electricity. PNG Power makes submissions to the regulator (ICCC) to adjust tariffs according to a price path determined according to changes in CPI, exchange rates and fuel cost.

<sup>52</sup> <http://www.pngpower.com.pg/>

<sup>53</sup> PNG Power has plans to interconnect the Ramu and the Port Moresby systems. The project, however, depends entirely on the planned construction of a trans-island road to link the New Guinea Highlands to Papua, which itself has not eventuated.

<sup>54</sup> The Port Moresby system serves the National Capital District, the commercial, industrial and administrative center of Papua New Guinea. The Port Moresby system also serves surrounding areas in the Central Province. The main

all have hydro generation that supplies the bulk of the power. Overall, hydro supplies about 65% of PNG Power's requirements. The distribution network covers 3,300 km–2,800 km in the Port Moresby, Ramu and Gazelle areas and 500km elsewhere. The regional centers that are not connected to these power grids rely on diesel-powered thermal generating plants.

83. Total installed capacity of PNG Power is around 300 MW. There is an additional 280 MW generated by private entities that produce power for their own consumption.<sup>57</sup> This includes power supply from the Hides gas field in Southern Highlands to the Porgera Joint Venture gold mine in Enga Province, and 54 MW of a geothermal capacity utilized by Lihir Gold. The other main area of generation is the Ramu hydro system in Morobe Province, which has 87 MW of installed capacity. This is supplemented by standby diesel operators in Lae, Madang, Mendi and Wabag in the Momase and Highlands regions. There is an additional 12 MW of hydro capacity in the Islands Region also supplemented by diesel generation.

84. PNG Power was the sole generator, transmitter and distributor of electricity for commercial sale in PNG until it negotiated an agreement in 1999 with the Korean-owned Hanjung Power Ltd (Hanjung). Under the 15-year build-operate-transfer agreement, Hanjung generates and sells power from its 24 MW Kanudi diesel power station into Port Moresby electricity grid. Expressions of interest have recently been called for an Independent Power Producer that will add a further 20MW into the Port Moresby grid.

85. **Rural Electrification.** Approximately 90% of Papua New Guineans live in rural areas and have very limited access to electricity.<sup>58</sup> Furthermore, electricity service facilities at rural district headquarters (under provincial government's responsibilities) are deteriorating. Rural electrification policy guidelines were developed in 1993 to address the low rate of rural electrification, high costs and subsidies to C-centers (small rural electricity systems),<sup>59</sup> high costs of grid connections, and the relative effectiveness of mission station electrification compared to government initiatives but as yet no formal rural electrification policy has been adopted by any government. The guidelines advocated decentralized diesel generators, very small hydro and photovoltaic. Despite these and more recent policy initiatives, rural electrification remains ad hoc and C-centers perform very poorly.

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source of generation is the Rouna system and the total generation capacity from the Rouna Power Stations is 62.2 MW.

<sup>55</sup> The Ramu system serves the load centers of Lae, Madang and Gusap in the Momase Region and the Highlands centers of Wabag, Mendi, Mt Hagen, Kundiawa, Goroka, Kainantu and Yonki. The economy of the regions supplied by the Ramu system is based on mining, oil, gas, coffee, tea, timber and industrial productions. The main source of generation is the Ramu Hydro Power Station with an installed capacity of 75MW, comprising of five units of 15MW each.

<sup>56</sup> The Gazelle Peninsula system serves the townships of Rabaul, Kokopo and Keravat to service Gazelle's economy based on copra, coconut oil, cocoa, timber and fishing. The Gazelle Peninsula system is powered by a 10 MW hydropower system at Warangoi, Ulagunan Diesel Power Station with 8.4 MW, and 0.5 MW from Kerevat Diesel Power Station.

<sup>57</sup> These entities are primarily mining companies, churches/missions, tourist centers, schools, health centers and villages.

<sup>58</sup> As a result of a survey conducted by the ADB in 2008 as part of the *TA Power Sector Development Plan*, it is estimated that, by 2027, 22% of the population of PNG will have access to electricity.

