

Environmental Assessment and Review Framework

April 2018

PNG: Water Supply Scheme for Tete Settlement

Prepared by the Department of National Planning and Monitoring, Government of Papua New Guinea for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 26 March 2018)

Currency unit	–	Kina (K)
K1.00	=	\$0.31
\$1.00	=	K3.21

ABBREVIATIONS

ADB	–	Asian Development Bank
BOQ	–	bill of quantities
CEPA	–	Conservation and Environmental Protection Authority
CEMP	–	construction environmental management plan (of the contractor)
DNPM	–	Department of National Planning and Monitoring
EARF	–	environmental assessment and review framework
EIS	–	environmental impact statement
EMP	–	environmental management plan
EP	–	environmental permit
EPAR	–	Environmental (Prescribed Activities) Regulations
GRM	–	grievance redress mechanism
NDOH	–	National Department of Health
NGO	–	non-governmental organization
PCP	–	Public Communications Policy 2011 (of ADB)
PNG	–	Papua New Guinea
QPR	–	quarterly progress report
SPS	–	Safeguards Policy Statement 2009 (of ADB)
SR	–	safeguard requirement (of the SPS)

NOTES

- (i) The fiscal year (FY) of the Government of Papua New Guinea and its agencies ends on 31 December. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2011 ends on 31 December 2011.
- (ii) In this report, "\$" refers to US dollars unless otherwise stated.

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I. INTRODUCTION

1. **Background.** The grant will address poor access to safe water in Tete settlement in Port Moresby, Papua New Guinea (PNG) (see Figures 1 and 2). PNG is the largest and most populated Pacific nation, with a population of at least 8.15 million. The urban population of the capital Port Moresby is estimated at about 800,000, of which more than half live in informal settlements. While the urban growth rate is around 2%, growth rates in informal settlements of between 5% and 8% have been reported. This rapid urbanization has contributed significantly to a growing landless class living in squatter and informal settlements with limited or no access to basic services. These settlements are now an established and permanent feature of the urban landscape in Port Moresby.

2. **Implementation and institutional arrangements.** The project is estimated to cost \$850,000 including contingencies, of which \$800,000 will be a grant from the People's Republic of China Poverty Reduction and Regional Cooperation Fund (PRCF) and administered by the Asian Development Bank (ADB). The grant will cover (i) detailed design of water supply infrastructure for Tete settlement; (ii) due diligence activities; (iii) civil works associated with the construction of water supply infrastructure, including testing and commissioning; (iv) community mobilization including awareness activities and training of community water, sanitation and hygiene (WASH) committee; and (v) regional knowledge sharing associated with the project.

3. The executing agency for the proposed project will be the Department of National Planning and Monitoring (DNPM). The implementing agency will be Eda Ranu, the state-owned enterprise responsible for water and sewerage provision in Port Moresby. The project will be delivered through a turnkey contract which will include surveys, detailed design, updating, as required, the safeguards due diligence, construction and commissioning, and a civil society organization or NGO will be recruited for the WASH program and associated community engagement. All procurement and consultant recruitment under the project will be in accordance with ADB's Procurement Policy and Procurement Regulations (2017, as amended from time to time).

4. This environmental assessment and review framework (EARF) has been developed to guide DNPM, Eda Ranu as the implementing agency, ADB and the turnkey contractor (to be recruited) in implementing environmental safeguards for the grant. The process set out in the EARF will apply to the design, due diligence and implementation of the grant to ensure that the environmental impacts and risks are appropriately addressed and mitigated to acceptable levels. Thus, the purpose of the EARF is to provide a procedure for the environmental assessment and review of grant components that will be identified during the implementation that complies with the environmental laws of PNG and safeguard policy requirements of ADB.

5. **Rationale.** PNG did not meet the Millennium Development Goals for access to improved water supply and sanitation. Water utilities such as Eda Ranu struggle to provide acceptable services to existing customer bases, and have difficulty keeping pace with urban growth in formalized communities. Challenges are greater for extending services to informal settlements with unsecured land tenure and those in peri-urban areas. Limited access to safe water and improved sanitation undermines public health and significantly contributes to PNG's high infant mortality rate (54 deaths per 1,000 births in 2017). Poor public health results in low labor productivity, forgone employment opportunities, and added health-related expenses among households, which in turn exacerbates hardship and constrains sustainable development.

6. Tete settlement, on the northern outskirts of Port Moresby, has an estimated 8,000 residents and is growing rapidly. The community is serviced by 1 water stand-pipe (tap) which operates on an intermittent basis and is the only source of safe water within Tete.

