

Environmental Assessment and Review Framework

TONGA: Nuku'alofa Urban Development Sector Project

**Prepared by Planning and Urban Management Division (MLSNR)
for the Asian Development Bank (ADB)**

This Environmental Assessment and Review Framework is a document of the Kingdom of Tonga. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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I. INTRODUCTION

A. Project Background

1. The Nuku'alofa Urban Development Sector Project (NUDSP) aims to improve the standard of living in Nuku'alofa, including in low-income residential areas. The outcome of the project will be effective, efficient, and sustainable urban services. These will be delivered through a sector grant, with project components including infrastructure investments, institutional strengthening, and capacity development.

2. This is the environmental assessment and review framework (EARF). The provision for the use of frameworks is required for nonsensitive components of projects where detailed design of further subprojects takes place after Asian Development Bank (ADB) Board approval. This EARF has been prepared to provide consistent and appropriate environmental standards for additional urban infrastructure subprojects to be considered.

3. Two core subprojects have been selected under the NUDSP to improve urban services through an initial investment in

- (i) repairing and augmenting the Tonga Water Board's (TWB) Nuku'alofa Water Supply, and
- (ii) repairing and improving the Waste Authority Limited (WAL) landfill and operations.

4. The remaining funds will be allocated over time through the use of an urban development program facility. Future subproject selection will follow an evaluation against designated selection criteria (set out in Annex 1), and approval by the project steering committee (PSC) and ADB. Prior to approval by ADB, an environmental assessment process as outlined in this EARF will be undertaken.

5. Initial environmental examination (IEE) reports were developed for the two subprojects during the project preparatory technical assistance (PPTA).

6. The core subprojects were selected from previously identified priority projects for urban infrastructure development. The projects previously identified under the Tonga Urban Infrastructure Development Plan (TUIDP)¹ were upgraded during this PPTA to include priorities identified under the Tongan government's National Infrastructure Investment Plan (NIIP). This resulted in an updated Urban Sector Development Plan that provides priorities for future urban infrastructure. The updated listing is provided in Annex 2.

7. The government's environmental requirements as outlined in the Environmental Impact Assessment Act, 2003 and the Environmental Impact Assessment Regulations, 2010 have also been taken into account during environmental assessment of the core subprojects, and in the development of this EARF.

B. Purpose of EARF

8. The purpose of this EARF is to provide a framework to review and assess environmental aspects of activities undertaken within the project, including preconstruction, construction and operational phases. It will provide an overview of the types of subprojects to be assessed, and place this within the context of the national environmental assessment and review procedures in Tonga, as well as those required by ADB. Specific environmental procedures will then be presented to be utilized for all future urban sector subprojects funded within the project. Consultation mechanisms, and environmental monitoring and reporting will

¹ UIDP was prepared under TA 7082-TON: *Urban Planning and Management System* (ADB, 2008, US\$700,000) and provides an urban infrastructure investment plan for Nuku'alofa for the period 2010/11 to 2030/31.

also be addressed within this framework to ensure ongoing adherence to environmental safeguards.

II. OVERVIEW OF SUBPROJECT COMPONENTS

A. Water Supply System Upgrade

9. The current water supply system for Nuku'alofa creates a number of environmental impacts. Diesel powered pumps at 17 of the existing wells provide an ongoing source of pollution. The 32 working wells in the system are pumped on a 24-hour basis, with encroaching salinity at the eastern end of the wellfield an indicator of unsustainability, particularly given the potential for further salinity encroachment through climate change. With estimated losses of 50% within the wellfield, and the storage and distribution system, water extraction is undertaken without a resource management framework in place, despite the fragility of the freshwater lens that provides the water resource for Tongatapu.

10. Water supply security will be improved at Mataki'eua Tongamai through the addition of 12 new production wells, conversion of 17 existing diesel-powered production wells to electro-submersible pumps, provision of an additional standby generator, construction of a new collector main, upgrading the service road, and construction of a 4,000 cubic meter reservoir. Water flow meters and supply meters will be installed at individual wells and at the inlet and outlet points of the reservoir system to provide accurate data on extraction rates.

11. Installation of some 200 isolation valves in the distribution system will allow for more effective leak detection and repair capacity through dividing the system into zones. Further water loss reduction will be achieved through addressing leakage within the wellfield and existing storage reservoirs, and replacing inoperative household water meters. It is estimated that these measures will reduce system water loss from 50% to 22%.

12. The subproject will provide TWB with the means to implement a more sustainable system. Additional wells will provide the capacity to introduce rotational pumping, allowing greater spacing between working wells, and the ability to rest wells. Improving the management of individual pumping sites will give TWB the ability to ensure that pumping yields are kept within sustainable limits at each site, particularly in periods of low rainfall. Improved monitoring will provide the means to implement an adaptive management system in order to preserve the water resource for future generations.

