

SECTOR ASSESSMENT (SUMMARY): MULTISECTOR

A. Overall Context

1. The Papua New Guinea (PNG) economy is dominated by a large, labor-intensive agriculture sector and capital-intensive mining and petroleum industries (consisting mostly of oil, liquefied natural gas, gold, copper, and silver extraction). The formal sector consists of enclave extractive mining and petroleum industries; cash-crop agriculture production; and a small, import-substituting manufacturing sector. The informal sector, from which roughly 85% of the population derives its livelihood, is largely subsistence agriculture.

2. With the commencement of liquefied natural gas production and export in 2014, the share of total output generated by the resources sector is expected to increase over the coming decade. As the current sharp, unexpected drop in global oil and other commodity prices demonstrates, managing the volatility associated with this resource dependence will be increasingly important for maintaining macroeconomic stability. To ensure growth is sustainable, needed economic policy adjustments include (i) fiscal consolidation to enhance the economy's resilience to adverse economic shocks, (ii) strengthened institutions to ensure transparent and accountable resource revenue management, and (iii) greater focus on enhancing the quality and impact of public expenditure. The development of PNG's economy remains linked to transport infrastructure and the socioeconomic development of its dispersed island population.

3. The main sectors addressed by the Building Resilience to Climate Change in Papua New Guinea project are transport, water and other infrastructure services, information and communication technology, agriculture and natural resources, and public sector management. This summary sector analysis is extracted from the respective sector analyses contained in the country partnership strategy, 2016–2020.¹ Agriculture and natural resources and information communication technology are in addition to the country partnership strategy focus sectors.

B. Sector Performance, Problems, and Opportunities

4. **Transport.** Inadequate transport infrastructure and services are major constraints on inclusive economic growth in PNG. The country's 600 islands and altitude ranging from sea level to 4,500 meters add to the challenge.² Coastal shipping services and aviation are not usually cost-effective outside the major regional centers and often fail to provide reliable service. In the target project provinces (predominantly isolated island communities), the largest single constraint remains poorly developed water transport infrastructure and services.³

5. A significant level of investment in coastal transport infrastructure is contemplated by the national government and provincial administrations, but the technical capacities to incorporate climate change threats—higher intensity storms, heightened wave action, increased wind velocities, and, in the longer term, rising sea level—in facility design do not exist within the PNG Ports Corporation, the state-owned enterprise responsible for management and operation of the country's major ports.

6. **Water and other urban infrastructure services.** In 2011, 89% of PNG's urban population (excluding large informal peri-urban settlements) had access to improved water

¹ ADB. 2015. *Country Partnership Strategy: Papua New Guinea, 2016–2020*. Manila.

² ADB. 2012. *PNG Critical Development Constraints Report*. Manila. p.xi, p.91.

³ Bougainville, East New Britain, Manus, Milne Bay, and Morobe provinces.

supply sources but only 33% of the rural population had similar access. Rural access to sanitation services was 13%, unchanged from 1990 levels. Pit latrines and septic tanks are poorly constructed over water bodies which are used as drinking water sources, and are a source of contamination.

7. Limited access to improved water supply and sanitation services undermines public health and is a main contributing factor to infant mortality. Poor public health brings about low labor productivity, forgone employment opportunity, and added health-related expenses among households. The Department of Health has insufficient financial resources for implementation. From 2006, the PNG–European Union Rural Water Supply and Sanitation Program has been the only substantial rural water supply and sanitation activity. It has financed water system construction and provided hygiene education and community development training.

8. **Information and communication technology.** There have been significant gains in information and communication technology in PNG over the last five years but extensive areas remain outside the radio network coverage area, affecting regular communication, emergency response, and disaster relief services.

9. **Agriculture and natural resources.** The agriculture sector continues to be hampered by low global commodity prices, declining yields from aging plantations, inadequate pest control, and poor transport infrastructure. There is active trade between the mainland producing areas and the islands, where marine products are traded for food items (including sago), even with the high cost of transporting perishable goods with poor infrastructure and inefficient vessels. Food shortages are common in the islands, where access to the mainland is frequently interrupted by extreme climate events.