Figure 1: Location of Tete settlement relative to Port Moresby

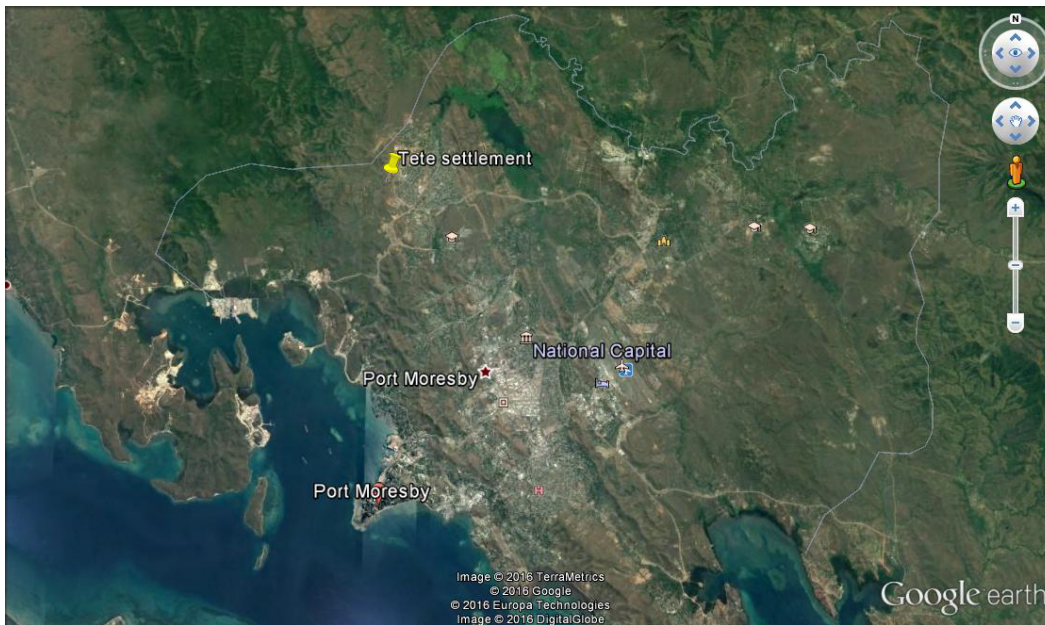
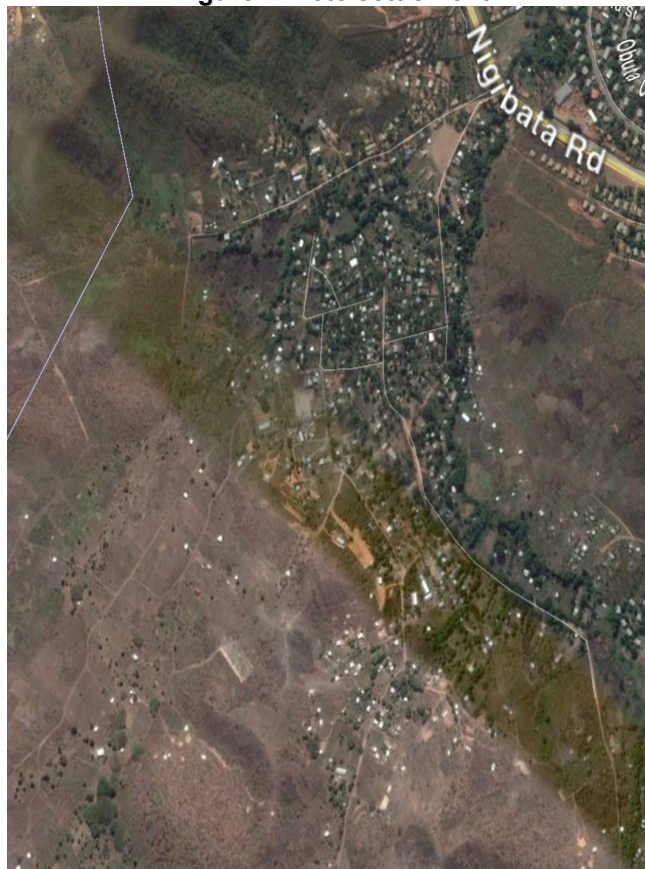


Figure 2: Tete settlement



7. Consequently, most members of the community, particularly women and children, have no option other than to use contaminated ground and swamp water for washing and personal hygiene. An existing informal community committee currently collects payments from households to cover the cost of metered water supplied by Eda Ranu. The community has expressed a strong interest for donor assistance to improve services, including safe water supply. This would require upgrading the connection from the Eda Ranu network to Tete, installing one or more water tanks at suitable elevations to distribute water by gravity within Tete, and strengthening the community's capacity to manage and to equitably supply safe water within the community. Eda Ranu has expressed in-principle support for expanding its services to Tete but does not have the necessary financial resources. The utility wishes to enter a partnership with a community and a donor to install infrastructure, given that it is mandated to provide universal access to safe water and to improve water supply service delivery standards in Port Moresby.

8. ADB is currently administering a technical assistance (TA) Support for Water and Sanitation Sector Management (\$700,000) in PNG. The PNG Country Operations Business Plan also includes an ensuing investment project District Towns Water and Sanitation Project. Complementary to this support, an ADB intervention via a small stand-alone grant to implement a community-driven water supply pilot project at Tete settlement represents an opportunity for high-impact service improvement at a relatively low cost. An intervention in Tete also provides an opportunity to develop and test a model for a community-led water supply scheme in a settlement area with potential for scale-up or replication, including via the proposed ADB investment project. The proposed assistance for the Tete community is aligned with recent requests from government to plan and pilot water, sanitation and hygiene (WASH) management models in district towns and settlement areas and will complement the ongoing TA activities.

9. The ADB PNG Country Partnership Strategy 2016-2020 reflects improved access to water supply as an operational priority.¹ The PNG National Water, Sanitation and Hygiene Policy encompasses the development targets for improved access to safe water and improved sanitation articulated in the PNG Vision 2050, Development Strategic Plan 2010-2030 and the corporate plans of SOEs, and includes a target for 95% of the urban population to have access to a safe, convenient and sustainable water supply.² The project is also in line with Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all.

10. **Impact, outcome and outputs.** The impact the project is aligned with is the improved health of the population of Tete. The outcome of the project will be increased access to safe water supplies. Outputs include: (i) new water supply infrastructure constructed, including a pipeline and a storage tank; (ii) Tete community sustainably manages its water supply; and (iii) management model for community-managed water supply in urban informal settlement areas is developed.

¹ ADB. 2016. Country Partnership Strategy: PNG, 2016–2020. Manila.