13. Capacity development functions will focus on improved monitoring and resource management, increasing revenue through improved billing and accounting processes, and asset management.

B. Waste Management System Upgrade

14. The WAL operates a landfill site and weekly household waste collection service throughout Tongatapu. However, the operational model for solid waste collection, charging and management is not working as well as expected. In particular, current arrangements for billing and revenue collection are not proving effective,² resulting in very low levels of payment from household and commercial customers. With essential plant and equipment not repaired by WAL, the ability to operate the landfill effectively and in accordance with procedures has been compromised. Management at WAL has not prioritized environmental safeguards or adherence to operation and maintenance procedures for plant and equipment or the landfill. As a result, the effectiveness of the waste service has declined, and if not addressed, household collections will become even less reliable, and landfill operations will create long-term environmental harm.

² Revenue collection for FY2010/11 assessed to be around 27% under TA 7631-TON: Nuku'alofa Urban Development Sector Project Design.

15. The subproject will expand secure waste subcells at Tapuhia landfill facility, rehabilitate and/or replace existing plant and equipment, reactivate the groundwater monitoring program, strengthen existing asset management, and reimplement environmentally sound landfill operating procedures.

16. The weekly household waste collection service to all households will be strengthened through the provision of three rear-load waste compactor trucks, and the implementation of a pilot scheme to trial community-led village-level waste collection in five villages.

17. Improving the environmental sustainability of WAL's operations will require institutional strengthening, particularly at the leadership level, supported by a training package to implement sound operating procedures at all levels. Monitoring will provide ongoing information and accountability. An asset management system and an accounting/billing package with 3 years of training will support WAL to increase its financial viability and the long-term sustainability of waste management services

C. Candidate Subprojects

18. The urban development facility created under the NUDSP provides for a longer term level of strategic support to the urban sector. Future projects can be funded through this facility following selection and approval by the PSC and ADB. Subprojects must meet the selection criteria as outlined in Annex 1, and complete environmental, social/resettlement, and economic assessments will be submitted to ADB for approval. All future subprojects must conform to ADB's Social Safeguard Policy Statement 2009.

III. TONGA'S ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURES

A. EIA Review Procedures

19. The Ministry of Environment and Climate Change (MECC) was formally created by the Environmental Management Act 2010. The role of MECC is to protect the environment and promote sustainable development. Under the Act, the Director of MECC is empowered to inspect or investigate any facility or activity deemed to be causing potential impact on the environment. The Director also has the power to serve a notice to cease the activity, which takes effect immediately.

20. The Environmental Impact Assessment (EIA) Act was passed in 2003. Regulations to support the Act have recently been enacted under the Environmental Impact Assessment Regulations 2010.

21. Under this regulatory framework, all development activities must be referred to the Minister of Environment and Climate Change (MECC), either directly or through the Determining Authority. With this notification, the proponent must complete a *Determination of Category of Assessment* form, providing an overview of the proposed development and a number of details in relation to the existing environment, potential environmental impacts and mitigation measures. The secretariat and the Minister determine whether the proposed development is a minor or major project, and advises the proponent within 30 days. If it is a major project, the proponent then submits a full EIA for review by the secretariat, which makes recommendations to the Environmental Assessment Committee. The Minister receives an assessment report and issues the approval (with or without conditions), a request for further information, or a rejection. The schedule outlining major projects as per the EIA Act 2003 is attached as Annex 3. However, under the regulations, a development proposal not reflected in this schedule may still be deemed as a major project through the determination of category process.

B. Local Capacity for Environmental Assessment

21. The recent ADB Country Environment Review for Tonga highlighted one of the serious constraints to sustainable development there as lack of capacity and resources within MECC to act as an independent regulator for the environment. Development permit conditions are not currently followed up to ensure that implementation has occurred, and MECC does not have the resources to monitor environmental impacts from individual developments.³ This results in a reactive rather than proactive environmental management context.

22. The capacity of MECC to review environmental impact assessments and make appropriate recommendations to protect the environment is adequate. It is the lack of resources to follow up environmental development conditions that is the key area of weakness. Assessing impacts is also problematic for development on the outer islands, with MECC offices on Ha'apai and Vava'u not having staff skilled in EIA, and no budget for staff travel from Nuku'alofa to investigate issues on site. A further constraint is the limited capacity within Tonga of local consultants to conduct professional EIAs.

23. Annex 4 provides a terms of reference (TOR) for the local environmental specialist, as well as TOR for the international planner/environmental specialist to be recruited for project implementation assistance. The TOR covers how the consultant will work with the local specialist and other project management unit (PMU) members to provide environmental capacity building in Planning and Urban Management Agency (PUMA).