<sup>59</sup> C-Centers are mainly District Administration Centers, used to be under the responsibility of PNG Electricity Commission (now PNG Power). C-Centers are now operating under the oversight jurisdiction of the Provincial Governments with the passing of the Organic Law on Provincial and Local Level Governments in 1995. The level of electricity services at these centers has since deteriorated with the lack of maintenance to generation and distribution assets and the lack of the capacity to discharge the task of providing these services.

86. One key player in developing rural electrification programs is PNG Sustainable Energy Ltd (PNGSEL), a subsidiary company under the PNG Sustainable Development Program<sup>60 61</sup> (PNGSDP). The principal activity of PNGSEL is to manage PNGSDP's rural energy projects and contribute to the development of energy sector in PNG, in particular the electricity industry.<sup>62</sup> The company's strategy for participating in the electricity industry is through one or more of the following ways: (i) acquire existing power stations and system assets; (ii) develop and operate new power stations and systems for mining, agricultural or industrial development owners; (iii) in collaboration or partnership with PNG Power, rehabilitate and/or enhance and operate existing power systems; and (iv) through its Rural Energy Division,<sup>63</sup> promote and implement electrification to communities in rural areas.

87. **Renewable energy.** The technical potential for renewable energy sources in PNG is enormous<sup>64</sup> but much of the resources are in remote locations with limited demand and not readily exploitable. About 40% of the country's energy use is generated by renewable energy, especially hydro electricity and it is estimated that with the rugged terrain, PNG has great hydro potential of 25,000 MW. Currently, there are 17 large hydro operations producing 163 MW in 2008.

## 4.2 Findings

88. The electricity sector's vulnerability to risks springs from the magnitude of its capital investments, potential for regulatory capture, and opportunities for discretionary decision making and rent seeking by stakeholders. Risk vulnerabilities also exist in policy making, regulation, organizational management, and operations.

89. Performance indicators provide first-order signals on sector risks. In PNG, these include (i) poor electricity coverage (with a small percentage of total electricity connections as a percentage of the total number of households); (ii) system losses; (iii) low reserve margins and brownouts; (iv) low levels of reliability; (v) high amounts of cross subsidies; (vi) low collection ratios; and (vii) poor cost recovery. These indicators may point to lack of investment in new capacity, a weak financial management system, inefficient business processes, poor sector oversight, and corruption. Low collection ratios also indicate a problem with PNG Power's commercial systems. The risk may be linked to capacity, or it may be associated with corruption (for example, writing off debts, recording false payments, or failure to enforce collection, in exchange for side payments from customers). An adequate analysis of the situation is vital. These risks tend to be relatively more serious where lack of transparency is prevalent, accountability is absent, and decision-making is discretionary.

90. In PNG, approximately 90% of the population still lacks access to electricity, and the

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<sup>60</sup> <http://www.pngsdp.com/>

<sup>61</sup> PNGSDP is an investment company established under statute to manage the 52% the Government share in the Oktedi Mine and its principal activity is to promote sustainable development of PNG, particularly in the Western Province. The company charter allows the company to invest part of the dividend received in rural development projects. This activity is undertaken through supporting programs and projects in the areas of economic development, infrastructure, capacity building, health, education, and community self-reliance. Projects include the rehabilitation and development of mini grid-power systems and solar home lighting systems.

<sup>62</sup> PNG SEL is currently focusing its activities in the Western Province. However, its long-term objective is to carry out electrification work in other provinces in PNG, including West Papua. In Western Province, the company has managed to refurbish and reorganized the management structure of six C-Centers and installed solar lighting systems in several coastal villages.

<sup>63</sup> Funded by PNGSEL with the support from PNGSDP and/or donor agencies.

<sup>64</sup> Especially with biomass resources, solar potential, localized wind potential and localized geothermal potential.

progress in rural electrification has been slow. Achievement of increased access through the operations of PNG Power has not been satisfactory despite the Government having its Community Service Obligations (CSO) vested with the electricity monopolist. Reliability is still a problem, particularly in Port Moresby, and to some extent in Madang and Lae, largely on account of the poor state of generation plants which is a result of long-term neglect. Private sector firms report significant costs incurred in relation to plant and equipment owing to the unreliability of power. Unpaid electricity bills also create problems for funding PNG Power's activities, which appears to be a particular problem in relation to accounts with government departments. Furthermore, a significant proportion of generation capacity is reaching the end of its economic life, for example, the Kanudi power station, which supplies PNG Power with electricity to serve Port Moresby. Replacement generation capacity needs to be provided as well as the capacity to meet growing demand.