² Government of Papua New Guinea, National Strategic Plan Taskforce. *Papua New Guinea Vision 2050*. Port Moresby; and, Department of National Planning and Monitoring. 2010. *Papua New Guinea Development Strategic Plan 2010-2030*. Port Moresby

11. **Purpose of the framework.** This EARF identifies the broad scope of the grant and outlines the environmental policy, procedures and institutional requirements for preparing environmental due diligence as part of the design stage following grant approval. The executing agency will be the DNPM and the implementing agency will be Eda Ranu which will be supported by a PMU. On behalf of Eda Ranu, the PMU will be responsible for implementing environmental safeguards in accordance with this EARF.

12. The EARF is based on the existing legal and policy frameworks in PNG for environmental management supplemented as required with the requirements of ADB's Safeguards Policy Statement 2009 (SPS).

II. LEGAL AND POLICY FRAMEWORK

13. Environmental assessment and review of the grant's physical infrastructure components will be undertaken in compliance with the laws of PNG (including international agreements it has ratified) and ADB safeguard requirements.

A. PNG Regulatory Framework for Environment

14. Environmental conservation and protection in PNG is addressed by the Environment Act 2000 and Environment (Amendment) Act 2014 (the Act) and its accompanying regulatory instruments including the Environmental (Prescribed Activities) Regulations (EPAR) 2002, and the Guideline for Conduct of Environmental Impact Assessment (EIA) and Preparation of an Environmental Impact Statement (EIS) 2004. The Act, EPAR and guidelines are administered by the Conservation and Environmental Protection Authority (CEPA).

15. EIA procedures in PNG follow a three-tiered system whereby all development activities are classified as Level 1, 2 or 3. Level 1 activities are those activities that will have minimal impact on the environment and are not permitted or licensed but apply environmental guidelines or codes of practices developed for specific activities on a voluntary basis. These activities are left to the provincial and local level governments to regulate if they so wish. Level 2 and 3 activities are permitted activities that may pose significant or major impact on the environment, with level 3 activities required to undergo full environment assessment. EPAR classifies activities for levels 2 and 3, and these activities are subject to CEPA permitting or licensing functions.

16. Separate environmental permits (EPs) from CEPA (and in some cases the Department of Mines) are required to discharge wastes, extract gravel (for construction materials), and/or water use/extraction. Conditions for monitoring the impact of the activity are set out in the permit, which also sets the basis for an environment management and monitoring program (EMMP).

17. The community-driven water supply scheme is likely to be a Level 1 activity (not a prescribed Level 2 or 3 activity) under the EPAR but could require application for EPs (i.e. for water use, any waste discharge, or gravel extraction).

18. The PMU environmental specialist will be responsible for consulting CEPA on the proposed works at an early stage and providing the environmental assessment and overall EMP for their information, and guidance on any EPs required. The turnkey contractor will be responsible for notifying and consulting CEPA on the detailed works, preparing any specific environmental assessment requirements of CEPA and ADB for the activities, and any necessary submissions for obtaining requisite EPs. The contractor will also be responsible for determining and meeting any Provincial requirements for environmental compliance.

B. ADB Environmental Safeguard Requirements

19. The ADB's SPS consists of three safeguard requirements (SR): SR1: environment; SR2: involuntary resettlement; and SR3: Indigenous Peoples. The objectives of ADB's safeguards are to: (i) avoid adverse impacts of projects on the environment and affected people, where possible; (ii) minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and (iii) help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks. Through its SPS ADB establishes policy objectives, scope and triggers, and principles for three key safeguard areas of environment, involuntary resettlement, and Indigenous People. The SPS sets out the process to be applied from screening, through due diligence and assessment to monitoring and reporting.

20. The objective of SR1 is to ensure the environment soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process. To help achieve the desired outcomes, ADB adopts a set of specific safeguard requirements that need to be achieved during the processing and implementation of projects financed by ADB.

21. Through a process of screening, ADB categorizes projects by their potential risk or level of impact, and the category of a project will determine the level of assessment required as follows:

(i) **Category A.** A proposed project is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA) including an EMP is required.

(ii) **Category B.** The proposed project's potential adverse environmental impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An environmental assessment--initial environmental examination or equivalent-- including an EMP is required.

(iii) **Category C.** A proposed project is likely to have minimal or no adverse environmental impacts. An assessment is not required, although environmental implications are still reviewed and in some cases management guidelines may be required to be included in bid documents.

(iv) **Category FI.** A proposed project involves the investment of ADB funds to or through a financial intermediary. The financial intermediary must apply and maintain an environmental and social management system, unless all of the financial intermediary's business activities have minimal or no environmental impacts or risks.

22. A screening has been undertaken to categorize (according to the SPS) the grant's components based on location and potential impacts. Based on the community-driven aspect of the grant and it being a small-scale pilot, it is category B for environment. The environmental assessment to be prepared should be commensurate with the impacts and risks, and in this case it should focus on the mitigation and management measures required during construction/installation.

III. ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

23. Overall, the project footprint will be small and limited to the new water supply infrastructure (from the Eda Ranu network into the settlement) and installation of one or more storage tanks to distribute water by gravity to the community. The impacts from these works are predictable, site-specific and readily mitigated. Thus, requirements for access to land, social/community disruption, disturbance of cultural sites, removal of significant vegetation, and damage to habitats are unlikely.