10. PNG has a wide variety of coastal habitats, resources, and environments including deltaic floodplains, estuaries, tidal flats, mangroves, beaches, bays, lagoons, sea grass beds, and coral reefs. Mangrove ecosystems provide a variety of food and products of direct use to local people, including firewood, building materials, and medicine. Coral reefs cover a total of about 40,000 square kilometers (km²) and are at risk from anthropogenic threats such as unsustainable fishing; sediments from deforestation, subsistence agriculture, and mining; and the effects of climate change, such as coral bleaching. PNG's fishing zone of 2.4 million km² is the largest in the South Pacific. Its fishery resources consist of a wide variety of pelagic and demersal species for both domestic consumption and export.

11. The main sector issues relating to climate change include (i) a complex policy framework, (ii) weak institutional capacity, (iii) limited information available on the likely impacts of climate change, and (iv) difficulties in justifying investments to protect against climate change where impacts are not anticipated until long into the future.

12. **Public sector management.** Important weaknesses continue to impede the government's ability to control expenditures, disburse the budget as approved, and provide an adequate public sector management framework for the delivery of essential services. Often, fundamental arrangements are in place but implementation weaknesses mean that the systems and procedures for expenditure control cannot be relied upon to ensure appropriate accountability. Transparency in budget execution is weak, with budget integrity undermined by frequent diversion of funds. Climate change concerns are the responsibility of the Office of Climate Change and Development, established in 2011 under the Minister of the Environment and Climate Change, a relatively new and small institution with responsibility for coordinating

climate change matters across all relevant departments of government. Its capacity in key areas of financial management and procurement is relatively weak.

C. Government's Strategy

13. **Papua New Guinea Vision 2050.** Launched in November 2009, this document provides the national development framework that will drive the country's development towards 2050. It seeks to transform the economy from one dominated by the mining and energy sectors to one that can generate more broad-based economic growth. It targets the tripling of the country's gross domestic product per capita, substantial development of sea transport services, and improved access to electricity and to basic health and education services. The PNG Development Strategic Plan translates PNG Vision 2050 into concise directions for economic policies, public policies and sector interventions with clear objectives, quantitative targets, and baseline indicators.

14. **Transport.** The PNG Development Strategic Plan, 2010–2030 outlines an ambitious array of transport infrastructure investments, including a large expansion in shipping and air transport capacity.⁴ The development plans in the five participating project provinces provide a strong focus on maintenance and development of coastal infrastructure to support livelihoods and service delivery in the outlying island areas.

15. **Water and other urban services.** The government has prepared ambitious targets under the National Water, Sanitation and Hygiene Policy that encompass those of PNG Vision 2050; the Development Strategic Plan, 2010–2030; and the corporate plans of state-owned enterprises, among others, and clearly defines the sector targets to be achieved by 2030.

16. **Information and communication technology.** Telecommunications services have benefited from the introduction of private sector competition in the mobile phone network, which has resulted in a substantial upgrade in the quality and reach of services and a significant decline in cost. However, the cost of servicing remote locations is high (per unit beneficiary) and commercial providers are reluctant to extend coverage in these areas. It is current government policy to roll out the benefits of competition throughout the telecommunications industry, including all forms of internet access, access to international calls, and mobile phone service. Wherever the extension of phone, internet, and media services is less viable, public–private partnerships will be encouraged. An important initiative for the extension of services into rural areas will be to secure satellite access. Strategic targets for 2030 include (i) 800 mobile subscribers per 1,000 people, (ii) 70% of people using the internet, and (iii) 100% of people having access to radio and television.

17. **Agriculture and natural resources.** The National Agriculture Development Plan 2007–2016 provides detailed projections to 2030 for many of PNG's agricultural commodities. One of the projections is to increase production of staples to levels sufficient to feed the population and supply downstream industries.

18. The Development Strategic Plan recognizes the importance of coastal fisheries to local communities. Coastal fishing grounds will continue to offer local fishers opportunities to earn a sustainable income, providing the fisheries are well managed and resilient to the impacts of climate change.

⁴ Government of PNG. 2010. *PNG Development Strategic Plan, 2010–2030*. Port Moresby.