IV. ANTICIPATED ENVIRONMENTAL IMPACTS

24. In anticipating environmental impacts, candidate subproject screening will cover three aspects: siting, construction, and operations.

25. With candidate subprojects restricted by the selection criteria developed for the project, there are already some mechanisms for environmental protection in place. Candidate subprojects must have been previously identified under the updated urban development priority listing, which provides an indication of the types of projects that may be implemented. An updated urban development priority list is provided in Annex 2, outlining the projects that may potentially be selected as future subprojects under the sector grant. Candidate subprojects span a number of sectors, including water supply, sewerage and sanitation, drainage, solid waste management, roads and traffic management, marine transport, air transport, power supply, telecommunications, social infrastructure, and environmental management. The potential environmental impacts of the candidate subprojects vary significantly between projects, hence the requirement for project-specific environmental review and assessment.

26. In analyzing the urban development priority list, a number of environmental issues will potentially arise, as outlined in Table 1. The mitigation measures provide general guidance, but will need to be adapted to suit the particular development activities.

Table 1: Potential Environmental Impacts and Mitigation Measures for Candidate Subprojects

Anticipated Environmental Impacts	Mitigation Measures
Loss of biodiversity	Particular care must be taken to avoid clearance of mangrove areas or impacts on marine ecology. Siting of candidate subprojects will be undertaken to minimize land clearance. Clearance of any trees of significance within the urban area is to be avoided.
Loss of land and / or livelihoods	Facilities should avoid land acquisition or resettlement impacts if possible. If land acquisition is required, or if livelihoods will be impacted, the

³ ADB 2010: *Country Environment Review, Tonga*. Manila.

	procedures within the resettlement framework are to be followed to ensure that appropriate compensation is paid.
Loss of physical cultural resources	Subprojects that are likely to cause permanent damage to irreplaceable cultural relics and archaeological sites will be ineligible. As a component of environmental assessment, any minor or moderate impacts must be fully addressed, with all efforts made to avoid damage and to provide restitution wherever possible.
Land clearance	Trees of significance in the urban landscape are to be preserved. All land clearance to be undertaken should minimize loss of vegetation.
Noise emissions	Mitigating impacts of noise emissions, particularly during construction, will be achieved through appropriate contracting requirements and supervision. Limiting construction to standard daytime work hours minimizes disruption to households. Plant and machinery will be required to be well maintained to reduce noise emissions. Noise emissions from subproject operations will be minimized through appropriate siting and mitigation measures.
Dust emissions	Dust can be controlled through minimizing areas of exposed soil, and using mitigations such as water carts to suppress dust emissions, or covering of fill / sand stockpiles.
Worker and community health and safety	Safety is of primary importance in urban infrastructure development. All contractors will be required to adhere to strict Occupational Health and Safety (OH&S) requirements to ensure that workers health and safety are not compromised through project activities. Appropriate levels of contractor supervision are to be undertaken by the PMU to ensure all safeguards are practically implemented, including training of site staff. This also extends to the health and safety of the public. With urban works often requiring trenching or construction works, all sites must be adequately fenced, signed and lit at night to avoid any hazards to the community. All contractors will be required to submit a health and safety plan for approval by the PMU prior to commencement of works.
Loss of amenity	Siting of facilities needs to take into account any aesthetic or social values of the area. This is particularly relevant when siting telecommunication and power supply infrastructure, ensuring that there is no significant loss to landscape values or general amenity.
Disruptions to businesses and communities	Disruptions can occur, particularly through activities such as road and drainage construction. These disruptions need to be minimized through effective consultation and dialogue, and planning works to minimize disruptions. Measures can include increasing the workforce in priority areas, and providing temporary access points for vehicles or pedestrians across trenches. Any significant disruptions to livelihoods will need to be addressed and compensated as per the requirements of the resettlement framework.
Siltation of surrounding drains and water	Backfilling of excavated trenches is to be done immediately on completion of works. Silt fences will be used to prevent clogging of drains. Sand piles will be covered as required, particularly during periods of heavy rain.
Soil erosion	Limit the amount of soil exposed during construction works, and replant / seal finished areas as soon as practical. Bring soil or sand stockpiles to the site only as required. Use sediment trap fencing as required.
Production of solid waste materials	All waste materials to be produced will be projected beforehand, with appropriate disposal planned. The contractor will supply bins at work sites, and remove waste to the Tapuhia landfill after all efforts are made for