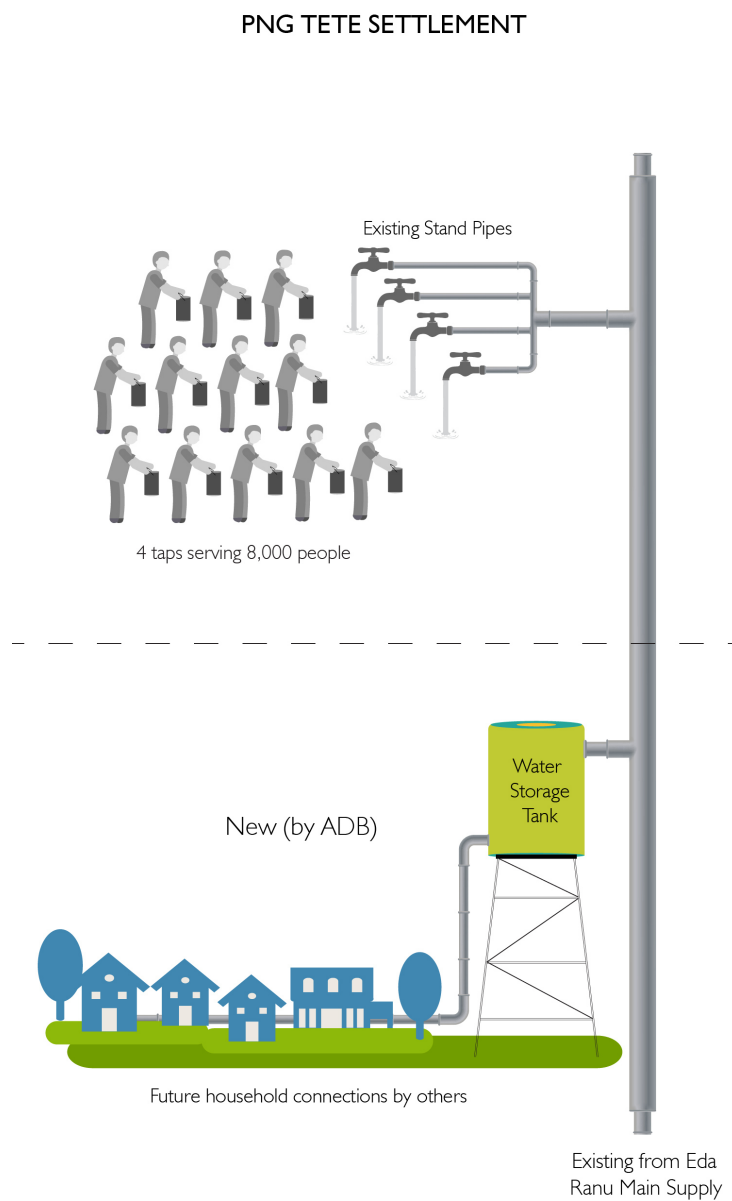
24. Given that the works will be undertaken in a densely settled urban community nuisance factors such as noise, dust, presence of workers, and excavated trenches and pipeline installation are likely to be the most significant activities that will require careful attention and management. The environmental quality of the settlement is not expected to be negatively affected from grant activities given the scale and duration of the works. These minor adverse impacts will be easily minimized with the proper mitigating measures to be identified in the environmental assessment. Overall environmental quality in the Tete settlement will be greatly improved as a result of reliable water supply from improved treatment facilities³ and better hygiene practices and conditions.

25. The water supply infrastructure will include activities such as digging trenches and laying of pipelines (a pipeline of approximately 1km in length to bring water from the Eda Ranu pipeline to the settlement); construction of water points and construction of new water tank/s within the settlement. The water supply system is likely to include a combination of community standpipes, connections to community facilities (e.g. church and police station) and possibly some household connections.

26. A schematic of the water supply scheme is provided in Figure 3.

³ The water from the Eda Ranu pipeline will already have been treated and disinfected.

Figure 2: Approximate schematic of existing and new water supply scheme to Tete



C. Environmental Assessment

27. In order for the grant to meet the requirements of the country safeguards system and the requirements of SPS, the physical infrastructure components of the grant will follow the process below:

- i. Based on the information available prior to the turnkey contractor's detailed design, a category B environmental assessment commensurate with the level of risks and impacts will be prepared by the PMU's safeguard specialist. This will include an outline EMP to identify the required environmental and social management guidelines and mitigations addressing the risks and impacts. The environmental assessment will be reviewed and cleared by ADB and submitted to CEPA for clearance under the country system;
- ii. The EMP from the cleared environmental assessment will be included, along with other safeguard provisions as required, in the tender for the turnkey contract; and
- iii. The environmental specialist on the contractor's team will update EMP from the cleared environmental assessment based on the detailed design. The EMP will be developed into a site-specific construction EMP (CEMP) including the actual construction methodology and to prescribe how the contractor will respond in detailed method/work statements, sub-plans and site-specific layouts and drawings addressing the various elements of the EMP, how the grievance redress mechanism (GRM) will be implemented, and regular reporting of implementation of the approved CEMP.

28. The impacts and risks will be analyzed in the context of the settlement area and the construction footprint within the settlement. The relevant environmental and social impacts and risks will be analyzed for each relevant stage of the project cycle, including pre-construction, construction, operations (and decommissioning as relevant). As the grant is for small-scale plant with impacts and benefits within a confined area and for a specific population, the usual assessment contents and coverage can be adapted and focused as follows:

- (i) Executive summary – concise description of the critical facts, significant findings, and recommended actions;
- (ii) Introduction and description of the grant – background and rationale for the grant, and a description of the components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power supply, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence;
- (iii) Policy, legal, and administrative framework – based on the section in this EARF, briefly set out the national and local legal and institutional framework and SPS requirements;
- (iv) Description of the environment – establish the baseline data (physical, biological, and socio-economic conditions within the study area) as relevant to the grant and its components;
- (v) Anticipated environmental impacts and mitigation measures – focusing on the impacts and risks, describe the activities and their effects on the baseline for pre-construction, construction and operation. Outline the mitigation measures to be taken through to the EMP;

- (vi) Information disclosure and consultation – coordinating with the consultations and meetings undertaken for the social safeguards due diligence and any gender actions, describe the consultations that informed the assessment. Describe the steps and requirements for disclosing information about the grant locally and to broader stakeholders;
- (vii) Grievance redress mechanism – based on the GRM set out in this EARF, describe the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints;
- (viii) Environmental management plan - set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts. This will contain the information as set out in Section B below; and
- (ix) Conclusion and recommendation - provide the conclusions drawn from the assessment and provides recommendations.