91. These specific problems reflect wider problems stemming from the current policy framework (lack thereof) and incentives that arise from it. There are limited external disciplines on PNG Power to manage its costs and seek efficiencies. Moreover, the multiplicity of objectives the Government seeks to achieve through PNG Power's activities imposes a number of constraints on it that are not easily managed. This serves to weaken the commercial discipline on PNG Power and complicates the management of the business. For example, it seeks to follow a policy of price discrimination in respect of large customers (particularly resource projects) as a *de facto* industrial policy to encourage investment in these activities, on behalf of the Government; while at the same time it is required to adhere to uniform pricing under the national tariff (which is the anti-thesis of price discrimination and cost recovery principles). In addition, PNG Power claims to have CSOs that conflict with its commercial objectives, although the nature and extent of such CSOs are not apparent. In reality, there is no explicit CSO framework for the supply of electricity to rural areas, which is generally unprofitable due to the lack of sufficient demand to access scale economies and the limited purchasing power of rural residents.

92. Constraints on access to capital have, historically at least, been a problem for PNG Power, which its owner—the Independent Public Business Corporation—has sought to alleviate by raising finance, on concessional terms, on the back of State guarantees. The current situation is one where the State injects funds into the state-owned provider, namely PNG Power, with monopoly supply rights in an exclusive supply area, to correct for a lack of investment by PNG Power and poor management over the years. With insufficient external discipline on PNG Power, services are still well below standards that are generally accepted and required for economic development. State funding and loan guarantees raise some significant public policy issues, including the contingent external liabilities incurred by the State; the level of national debt; the impact of debt servicing obligations on the national budget; and the impact this arrangement has on performance incentives for PNG Power. As a result of the above problems, significant issues of access, reliability and affordability with electricity supplies prevail.

93. **PNG Power.** PAC is a Parliamentary Committee designated with the task of investigating government expenditure and processes. PAC reviewed PNG Power's audited accounts for 2002 and 2003 (each of which had been issued in 2005) and published those findings in March 2010. PAC reported such gross weaknesses in PNG Power's accounting systems and record-keeping practices to the point, that PAC stated its inability to assess whether PNG Power was a going concern. The PAC report clearly identified significant weaknesses in PNG Power's accounting systems and overall control environment operating during the period under audit. It also noted that poor management systems resulted in limited

budgetary control, inadequate financial reporting structure and undue delay in the preparation and audit of the financial statements. The audit also identified significant weaknesses at branch levels that had taken management long periods to rectify. Appendix 4 of this report sets out a summary of the findings of the PAC report into PNG Power's audited accounts for 2002 and 2003.

94. PNG electricity rates are the lowest of any country in the South Pacific. This makes the operation of the country's monopoly provider, PNG Power, a state-owned utility already burdened by debt, highly uneconomic. PNG Power is undergoing debt and corporate restructuring aimed at eventually attracting private sector investment. Furthermore, public auditing in the sector overall has advanced substantially in the past decade—numerous audit backlogs have been cleared and audit quality has improved significantly. However, any substantial degree of expansion of electricity provision in PNG is unlikely to proceed without a clear policy design for the sector from the Government and proven commitment to such a policy. Furthermore, the Government ownership and interference in power sector activities, within a system that assumes PNG Power is a commercially run entity, reduces the transparency and accountability of that organization.

95. **Policy.** There is a lack of clear Government policies with respect to the sector and a lack of clear Government direction on power sector development. Approximately 90% of Papua New Guineans do not have access to electricity, and supplies to urban areas are intermittent and low quality, and yet electricity sector development is not a priority area in the Government's MTDS 2005-2010<sup>65</sup>. The effect of low prioritization of electricity in development plans has made it difficult to generate reform momentum as development partners are waiting for Government direction before committing funds to technical assistance or projects.