	resource recovery and recycling. Any potentially hazardous wastes are to be avoided wherever possible through material substitution. Disposal of potentially hazardous wastes should occur with the advice of WAL.
Pollution prevention and abatement	Secure and control storage of all toxic and hazardous materials including fuels. Spill kits are to be kept at fuel storage points. Integrity of the water quality is to be protected through appropriate siting and mitigation measures. Air pollution is to be avoided, with practices such as burning of waste not permitted.
Water pollution	Pollution of groundwater must be avoided. This is particularly relevant in the sewerage and sanitation candidate projects. Effluent outfalls to the marine environment are also to be avoided.
Marine resources	Coastal resources are important from an ecological and livelihood perspective. Impacts such as adding nutrient loads into the marine environment or removing marine or estuarine resources are to be avoided altogether, or mitigated through appropriate design and rehabilitation measures. Candidate subprojects for wharf infrastructure must protect marine ecology through appropriate mitigation measures.
Sustainable resource use	Projects must consider the use of nonrenewable resources such as quarry materials, water, and fossil fuel-generated power. Resources are to be conserved wherever possible, and when used, mitigation measures that address the sustainability aspects of resource use must be put in place. Offsetting may be considered as a mitigation measure (e.g., planting trees to off-set carbon emissions). Energy efficiency, cleaner production, and resource conservation are all principles to be considered, and where relevant incorporated.
Social impacts	Social benefits and impacts need to be assessed, with mitigation measures in place to ensure minimum disruption to the community, and provision of tangible outcomes to improve quality of life in the urban sector. Impacts must also be analyzed for who bears the burden, taking care to avoid inequitable burdens on vulnerable groups such as the poor or women.
Climate change	The potential impacts of climate change must to be considered, with mitigation measures put in place where considered beneficial. These may include implementation aspects such as coastal erosion protection measures, or design adaptations.

V. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS

A. Environmental Criteria for Subproject Selection

27. All subprojects will be subject to a first level screening. Accordingly, subprojects will not be selected if they

- (i) adversely impact on the environmentally sensitive areas of the Fanga'uta lagoon National Marine Reserve and foreshore areas arising from their design, location, construction, or operation;
- (ii) cause significant loss to mangroves, sensitive wetland habitat, or natural vegetation as specified in the Schedule of the Environmental Impact Assessment Act, 2003 (attached as Annex 3);
- (iii) cause permanent negative effect on known rare or endangered species; or

- (iv) cause permanent damage to irreplaceable cultural relics or archaeological sites.

28. Under this sector grant facility, no category A subprojects will be funded, that is, projects that are likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. This includes transboundary or cumulative impacts.

29. The full selection criteria are attached as Annex 1. By conducting the first level screening the selection will be confined to categories B and C, requiring an IEE or an environmental audit, respectively.

B. Specific Procedures for Environmental Assessment

30. There are nine steps to conduct the environmental assessment process for candidate subprojects outlined in this section.

31. **Initial screening** will be undertaken to determine the likely level of environmental impact. For eligible projects, an initial classification is useful to focus attention on areas of potential environmental concern and to consider mitigation strategies. A screening level rapid environmental assessment tool for the urban sector can be located at the following website address:

http://www.adb.org/documents/guidelines/environmental_assessment/REA_Urban_Development.pdf

This will be used by the PMU to initially categorize a project according to the ADB classification system.

32. Category A projects are likely to have significant adverse environmental impacts, and as such are not eligible for funding. Category B projects are likely to have less adverse impacts that can be readily addressed through mitigation measures. An IEE and environmental management plan (EMP) are required. Category C projects are unlikely to have adverse environmental impacts and require no EIA or IEE. However environmental implications still need to be closely reviewed. Categorization is established by defining the most environmentally sensitive component and the extent and duration of the potential impact.

33. **Scoping** is the second step in the process, defining the boundaries and time scale for assessing impacts, mitigation, and monitoring. Some projects may require the analysis to go beyond the life of the infrastructure and address postclosure or rehabilitation issues. Most urban project environmental assessments will focus predominantly on construction, but this must be reviewed on a case by case basis.

34. **Baseline environmental conditions** will require review and analysis. Documenting baseline environmental conditions includes land use, water and air quality, biodiversity, soils, geology, topography, climate, physical cultural resources, and socioeconomic conditions. This step involves fieldwork to document existing site conditions, as well as the review of relevant reports. In some instances, detailed testing is warranted for conditions such as existing water quality.

35. **Predicting likely impacts** requires a thorough analysis of potential environmental impacts and proposed mitigation measures. Table 1 provides an overview of the types of impacts that may occur, but the analysis must be project and site specific rather than generic. Any environmental issues that are likely to have an inequitable impact on women or disadvantaged groups need to be given particular attention with appropriate measures put in place to either reduce this impact or provide adequate compensation.