29. The assessment will be reviewed and cleared by ADB. The cleared assessment will be submitted to CEPA for its information and as background for any EP application to subsequently be made by the turnkey contractor.

30. **Health and safety.** The grant will be required to provide workers and operators with a safe and healthy working environment, taking into account inherent risks, any hazards in the work areas (including physical, chemical, biological hazards). The SPS also requires that the government, through the implementing agency, take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during any project activities. The grant will adhere to international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environmental Health and Safety Guidelines.⁴

D. Environmental Management Plan

31. The EMP in the assessment. The environmental assessment will include an appropriate EMP that addresses the potential impacts and risks identified, and as with the overall assessment, the EMP will be commensurate with the level or impacts and risks. This EMP identifies the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). The EMP will then be updated by the contractor based on detailed design and then developed into the CEMP which will add further details (specific construction methodologies and actions to) the contractor will implement during construction.

32. The EMP section of the assessment will cover the following key components (with the level of detail commensurate with the project's impacts and risks):

- **Mitigation.** (a) identifies and summarizes anticipated adverse environmental impacts and risks; (b) describes each mitigation measure including the type of impact to which it relates and the conditions under which it is required, together with designs, equipment descriptions, and operating procedures, as appropriate;

⁴ World Bank Group. 2007. *Environmental, Health, and Safety General Guidelines*. Washington, DC.

and (c) provides links to any other mitigation plans (for example, for emergency response) required for the project.

- **Monitoring:** (a) describes monitoring and supervision requirements including any parameters to be measured, methods to be used, sampling locations, frequency of measurements, and thresholds that will signal the need for corrective actions; and (b) describes monitoring and reporting procedures.
- **Implementation arrangements:** (a) specifies the implementation schedule showing phasing and coordination with overall project implementation; (b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures; and (c) estimates costs and describes sources of funds for implementing the environmental management plan.

33. The EMP will include the proposed mitigation measures, environmental monitoring and reporting requirements, emergency response procedures, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Eda Ranu will include the requirements of the outline EMP, along with all other relevant safeguards provisions, in the turnkey bid documents and will identify costs for mitigation measures and implementation of the SEMP as required in the bill of quantities (BOQ). The bid documents will also include standard general environmental safeguards provisions and practices required.

34. Updating the EMP. The turnkey contractor will then update the assessment and the EMP as required based on detailed design. If modifications to designs are incorporated at a later stage, additional or further updated assessments (including EMPs) will be prepared and submitted to ADB for review and clearance.

35. The contractor's EMP. Depending on the experience of the contractor with environmental management, the PMU's safeguard specialist may be required to provide the contractor with the necessary training on preparing the CEMP—detailing the contractor's response to the EMP requirements set out in the bid documents and the updated EMP—as well as understanding the general safeguards requirements of the ADB and the requisite environmental regulations of PNG (including those that relate to the EPs for water use, waste discharge and materials sourcing etc).

36. Based on the EMP included in the bid documents and the EMP updated based on detailed design, and after receiving induction training, the turnkey contractor will prepare the CEMP which will specify the construction methodologies they will use, plans and drawings showing site specifics and locations of mitigation measures etc., work statements, sub-plans, and if required will also identify where materials (such as aggregates and gravel) will be obtained from. The CEMP will set out how the contractor will achieve environmental safeguards, identify the staff designated with responsibility for ensuring and reporting CEMP implementation including implementation of the GRM. The CEMP will also establish how the contractor will report on CEMP implementation and corrective actions as part of monthly reporting to Eda Ranu. The contractor may only move to the site and commence work (including any site preparation and clearing and grubbing activities) after the CEMP has been reviewed and approved by the PMU safeguards specialist and then ADB.

IV. CONSULTATION, DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

34. **Consultation.** Consultation will be undertaken during design and due diligence (including environmental assessment) of grant components. This will include provision of information to, and obtaining information from, affected and beneficiary communities and people, and as part of the formal review of safeguards due diligence documents. Formal and documented public consultation and information disclosure will be required in accordance with the ADB policies and government's requirements, and this will be documented in the environmental assessment.

35. Consultations will be based on the following principles:

- (i) Information sharing and participation will start early in subproject preparation stage and continuation throughout the subproject cycle;
- (ii) Timely disclosure of relevant information in a format that is easily understood by, and readily accessible to, affected people;
- (iii) Ensuring the absence of intimidation or coercion during public consultation;
- (iv) Gender inclusive and responsive with focus on disadvantaged and vulnerable groups; and
- (v) Enabling the integration of all relevant views of affected people and stakeholders into decision-making.

36. For environmental safeguards, this will be done early during the IEE process to inform stakeholders of the subproject components and to encourage input to identify potentially overlooked environmental issues. The information disclosed and feedback provided at the consultations will be summarized, the attendance recorded, and this documentation integrated into the assessment report section and attached to the report as an annex.

37. Participants in consultations will include government agencies, municipal authorities, settlement representatives, including affected people (and/or their representatives), and NGOs.

38. **Information disclosure.** For any subproject requiring an environmental assessment, formal and documented public consultation and information disclosure will be required in accordance with ADB's SPS and Public Communications Policy 2011 (PCP) and government's consultation and information disclosure requirements set out in the Environment Act 2000 (as amended) and EPAR. This will be done at an early stage during preparation of the assessment and is to inform stakeholders of the project components and to encourage input to help identify and document environmental and community issues and concerns.