96. Furthermore, there is a lack of capacity in power sector planning and regulatory areas. The Energy Division of the DPE lacks adequate manpower capacity, and skills and knowledge specific to policy development. This is a direct reflection of the lack of political will and a total lack of support (funding, political, administrative backing, capacity building etc) for improvement of the sector. Basically, there is disarray in sector policy management and added to this is the lack of comprehensive data to support and inform the policy development process. Lack in data can be attributed to: (i) lack of adequate manpower; (ii) continual lack of funding; (iii) lack of policy guidance; and (iv) insufficient skills and knowledge to carry out all tasks relating to data work.

97. The sector requires Government commitment to policy, and the creation of an authority to co-ordinate activities within the sector that reflect the policy principles. Policy needs to be advanced which ensure that development projects are not too remote; that they meet criteria; that there is enhanced community participation; and that proper processes and budgeting procedures are followed in implementing these projects; and that private sector participation has also been addressed.

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<sup>65</sup> Note that the new MTDS (2011–2015), currently being formulated, may include sector development as a national priority.

## C. Donor Engagement

### 1. Recent donor engagement

98. In PNG, the World Bank, United Nations Development Programme (UNDP) and ADB are the only international funding agencies known to be actively involved in the PNG power sector.

99. **World Bank.** Recent World Bank engagements in the energy sector are as follows:

- Rural Energy Fund (a project covering East Asia and the Pacific). Approved 2005. Total cost US\$2.94 million.
- World Bank Energy Sector Review
- Teacher's Solar Lighting Project in Western Province. PNGSEL as implementing agency.
- Sustainable Energy Financing Project. The objective of this project is to fund renewable energy electricity supplies for rural communities in the Fiji Islands, PNG, Republic of the Marshall Islands, Solomon Islands, and Vanuatu, with the banking support of ANZ Pacific.

100. **UNDP.**<sup>66</sup> The Government and its respective ministries and agencies at national, provincial and local level are important counterparts for UNDP. In addition, the UNDP partners with donor agencies, international and national NGOs, civil society organizations and community based organizations. UNDP program activities in PNG are funded primarily from three sources: (i) UNDP regular resources; (ii) various UNDP Thematic Trust Funds earmarked for the specific thematic areas; and (iii) direct contributions from donors under bilateral agreements. The total resources to be mobilized in support of the United Nations Development Assistance Framework in 2008 were US\$6.327 million. This includes resources that form part of the core funding of United Nations agencies operating in PNG as well as funds to be mobilized through external partners.

101. Recent UNDP engagement is as follows:

- Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP) being implemented by Secretariat of the Pacific Regional Environment Programme<sup>67</sup> (2007).

### 2. Recent ADB engagement

102. Recent ADB engagement in the sector is as follows:

- TA 41504 - Preparing the Town Electrification Project (formerly Power Sector Development Project). Approved Aug 2008. TA amount US\$1.2 million.
- TA 6485 - Promoting Energy Efficiency in the Pacific. Approved February 2008. TA Amount US\$1.2 million.
- TA 40174 - Power Sector Development Plan. Approved May 2007. TA amount US\$500,000.

<sup>66</sup> <http://www.undp.org.pg/>

<sup>67</sup> Projects included: assisting with review of the electricity industry policy; investigating the possibility of using coconut oil as a substitute fuel for diesel engines; rehabilitation of School Hydro Power Scheme; Solar Photovoltaic Project in Madang; clinical waste gasifier project in Eastern Highlands Province.

#### D. Summary Risk Matrix

103. From the foregone findings, it can be concluded that the energy sector (electricity) faces many risks associated with financial management, procurement, and corruption. The summary of these risks is presented here:

**ENERGY SECTOR: ELECTRICITY**  
**Summary Risk Matrix**

	<b>Risks Identified</b>	<b>Likely</b>	<b>Relatively Serious</b>	<b>Not Mitigated Over The CPS Period</b>	<b>Major Risk</b>
<b>Public Financial Management</b>	1. Lack of political will to develop and energy policy framework. <i>Low prioritization of electricity in development plans makes it difficult to generate reform momentum.</i>	√	√	√	√
	2. Insufficient financial management capacity (computerized planning, executing, monitoring, and reporting) in sector agencies and utility companies impair sector performance and optimal resource use.	√	√	√	√
	3. Nonalignment of budget priorities with investment plans makes service delivery suboptimal.	√	√	√	√
<b>Procurement</b>	1. Low experience and skills of procurement personnel charged with ensuring that the procurement law, policies and procedures are enforced.	√	√	√	√
	2. Procurement is not integrated with financial management, and safeguards to ensure budget adequacy are absent.	√	√	√	√