36. **Public consultation and information disclosure** are required throughout the environmental assessment cycle, providing not only the mechanism to inform the community of the proposed subproject, but also to receive inputs into potential impacts and appropriate

mitigation measures. Consultation with relevant government officials, the business community, and nongovernment organizations (NGOs) will assist in providing a number of perspectives. Direct consultation with and accessible information disclosure to any people affected by the proposed subproject is an imperative to understanding the existing situation and providing effective means to mitigate any environmental impacts for people in the immediate area.

37. **Preparation of an EMP** provides the implementation mechanism for the mitigation measures. The document needs to provide practical and relevant means to achieve the environmental safeguards. It includes delineation of roles and responsibilities, how each impact will be mitigated, and the monitoring program to ensure that the response has been adequate. When a subproject is in the implementation phase, with the contractor appointed and mobilization planned, the PMU will review and update the EMP to ensure its relevance.

38. **Implementation mechanisms** are important to define at the outset. Responsibilities as allocated in the EMP are to be understood and agreed to. The capacity of each of the players needs to be evaluated as a part of the environmental assessment process, with appropriate training or capacity development incorporated into the subproject to underpin effective implementation. Relevant EMP mitigation measures are to be incorporated into the bidding documents, with the contractor to describe and cost them. Relevant penalties must be included within the contract to ensure compliance. Prior to the commencement of works, the contractor will prepare a contractor EMP and a health and safety plan for approval by the PMU. The monitoring process must be practical and effective, providing an assurance that safeguard measures are implemented.

39. **Costing mitigation and monitoring measures** provides for adequate resourcing. Costs covered within works budgets should not be double-counted, requiring good communication between the environmental assessment staff and the technical project designers.

40. **Reporting** is the final step in the process, although all steps require documentation to compile the final report. The preparation of environmental assessment documentation will be based on the ADB Safeguard Policy Statement of 2009,⁴ and will also comply with the requirements of Tonga's EIA Act 2003 and EIA Regulations 2010.

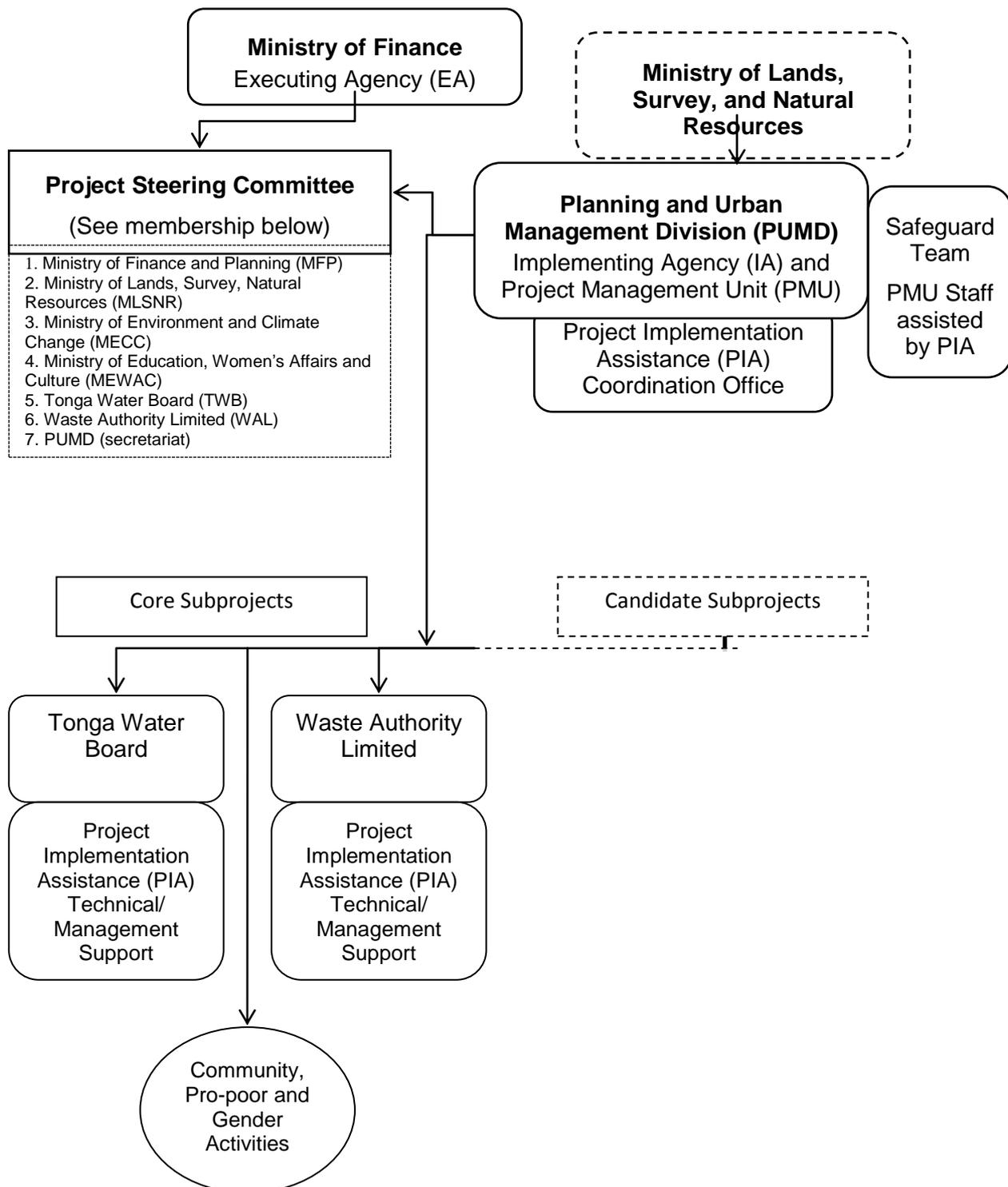
VI. Institutional Arrangements and Responsibilities