19. **Public sector management.** Public sector management is an important component of the Development Strategic Plan. The plan focuses on (i) improving and strengthening public sector reform efforts, (ii) improving budgeting and financial management for effective service delivery, and (iii) creating regulatory and accountability settings to enhance accountability and performance of public agencies (footnote 3). The plan acknowledges the weaknesses in public financial management and has set ambitious targets for improvement based on the World Bank worldwide governance indicators and public expenditure and financial accountability indicators.

D. ADB Sector Experience and Assistance Program

20. The Asian Development Bank (ADB) has supported land, aviation, and maritime connectivity. ADB currently finances the improvement of roads and bridges, institutional development of land transport agencies, expansion of the country's largest port, rehabilitation of navigational aids, institutional support to the National Marine Safety Authority, improvements at airports owned by the National Airports Corporation, and technical assistance to PNG Air Services. ADB projects have supported asset maintenance and upgrading, institutional strengthening, and capacity building.

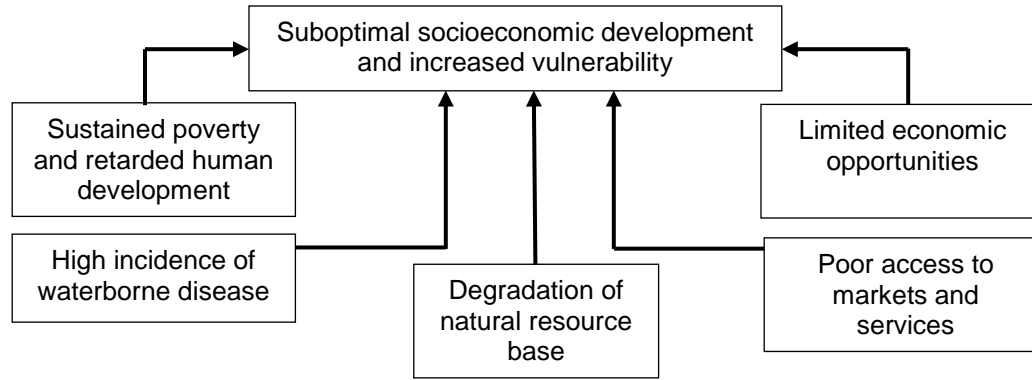
21. Since 1976, ADB has also helped to develop water supply and sanitation services. This assistance has focused on urban water supply projects in Port Moresby and some district towns. Currently, the only active development partners in the sector are the Japan International Cooperation Agency and the European Union, along with nongovernment organizations including World Vision, Oxfam, WaterAid, Save the Children, Live and Learn Environmental Education, and ChildFund. These organizations are active in a number of small-scale, primary-service initiatives and commonly work with local communities.

22. The impact of ADB's interventions in the agriculture and natural resources sector has been assessed.⁵ A key lesson drawn from the study is that "environmental and natural resources management projects and programs are unlikely to be successful unless resource users and/or communities are able to obtain tangible economic benefits for meeting their immediate livelihood needs...economic activities that provide sustainable income gains must be an integral part of environmental and resource management programs." This approach has been adopted in the overall project design, with its focus on capacity development of government, communities, and private institutions as well as civil society.

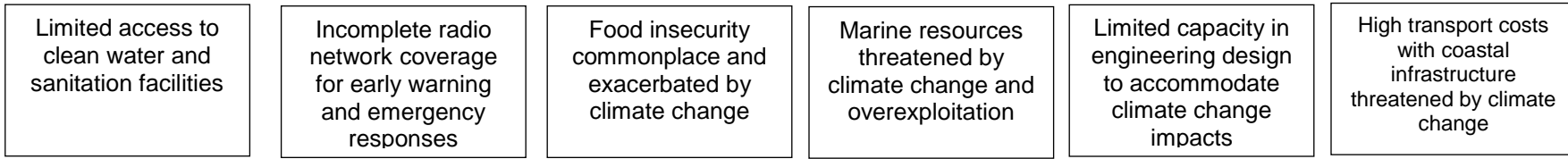
⁵ ADB. 2010. *ADB Performance of ADB Assistance to Agriculture and Natural Resources - Evidence from Post-Completion Evaluations*. Manila.