39. **Grievance redress mechanism.** In order to receive and facilitate the resolution of concerns, complaints, or grievances about a subproject's performance a grievance redress mechanism (GRM) will be established for the grant. When and where needed, the GRM will be used for addressing any complaints that arise during the design and implementation phases of the grant. The GRM will receive and respond to a complainant's concern or issue promptly, using an understandable and transparent process that is gender responsive, culturally

appropriate, and readily accessible to all sectors of the community, at no costs and without retribution.

40. The mechanism will not preclude or impede access to the PNG's judicial or administrative remedies. Eda Ranu will appropriately inform communities about the GRM during the consultation process.

41. The GRM will be scaled to the level of risks and impacts of the grant, and will be based on the GRM established under other projects and adapted as required for the grant. The GRM will be based on traditional conflict resolution measures which, as implemented under other projects, are acceptable to ADB. The GRM will be elaborated, as required, in the assessment and social safeguards due diligence.

42. The GRM procedures. The following process is to be used and commences with an attempt to resolve the problem directly at subproject level. If this cannot be achieved then the grievance moves to the resolution process outlined in Section 87 of the Environment Act 2000 (as amended). This procedure is for addressing environmental issues. Any grievances dealing with land and compensation issues are to be directed to the Department of Lands (DOL) which has established procedures for dealing with these issues.

43. Most complaints arising during construction are expected to be minor complaints concerning dust or noise that should be able to be resolved quite easily and acted upon immediately at the subproject level by the turnkey contractor (through the Resident/Supervising Engineer and environmental specialist). Where the complaint is of a more serious nature the turnkey contractor has up to two days to resolve the complaint.

44. Complainants will initially discuss their grievance directly with the Ward Councillor in their village. If the Ward Councillor supports the complaint both persons take the complaint to the turnkey contractor who will review the complaint within two days. All complaints arriving at the site office are to be entered in a register that is kept at site by; date, name, contact address and reason for the complaint. A duplicate copy of the entry is given to the complainant for their record at the time of registering the complaint.

45. The register will show who has been directed to deal with the complaint and the date when this was made together with the date when the complainant was informed of the decision and how the decision was conveyed to the complainant. The register is then signed off by the person who is responsible for the decision and dated. The register is to be kept at the front desk of the Site Office and is a public document. The duplicate copy given to the complainant will also show the procedure that will be followed in assessing the complaint, together with a statement affirming the rights of the complainant to bring a grievance. For anybody making a complaint no costs will be charged to the complainant. If the complaint of the complainant is dismissed, they will be informed of their rights in taking it to the next step. A copy of the decision is to be sent to the DNPM.

46. Should the complainant not be satisfied, they may take the complaint to the CEPA and continue the grievance in accordance with Section 87 of the Environment Act 2000; procedure for dealing with compensation claims for environmental impacts. The procedure is set out as follows:

- The complainant meets with EP-holder to formally register concern over impact and seek redress. A copy of the alleged impact is submitted to CEPA.
- EP-holder has to determine whether the impact has occurred due to its activities.
- If EP-holder accepts responsibility for the impact, it can negotiate a mutually acceptable settlement with complainant within 90 days.
- If EP-holder rejects responsibility for the impact, the complainant can request CEPA to carry out a verification investigation.
- If CEPA confirms that the impact has occurred, he/she will advise the EP-holder and complainant to negotiate a settlement within 90 days.
- If a negotiated settlement is not reached, the EP-holder or complainant can request CEPA to formulate a determination. Once this request is made, CEPA will have 90 days to reach a determination. If either party is dissatisfied with the determination, they can appeal to the national court.
- Should the complainant not be satisfied with the ruling of the CEPA, they may at their discretion take the grievance to the PNG judicial system. This will be at the complainant's cost but if the court shows that the CEPA or the administration have been negligent in making their determination, the complainant will be able to seek costs.
- All of the foregoing steps will be recorded in an inventory/register and included in contractor's monthly reports, quarterly progress reports, and semi-annual safeguards reports and will be subject to monitoring.

V. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

47. The DNPM as executing agency will be responsible for the implementation of the entire environmental assessment and review procedures as applied to the grant. This will include, but not be limited to, ensuring that the EARF procedures are strictly adhered to by Eda Ranu, PMU and the turnkey contractor and NGO, and including: (i) preparation of the environmental assessment carried out in a timely and adequate manner; (ii) review and clearance of the environmental assessment by ADB and CEPA; (iii) undertaking meaningful public consultations; (iv) integration of the EMP from the cleared environmental assessment in the tender documents for the turnkey contract; (v) preparation, approval and implementation of the CEMP; and (vi) supervision and monitoring. DNPM will submit the assessments and monitoring reports to ADB for review in a timely manner. The ADB will review and clear the environmental assessment, its update (including the updated EMP) and the contractor's CEMP.

48. Department of National Planning and Monitoring. The DNPM, as executing agency, has overarching responsibility for the management and safeguards performance of the grant. The DNPM will be responsible for ensuring that adequate funding will be provided under the grant to enable Eda Ranu (supported by the PMU) to fulfil their responsibilities. DNPM will be responsible for ensuring that the environmental assessment is prepared and updated and submitted to ADB. DNPM will monitor the progress of works to ensure that environmental safeguards as set out in this EARF are implemented and comply with country safeguards requirements and the SPS.

49. Eda Ranu. The implementing agency—Eda Ranu—supported by the PMU which includes a safeguards specialist, will be responsible for daily management and implementation of the grant and will: (i) support, as required, the turnkey contractor; and (ii) be responsible for

ensuring the grant's environmental safeguard requirements are adequately and properly implemented.