	<b>Risks Identified</b>	<b>Likely</b>	<b>Relatively Serious</b>	<b>Not Mitigated Over The CPS Period</b>	<b>Major Risk</b>
	3. Lack of sufficient standard documentation for competitive tender and public tender processes and lack of developed public tender processes for projects.	√	√	√	√
<b>Corruption</b>	1. Low capacity of central agencies to investigate corruption cases and to implement the laws and regulations in place.	√	√	√	√
	2. Lack of social mapping creates opportunities for corruption in compensation claims.	√	√	√	√
	3. Low collection ratios indicate corruption (for example, writing off debts, recording false payments, or failure to enforce collection, in exchange for side payments from customers).	√	√	√	√

CPS = country partnership strategy.

## **E. Risk Management Plan**

104. To mitigate the major risks carried forward from the summary risk matrix, a risk management plan has been formulated. The risk management plan is presented hereunder:

### **RISK MANAGEMENT PLAN**

<b>Major Risks</b>	<b>ADB Actions</b>	<b>Indicators</b>
<b>Public Financial Management</b>		
1. Lack of political will to develop an energy policy framework.  <i>(Low prioritization of electricity in development plans makes it difficult to generate reform momentum.)</i>	<ul style="list-style-type: none"> <li>• TA 6485 - Promoting Energy Efficiency in the Pacific.</li> <li>• TA 40174 - Power Sector Development Plan.</li> <li>• Increase support of implementation of National Electricity Industry Policy.</li> <li>• Increased coordination of</li> </ul>	<ul style="list-style-type: none"> <li>• Explicit Government commitment to and adoption of national power sector development plan and policy.</li> <li>• Commencement of least cost electricity projects; demand-side efficiency projects, and off-grid</li> </ul>

	national energy sector programs/policy and development partnerships across various stakeholders.	renewable energy projects.
<p>2. Insufficient financial management capacity (computerized planning, executing, monitoring, and reporting) in sector agencies and utility companies impair sector performance and optimal resource use.</p> <p><i>(Weak accounting systems and record-keeping practices hamper provision of timely and adequate information on revenue streams, expenditure flows, liquidity, and debt levels or arrears.)</i></p>	<ul style="list-style-type: none"> <li>• Provide targeted TA support to relevant bodies.</li> <li>• Help finalize PFM protocols and assist agencies to finalize relevant capacity building plans.</li> <li>• Assist in following through on capacity building plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Noticeable improvement in financial management at agency level.</li> <li>• Losses reduced and audits on time and well adhered to.</li> <li>• Effective monitoring and evaluation systems are in place and applied.</li> <li>• Accomplishment of targeted capacity building programs.</li> </ul>
<p>3. Nonalignment of budget priorities with investment plans makes service delivery suboptimal.</p>	<ul style="list-style-type: none"> <li>• Provide targeted TA support to relevant bodies. (Support agencies in budget formulation in consultation with stakeholders, in alignment with periodic plans and revenue forecast prepared by revenue section of agencies.)</li> <li>• Help finalize PFM protocols and assist agencies to finalize relevant capacity building plans.</li> <li>• Assist in following through on capacity building plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Noticeable improvement in financial management at agency level.</li> <li>• Accomplishment of targeted capacity building programs.</li> <li>• Budgets are in alignment with revenue forecast.</li> </ul>
<b>Procurement</b>		
<p>1. Low experience and skills of procurement personnel charged with ensuring that the procurement law, policies and procedures are enforced.</p> <p><i>(The absence of competent engineers and procurement professionals also undermines sound procurement planning in the sector. )</i></p>	<ul style="list-style-type: none"> <li>• Identify a capacity building plan and implement the identified high priority first phase, including a training program for staff involved in procurement in the CSTB and provincial supply tender boards. This will include undertaking a training needs assessment and institutional review, including identification of a medium and long-term institutional development strategy.</li> <li>• Conduct training</li> </ul>	<ul style="list-style-type: none"> <li>• Qualified procurement staff managing public procurement – especially skills in quality control and procurement</li> <li>• Relevant training plans in place in selected institutions.</li> <li>• Improvement in the quality of goods, works and services procured.</li> <li>• Procurement monitoring systems in place and evidence of their application.</li> </ul>