Problem Tree

National and Sector Impacts



Core Issues



Causes

Financial	Institutional	Technical
Inadequate funding allocations for water and sanitation	Weak institutional capacities in terms of personnel and resources to implement development programs	Limited awareness of water sanitation and hygiene issues
High water transport development costs per beneficiary	Lack of familiarity of government personnel and communities with the potential impacts and adaptation measures to address climate change	High population densities on remote islands contaminate clean water sources and the marine environment
Low geographic population densities that render radio communications expensive per beneficiary	Planning methods adopted follow a top down approach and fail to provide resources to locally identified development initiatives	Poor water and natural resource management capacities amongst vulnerable communities
	Poorly resourced applied research facilities to introduce drought-tolerant varieties	High vulnerability to climate change
	Lack of appreciation of the need to conserve natural resource base	Lack of industry standards and capabilities to address the impact of climate change on coastal infrastructure

Sector Results Framework (Multisector, 2015–2021)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	Indicators with Targets and Baselines	Outputs with ADB Contribution	Indicators with Incremental Targets	Planned and Ongoing ADB Interventions	Main Outputs Expected from ADB Interventions
<p>Transport Coastal shipping services improved</p> <p>Water Access to water and sanitation services in rural areas improved</p> <p>PSM High standards of public sector management at all levels and in all government institutions</p> <p>Outside CPS ANR Increase production of staples to levels to feed the population</p> <p>ICT Radio communication networks extended country-wide</p>	<p>1 million rural residents benefiting from a 25% reduction in the cost of travelling from their communities to nearest market by 2020, of which 50% are women and girls (2014 baseline: 50,000)</p> <p>The incidence of annual WASH-related deaths decreased to less than 60 per 100,000 persons by 2020 (2013 baseline: 108 per 100,000 persons)</p> <p>ADB country performance assessment indicators 8a: equity of public resource use increased to 5.0 by 2020 (2014 baseline: 4.0)</p> <p>Incidence of child malnutrition reduced by 50% by 2021 from 2015 estimate</p> <p>An incremental 500,000 island inhabitants receiving VHF radio coverage for communications, early warning, and emergency response</p>	<p>Coastal infrastructure upgraded using designs adapted for climate change</p> <p>Increased access to WATSAN facilities in rural areas</p> <p>Improved capacities of OCCD staff in financial management, procurement, and project implementation</p> <p>Approaches demonstrated to improve food security in target islands</p> <p>Disaster early warning mechanisms piloted on the 21 vulnerable islands</p>	<p>Construction standards revised to adapt to climate change</p> <p>Number of coastal infrastructure upgraded</p> <p>40% of the rural population with access to improved water supplies. Access to sanitation services increased to 15% nationwide.</p> <p>Five permanent staff of OCCD trained in financial management and procurement</p> <p>Productivity of land-based and marine resources improved by 30% of baseline figure by 2021</p> <p>Mortalities from natural disasters reduced by 50% in target areas</p>	<p>Planned target subsectors Transport sector (roads and air) (\$438 million of CPS envelope) Water sector (\$31.5 million of CPS envelope) PSM (\$1 million of CPS envelope)</p> <p>Pipeline projects estimated at \$436 million for (i) transport sector policy, including organizational, budgeting, and maintenance, (ii) road rehabilitation and maintenance, (iii) bridge rehabilitation, and (iv) civil aviation safety and security</p> <p>Ongoing projects with approved amounts Upgrading of Lae port (\$85 million).</p>	<p>Planned target subsectors About 300 km of district and rural roads rehabilitated Road funds approved and operational</p> <p>Pipeline projects 200 km of district and rural roads rehabilitated</p> <p>Ongoing projects 80 km of district and rural roads rehabilitated Transport sector master plan completed</p>

ADB = Asian Development Bank; ANR = agriculture and natural resources, CPS = country partnership strategy; ICT = information and communication technology, km = kilometer, OCCD = Office of Climate Change and Development, PSM = public sector management, VHF = very high frequency, WASH = water, sanitation, and hygiene, WATSAN = water and sanitation.

Sources: ADB, Government of Papua New Guinea.