50. With support from the PMU, Eda Ranu will be responsible for implementation of the EARF. This will include, but not be limited to ensuring that: (i) the EARF procedures are strictly adhered to and that preparation and updating of the environmental assessment will be carried out in a timely and adequate manner, (ii) environmental monitoring and institutional requirements will be fully met, and (iii) meaningful public consultations are carried out satisfactorily. DNPM will submit the environmental assessment and monitoring reports to ADB for review in a timely manner.

51. Conservation and Environmental Protection Authority. The CEPA will review applications and issue permits (with or without conditions) for activities (construction of water supply infrastructure, waste discharge, water use, materials sources and quarry activities), and where possible, participate in monitoring and compliance review.

52. Turnkey contractor. The turnkey contractor will undertake the detailed design, update the safeguards due diligence as required and construct the works in accordance with the approved safeguards plans. The turnkey contractor will include an environmental specialist to actively assist Eda Ranu in complying with country systems and SPS.

53. The PMU safeguard specialists, working with and supporting Eda Ranu, are responsible for the following specific tasks:

- (i) Coordinating with other specialists in the PMU and providing capacity building support to Eda Ranu and the turnkey contractor. Providing on-the-job and specialist support, advice and training as required;
- (ii) Undertake consultations and assessment (including baseline, surveys as required, consultations etc.) and prepare the environmental assessment for the grant's physical infrastructure components);
- (iii) Ensure that the due diligence is undertaken in compliance with the requirements of the government and ADB (as set out in this EARF), and that adequate consultation with affected people is undertaken in accordance with ADB requirements;
- (iv) Following ADB clearance of the assessments/due diligence, apply for and obtain necessary permits and/or clearance, as required, from CEPA and other relevant government agencies, ensuring that all necessary regulatory clearances (EPs) are obtained before awarding contracts for civil works;
- (v) Integrate the outline EMP (from the assessment) and any EP conditions into the turnkey bid and contract documents;
- (vi) Provide induction training to the contractor on the EMP requirements and ensure that the turnkey contractor understand their responsibilities to mitigate environmental problems associated with design and construction activities;
- (vii) Review and clear the contractor's' CEMP and ensure and supervise that the approved CEMP, including an environmental monitoring plan, is properly implemented;

- (viii) Working with the resident engineer or site supervisor, undertake regular checks of compliance with the approved CEMP, and report on the same;
- (ix) As required note and document corrective actions required to be implemented by the contractor;
- (x) Based on findings from above and review of contractor's monthly reports, prepare inputs to the quarterly progress reports; and
- (xi) With Eda Ranu prepare and submit semi-annual safeguards monitoring reports to DNPM for onward submission to ADB. The reports will summarize the contractor's monthly reports and the quarterly progress reports and may also be forwarded to CEPA for information.

54. The turnkey contractor is responsible for the following specific tasks:

- (i) Recruiting an environmental specialist to update the assessment and EMP, prepare the CEMP and guide the contractor in implementation of the approved CEMP;
- (ii) Based on detailed design, update the EMP from the approved/cleared assessment and ensure the updated EMP addresses any EP conditions;
- (iii) Apply for permits and clearances as required for water use, waste discharge and gravels/materials extraction;
- (iv) Prepare the CEMP, including site-specific plans, drawings, construction methodologies and work statements etc, and submit to the PMU and ADB for clearance;
- (v) Implement the relevant elements of the GRM;
- (vi) Implement and monitor the effectiveness of the CEMP including addressing any corrective action requests issued by the resident engineer or site supervisor; and
- (vii) Report on the implementation of the CEMP as part of the contractor's monthly reporting.

55. Asian Development Bank. The ADB will provide safeguards support and advice as required to DNPM, Eda Ranu and the PMU. The ADB be responsible for: (i) reviewing and clearing the due diligence (environmental assessment prepared by the PMU, updated assessment and EMP submitted by the contractor and the CEMP prepared by the contractor); (ii) participating in missions to review implementation of the EARF and EMP/CEMP; (iii) arranging disclosure on the ADB website of cleared due diligence reports and monitoring reports; and, (iv) as required, providing advice to DNPM in carrying out its responsibilities to implement the EARF for the grant.

56. The responsibilities of the agencies and institutions are summarized in Table 5.1.

Table 5.1 - Institutional Responsibilities for Environmental Safeguards

Responsible Agency	Responsibilities
DNPM	<ul style="list-style-type: none"> • Ensure budget and funding availability for Eda Ranu and PMU to implement the EARF; • Provide counterpart support and contribution to the grant as agreed; • Disclose safeguard documents on behalf of government
ADB	<ul style="list-style-type: none"> • Review and clearance of due diligence (assessment and EMP) • If required, assist government to recruit DSCS • Review contractor's reports and monitoring reports • Disclose documents on website
Eda Ranu (with support from PMU safeguards specialist)	<ul style="list-style-type: none"> • Undertake preliminary design and due diligence including preparing environmental assessment including outline EMP; • Prior to works commencing ensure the requirements under EPAR and national laws (including permits for associated activities) are met; • Incorporation of the outline EMP into bidding documents and technical specifications for the turnkey contract, including TOR for environmental specialist as part of contractor's team; • Provide inputs to the bid evaluation in respect of contractor's response to the EMP requirements including the suitability of the environmental specialist proposed as part of the contractor's team; • Provide induction training to the contractor prior to the preparation and submission of the contractor's CEMP and as required work with the contractor's environmental specialist to identify appropriate construction methodologies and detailed site-specific mitigations; • Review and approve the contractor's CEMP; • Work with contractor environmental specialist for provision of awareness/training to workers and technology transfer to contractor as required; • Review contractor's reports and monitoring reports; • Audit construction phase through environmental inspections and review monitoring data; • Submission of quarterly progress reports and semi-annual monitoring reports
Turnkey contractor	<ul style="list-style-type: none"> • Recruit suitably qualified environmental specialist; • Update the environmental assessment and EMP based on the detailed design; • Prepare CEMP including the site-specific plans and construction methodologies (working methods, and spoil disposal locations and methods etc) and GRM, submit CEMP to Eda Ranu/PMU and ADB for review and approval (revising as necessary if required); • Identify water extraction/discharge, materials and equipment sources and arrange necessary permits and compliance certificates; • Implementation of CEMP and GRM (as relevant to construction stage); • Reporting of CEMP and GRM implementation in monthly reports; • Implement corrective actions as required
CEPA	<ul style="list-style-type: none"> • Ensure compliance with government requirements and issue EPs (with or without conditions) as required; • Review complicated issues arising from the project