A. Implementation Arrangements

41. An overview of the institutional arrangements for project implementation is presented in Figure 1.

⁴ ADB. 2009. *Safeguard Policy Statement*. Available at: www.adb.org/Documents/Policies/Safeguards/default.asp. The SPS became effective on 20 January 2010.

Figure 1: Project Implementation Structure



42. **Executing agency (EA).** The EA for the project will be the Ministry of Finance. It will administer the overall project grant, and chair the PSC. The PSC will have seven members representing relevant government agencies. It will be responsible for overall direction, guidance, monitoring, and providing an oversight role for the program. The PSC will meet at least on a quarterly basis to discuss the progress of the program. Its members will include a representative from MECC to review and provide inputs for the environmental aspects of project implementation and quarterly monitoring reports.

43. **Implementing agency (IA).** The implementing agency is the Planning and Urban Management Division (PUMD) within the Ministry of Lands, Survey, and Natural Resources (MLSNR). PUMD will be responsible for the operations of the project management unit (PMU).

44. **Project management unit (PMU).** PUMD will appoint a project manager and provide the PMU. The PMU will (i) serve as the secretariat for the PSC; (ii) undertake project management, administration, and interagency coordination at the executive level; (iii) maintain project accounts; (iv) oversee the procurement process; (v) prepare quarterly project progress updates and other reporting requirements; and (vi) prepare the project completion report to the government and ADB. The PMU will also be responsible for the overall implementation of the program including compliance with all policy actions, administration, disbursements, and maintenance of records.

45. The PMU will be made up of the staff members as outlined in Table 2.

Table 2: Proposed PMU Staffing

Position	Available	To be Recruited
Project manager – Director PUMD ^a	1	
Office assistant ^a		1
Planner, urban – mid level, local ^c		1
Planner, gender – mid level, local ^b		
Planner, urban – junior level local ^a		1
Environmental specialist, local ^a		1
Accountant (part-time) ^a		1

^a Position funded by Government of Tonga.

^b: Position funded by gender action plan, NUDSP.

^c Position funded by proposed accompanying technical assistance for urban planning.

46. **Project implementation assistance (PIA) Office.** The PIA office will be comprised of four international consultants and five national consultants as outlined in Table 3.

Table 3: PIA Staffing

Position	Input Basis	Months
International Consultants		
Team leader/ contract – construction engineer	Full-time	18
Water supply/leak detection engineer	Intermittent	12
Solid waste specialist	Full-time	18
Planner / environmental specialist	Intermittent	6
Subtotal		54
National Consultants		
Deputy team leader / project engineer	Full-time	36
Planning specialist	Full-time	36
Accounting/financial management specialist	Full-time	24
Revenue generation specialist	Intermittent	12
Social/community/gender/safeguards specialist	Intermittent	6
Subtotal		114
Total		168

47. If future subprojects are selected and approved, recruitment of additional PIA consultants will take place as required.

48. **Safeguards team (ST).** Within the PMU, ST will be established to oversee all social/resettlement and environmental assessment and review activities. This will be staffed by the environmental specialist from PUMD and the planner / gender specialist funded by the NUDSP through the gender action plan. The PMU's project manager will supervise the ST.

49. Further support for the ST will be provided by the international planner with environmental specialization, and by the national consultant for social/community/gender/safeguards.

50. Currently, there is some capacity within PUMD for environmental assessment and review procedures. A focus of the NUDSP is strengthening capacity to manage strategic environmental planning issues, as well as the practical implementation of environmental plans and monitoring processes. Utilizing a permanent environmental specialist from PUMD will deliver practical training and increase the capacity of PUMD in this critical area. Annex 4 provides TOR for the national environmental specialist and international planner / environmental specialist, who will be providing training and mentoring to the local specialist.