	workshops in relevant agencies on project management, procurement and financial issues.	
2. Procurement is not integrated with financial management, and safeguards to ensure budget adequacy are absent.	<ul style="list-style-type: none"> <li>Assist agencies to develop and implement procurement processes (in line with the Good Procurement Manual) that are integrated with agencies' management information systems to coordinate financial management, budgeting and procurement.</li> </ul>	<ul style="list-style-type: none"> <li>Application of processes in Good Procurement Manual in place and coordinated with agencies' management information systems.</li> </ul>
3. Lack of sufficient standard documentation for competitive tender and public tender processes and lack of developed public tender processes for projects.	<ul style="list-style-type: none"> <li>Assist with the development of, in collaboration with the ICCC and the CSTB, instruments and processes for executing <i>competitive tender</i> for: outsourced functions and procured works.</li> <li>Prepare guidelines to manage a public tender process and screen proposals for electrification investment projects under CSOs in accordance with the rules of the CSTB.</li> <li>Assist with increased publicizing the annual work plan of electrification projects and make public call for bids on electrification works.</li> <li>Assist in the formation of an 'Electricity Management Committee' to oversee implementation of the Electricity Industry Policy, and manage the rural electrification public tender process.</li> </ul>	<ul style="list-style-type: none"> <li>Existence of standard tender documentation within agencies being used during procurement processes.</li> <li>Improvement in transparency of bidding process.</li> <li>Improvement in the quality of goods, works and services procured.</li> </ul>
<b>Corruption</b>		
1. Low capacity of central agencies to investigate corruption cases and to implement the laws and regulations in place.	<ul style="list-style-type: none"> <li>Targeted technical assistance to agencies on fulfilling their mandates.</li> <li>Engage with Government to maintain political support for the anticorruption agenda.</li> <li>Ensure some level of support for agencies to</li> </ul>	<ul style="list-style-type: none"> <li>Project design and implementation mitigates the risk of the manipulation of processes for personal gain.</li> <li>Increased interaction with Government on good governance and anticorruption agenda.</li> </ul>

	<p>review good governance practices.</p> <ul style="list-style-type: none"> <li>• Coordinate with development partners on provision of needed technical assistance so as to maximize impact.</li> </ul>	<ul style="list-style-type: none"> <li>• No duplication of assistance to anticorruption agencies on corruption in the sector.</li> </ul>
<p>2. Lack of social mapping creates opportunities for corruption in compensation claims.</p>	<ul style="list-style-type: none"> <li>• ADB is assisting/will assist DOW and the Department of Lands and Physical Planning to identify affected landowners in the required manner and to prepare the Land Information Report, which will be the legal basis for compensation payments.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced project level disputes among local level stakeholders</li> <li>• Reduced stoppage of implementation works</li> </ul>
<p>3. Low collection ratios indicate corruption (for example, writing off debts, recording false payments, or failure to enforce collection, in exchange for side payments from customers).</p>	<ul style="list-style-type: none"> <li>• Assist with an adequate analysis of the situation. <i>(These risks tend to be relatively more serious where lack of transparency is prevalent, accountability is absent, and decision-making is discretionary.)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Higher collection ratios.</li> <li>• Improved accountability and transparency in decision-making and in collection.</li> </ul>

ADB = Asian Development Bank, CSO = community service obligation, CSTB = Central Supply and Tenders Board, DOW = Department of Works, ICCC = Independent Consumer and Competition Commission, PFM = public financial management, REG = regional, TA = technical assistance.