II. MONITORING AND REPORTING

57. Throughout implementation of the grant, the government and ADB will monitor the progress and impact of the components, this includes monitoring the implementation of

safeguards and effectiveness of mitigation measures. DNPM (through Eda Ranu) is required to implement safeguard measures and relevant safeguard plans, as provided in the legal agreements, and to submit periodically monitoring reports on their implementation performance.

58. In consultation with DNPM and ADB, Eda Ranu will establish a system for preparing quarterly progress reports (QPR) which will include safeguards (environmental performance i.e. compliance with EMP and approved CEMP, GRM implementation and issues resolution, audits/compliance checks and corrective action plans, and training and capacity building). The safeguards sections from the QPR can be aggregated to provide information for the semi-annual safeguards monitoring reports. The semi-annual safeguards monitoring reports will be submitted to DNPM and ADB. ADB will disclose these on the website.

59. The EMP will include the outline plan for monitoring and supervision and will be implemented by Eda Ranu and the turnkey contractor. Progress on the preparation and implementation of the CEMP will be included in the QPR. Specific monitoring activities defined in the EMP will be carried out by the turnkey contractor and supervised by the Eda Ranu. In general, the overall extent of monitoring activities, including their scope and periodicity, should be commensurate with the impacts identified in the risk assessment undertaken by the contractor during preparation of the CEMP.

60. In respect of supervision, monitoring and reporting, DNPM through Eda Ranu and the PMU safeguards specialist will:

- (i) ensure any baseline conditions are recorded and properly benchmarked prior to construction;
- (ii) establish and maintain procedures to monitor the progress of implementation of environmental safeguards;
- (iii) verify the compliance with environmental measures and whether they are achieving the intended outcomes (mitigated level of impact);
- (iv) identify necessary corrective and preventive actions including actions required when the GRM has been triggered i.e. the report will outline where work has not complied with the EMP and what steps (and timeline) were taken to rectify it;
- (v) document and disclose the monitoring results;
- (vi) follow up on these actions to ensure progress toward the required outcomes; and
- (vii) submit periodic monitoring reports on safeguard measures as agreed with ADB.

61. ADB will carry out the following actions to supervise safeguards implementation:

- (i) conduct review and supervision missions (including conducting site visits) with detailed review by ADB's safeguard specialists/officers or consultants;
- (ii) review the QPR and semi-annual monitoring reports submitted by DNPM to ensure that adverse impacts and risks are mitigated as planned and as agreed with ADB;

- (iii) work with DNPM to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the legal agreements, and exercise remedies to re-establish compliance as appropriate; and
- (iv) as part of the project completion reports assess whether the objective and desired outcomes of the EMP have been achieved, taking into account the baseline conditions and the results of monitoring.

62. Table 6.1 provides the key tasks for environmental monitoring that will be incorporated into the EMP, and as necessary, elaborated by the contractor in the SEMP.

Table 6.1 – Key Tasks for Environmental Supervision and Monitoring

Environmental monitoring tasks	Responsibility	Timing
Design Phase		
For information, or as required, submit environmental assessment and EMPs (including monitoring plans) to CEPA	DNPM	Prior to construction
Ensure the outline EMP is integrated into tender and bidding documents, to ensure environmental assessment and EMP included in bids and environmental provisions are included in the turnkey contract	Eda Ranu/PMU, ADB	Prior to issue of bidding documents
Detailed design reflects requirements identified in the environmental assessment and EMP and the EMP (including monitoring plan) is updated based on detailed design.	Turnkey contractor / PMU	Prior to construction
Construction Phase		
Training and briefing of contractor's management, site agents with regards to all EMP requirements in respect of monitoring	Eda Ranu/ PMU	First training prior to preparation of CEMP and commencement of each contract and refresher courses at yearly intervals throughout construction period
Monthly monitoring and reporting by contractor on implementation of approved CEMP and statutory environmental requirements	Turnkey contractor	Continuous throughout construction period
Regular monitoring and reporting of contractor's compliance with CEMP and statutory environmental requirements	Eda Ranu/PMU	Continuous throughout construction period
Monitor the performance of environmental training by contractor and briefings and of the environmental awareness of contractor's staff, tool box talks etc.	Eda Ranu/PMU, Turnkey contractor	Ongoing, prior to and during implementation of works and operation
Regular monitoring and reporting of complaints and responses (GRM)	Eda Ranu/PMU, Turnkey contractor	Continuous throughout construction period
Monitor adjustments to the CEMP for unexpected impacts and the thorough implementation of detailed CEMP	Eda Ranu/PMU, Turnkey contractor	Continuous throughout construction period
Operation and Maintenance Phase		
Observations during routine maintenance inspections of plant/facilities. Inspections will include monitoring implementation of operational mitigation measures viz environmental criteria specified in EMP for operational impacts	Eda Ranu/PMU	As per inspection schedules

Post-construction monitoring at any sites where complaints about air/noise/water quality from works were justified in construction phase	Eda Ranu/PMU	Monthly up to three months after completion of construction or until air/noise, water quality meets baseline conditions
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