51. **Project implementation cells (PIC).** The PIC will be established in TWB and the WAL to oversee implementation of the two core subprojects on a day-to-day basis.

52. The TWB PIC will be staffed by a senior water supply engineer / cell manager, a water supply engineer, a laboratory/water meter technician, two day labor plumbing crew, and a billing collection officer. The TWB staff in the PIC will be assisted by consultants funded by the grant: (i) a team leader/water supply project engineer (international consultant), (ii) a water supply/leak detection engineer (international consultant), and (iii) an accounting/financial management specialist (national consultant).

53. The WAL PIC will be staffed by a chief executive officer cell manager, an operations manager, a senior technical officer, and an accounting officer. The WAL staff will be supported by an international solid waste management specialist, and will also receive consulting inputs from the accounting/financial management specialist and revenue generation specialist. These technical consultants will be funded by the project grant:

54. The PICs will provide progress and expenditure reports to the PMU on a monthly basis and meet regularly with the PMU to ensure strong communication and coordination is in place.

55. As other subprojects are approved by ADB and the PSC, further PICs will be formed within the relevant organization that will be undertaking the day-to-day tasks of subproject implementation.

B. Implementation Responsibilities

Table 4: Responsibilities for EARF Implementation

Organization	EARF Implementation Responsibilities
Asian Development Bank	<ul style="list-style-type: none"> • Review and approve IEE and EMP reports. Screen projects for compliance with safeguard requirements and ensure that appropriate measures are in place to avoid, minimize, mitigate, and compensate for adverse environmental impacts • Review and approve quarterly project and EMP monitoring reports. • Monitor and supervise clients environmental performance throughout the project cycle. • Disclose environmental assessments and monitoring reports on the ADB website. • If a client fails to meet safeguard obligations, ADB will seek corrective

	measures and work with the client to reinstate compliance.
Executing Agency Ministry of Finance	<ul style="list-style-type: none"> • Overall responsibility for management of the project. • Establish appropriately staffed and qualified PMU. • Submit of subproject IEEs to ADB. • Submit any updates or changes to subproject IEEs to ADB for approval. • Chair of the project steering committee.
Project Steering Committee	<ul style="list-style-type: none"> • Select future subprojects to undergo environmental assessment process. • Review contractor EMPs submitted by PMU, and provide comment and endorsement. • Review quarterly reports following progress of project. Implementation, including environmental monitoring results. Guide project direction and respond to any adverse monitoring findings.
Implementing Agency Planning and Urban Management Agency (within MLSNR)	<ul style="list-style-type: none"> • Overall responsibility for applying the EARF to prepare each IEE and EMP for subprojects. • Ensure compliance with ADB Safeguard Policy 2009. • Submit IEE to MECC along with a <i>Determination of Category of Assessment</i> form, and provide any further information as requested by MECC. • Obtain necessary permit from MECC to proceed with each subproject
Project Management Unit Planning and Urban Management Agency	<ul style="list-style-type: none"> • Recruit qualified international planning consultant for environmental inputs, and recruitment of environmental specialist for safeguard team. • Update subproject EMPs or IEEs if required after detailed design stage. Any changes need to be submitted to the EA, which will submit to ADB for approval. • Ensure that all relevant EMP mitigation measures are in civil works bidding documents, along with financial penalties for breaches and the requirement for the contractor to pay for mitigation measures. • Assess the contractor's proposed environmental mitigation measures and costs, and its capacity to implement them as a part of the bid evaluation process. • Submit contractor EMPs to PSC for review, comment and endorsement. • Approve contractor EMP. • Provide contractor with induction prior to commencement of any site works. • Undertake necessary actions to address noncompliance of CEMPs. • Maintain regular communications, coordination and support to PIC on environmental matters. • Engage environmental consultants to support environmental assessment as required.
Safeguards Team (within PMU)	Direct responsibility for implementing the EARF, including the following; <ul style="list-style-type: none"> • Undertake rapid environmental assessment screening of each future candidate subproject proposed by PSC for feasibility, and classify according to ADB categories, reporting to the PMU. • Conduct the IEE or environmental review for future selected candidate subprojects, with the assistance of project implementation consultants, and provide to PMU. • Conduct consultation and disclosure events during project preparation