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**LIST OF AGENCIES/ORGANIZATIONS MET**

Asian Development Bank  
Australian Agency of International Development  
Cardno Acil  
Civil Aviation Authority  
Consultative Implementation and Monitoring Council  
Department of National Planning and Monitoring  
Department of Transport & Civil Aviation  
Department of Works  
Japan International Cooperation Agency  
Independent Consumer and Competition Commission  
Institute of National Affairs  
National Roads Authority  
National Maritime Safety Authority  
National Research Institute  
National Statistical Office  
Nautilus Minerals Ltd  
PNG Ports Corporation Ltd  
PNG Power Ltd  
PNG Sustainable Energy Ltd  
Public Accounts Committee  
Steamships Shipping Co  
Transparency International PNG  
United Nations Development Programme  
World Bank

## SUMMARY OF PNG ELECTRICITY POLICY

The National Energy Policy Framework is developed along the three main themes of sustainable development - economic, social and environment. The policy statements are developed under each of the three themes above and are stated in the draft policy framework as principles. For example under the economic theme, one of the policy statements is to ensure that that all sectors of the economy have access to adequate, safe, reliable and affordable electricity supplies.

**Electricity Industry Policy:** The policy is in draft form and the stated objectives of the policy are to: improve reliability of electricity supplies; increase people's access to electricity; and ensure electricity is affordable. Policy measures proposed are: (i) state provisions for community service obligations; (ii) appropriate regulation; (iii) competition under various market-determined models; and (iv) private sector participation.

**Draft National Energy Policy:** The policy is in draft form and remains incomplete since drafting commenced in 2006. The goal of this draft policy is to 'ensure that ownership of energy resources is vested with the resource owners and that their development must be accessible, reliable, affordable, efficient and environmentally friendly for the benefit to communities, industries and trade, and other development activities' (Department of Petroleum and Energy 2006). If adapted, the National Energy Policy 2006 will promote sustainable energy development and use by introducing a partnership framework between the State, energy resource owners and the private sector.

**Draft Rural Electrification Policy:** The policy is in draft form and remains incomplete since drafting commenced in 2006. The primary objective of the rural electrification policy is to increase access to for the rural population to adequate, safe, reliable and affordable electricity supplies.

**Draft Geothermal Energy Resources Policy:** the Government has engaged the services of a private consultant to develop a model for this policy.

**Policy on renewable energies:** Such a policy does not yet exist and is increasingly becoming necessary – a necessity driven by the agriculture, forestry and environment sectors.

**Draft PPP Policy:** currently under development.

## **SUMMARY OF FINDINGS OF PAC REPORT INTO PNG POWER'S AUDITED ACCOUNTS FOR 2002 and 2003**

A summary of the findings of the PAC report into PNG Power's audited accounts for 2002 and 2003 is as follows:

- Lack of audit trail – unable to produce audit evidence for large number of transactions and account balances.
- Confusion with accounting software – at that time, two ledgers were being kept by 2 accounting software systems while a handover was being conducted. Revealed implementation and integration problems and lack of staff training with either system.
- Fixed assets – insufficient records of fixed assets and no physical verification of assets therefore impossible to assess their value.
- Debtors – unable to produce a complete listing of debtors.
- Electricity Sales Revenue – insufficient evidence to ensure that the electricity revenue recorded was validly made on the basis of records from revenue billing systems.
- Loan Balances – unable to confirm accuracy of loan balances by reference to the company's records.
- Inventories – failure to maintain satisfactory records as to the existence or valuation of inventories.
- Creditors – insufficient evidence to confirm the completeness and accuracy of the creditor's balance.
- Profits – unable to confirm completeness and accuracy of extraordinary items of up to K17.6 million written to profits.
- Bank balances – unable to determine correct bank balance based on available information.
- Government debts forgiven – company writing off up to K219.2 million in the Government loans without evidence of consultation with Treasury.
- Value Added Tax – unable to determine the accuracy of tax liabilities.
- Non-compliance with International Accounting Standards (IAS) – accounting treatment and disclosures of a number of account balances and transactions did not comply with IAS.
- Non-compliance with *Companies Act 1997* – at that time, the company had not lodged its annual returns with the Registrar of Companies since its incorporation.