	<p>and implementation, facilitating informed participation.</p> <ul style="list-style-type: none"> • Coordinate the grievance redress mechanism in accordance with the procedure outlined in EARF. • Review and approve each Contractor Environmental Management Plan, including the monitoring aspects of the CEMP. • Implement all environmental monitoring as outlined in each subproject's EMP. • Preparing quarterly EMP progress reports for inclusion in the Project quarterly progress reports for PMU to submit to PSC. • Liaison and communication with stakeholders and general public on objectives of subprojects, and environmental risks, mitigation measures, and outcomes. • Submit an environmental subproject completion report to the ADB within 3 months of completion; detailing all aspects of environmental performance compared to the EMP, and measures in place to mitigate potential impacts during the operational phase. • Maintain regular communications, coordination and support to Project Implementation Cells on environmental matters.
Project implementation cells	<ul style="list-style-type: none"> • Day-to-day contract supervision of civil works • Identify any environmental or safety incidents, risks, noncompliance, or unexpected impacts in the monthly report to PMU. • Implement ongoing monitoring and environmental management requirements during the operational phase of the project, in accordance with obligations outlined under the EMP.
Contractors	<ul style="list-style-type: none"> • Prepare contractor EMP, and health and safety plan, to meet the environmental mitigation measures outlined in the bidding document. Plans to be approved prior to works commencing the CEMP will be a binding document covering the following aspects: <ul style="list-style-type: none"> – name of the supervising engineer for the contractor and nomination of the environmental manager and back-up person for the contract duration, – scope of works and plan of works, – machinery and equipment to be brought to the site, – quarry sites used for any road and construction materials, – environmental protection work procedures, – staff training for contractor EMP compliance, and – monitoring contractor EMP implementation and providing PMU with monthly reports. • Implement contractor EMP with the assigned staff member responsible for monitoring measures in place, and the effectiveness of these measures. • Report any environmental or health and safety incident to PIC.

C. Staffing Requirements and Budget for EARF Implementation

56. Table 5 summarizes the estimated staffing requirements EARF implementation for each project activity.

Table 5: Staffing and budget for EARF Implementation

Organization	Responsible Personnel	Person Months
PIA	Planner / Environmental Specialist (international)	6 (intermittent)
PMU (ST)	Environmental Specialist (national)	60

57. The Tongan government will fund the environmental specialist in the ST. The planning / environmental consultant will be funded by the project grant and is included in the costings.

VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

58. Meaningful public consultation is required throughout the project cycle to ensure that potential environmental and social impacts are fully disclosed, and mitigation measures are appropriate. The following are the key principles to be followed for consultation processes:

- (i) Adequate and relevant information is disclosed in a timely manner.
- (ii) Information is readily accessible and understandable to affected people.
- (iii) Consultation is undertaken in a non-threatening atmosphere, ensuring that all dialogue is free from intimidation or coercion.
- (iv) Processes are gender inclusive and responsive, and tailored to meet the needs of disadvantaged and vulnerable groups.
- (v) Consultation is meaningful, with all relevant views of stakeholders and affected people taken into account for decision making in areas such as project design, environmental mitigation measures, sharing of development benefits and opportunities, and implementation issues.

59. In undertaking the PPTA, there has been extensive consultation undertaken with relevant stakeholders. Key issues of environmental concern were discussed, particularly with PUMA, MECC, MLSNR Geology Section, TWB, WAL, and the implementation team for the TUIDP. For the core subprojects, thorough consultation was implemented through household surveys; public meetings with media coverage; follow-up issue-based workshops; focus group discussions; and detailed interviews with town and district officers, church and community groups, and other relevant stakeholders. This level of engagement, beyond simple information provision, recognizes all partners in the development process and provides input into a robust project design and IEE. Up-front dialogue from an early stage will often prevent unnecessary and costly project delays during implementation.

60. Ongoing dialogue during construction and implementation provides for greater accountability, strengthening the relationship between implementers and beneficiaries, and enhancing results achieved. Efforts to strengthen communication with women and any socially disadvantaged groups are required so that consultation processes empower all people to contribute and do not inadvertently exclude people.

61. A public information brochure specifically for affected persons was developed for the water supply core subproject. While focusing mostly on resettlement issues, it also outlines the process of the IEE, and the commitment to undertaking the development with minimal environmental impacts. This provides an example of combining social and environmental issues to minimize duplication, and to streamline messages. The information brochure, translated into Tongan, will be updated during implementation, and can be used as a model for the PMU in the development of additional subprojects.

62. Meaningful public participation has been encouraged throughout the project cycle using a range of mechanisms. Public consultation was conducted at the project level, and included

environmental, social, and resettlement presentations. Meeting highlights from the initial project public briefing and discussion were broadcast on TV and over the radio. Two follow-up public discussions were facilitated, with the first being a discussion on developing a roadmap for urban development and the second seeking input on how to improve outcomes of the project for women and disadvantaged social groups. In each of these forums, sustainability was a key issue of discussion, particularly the means to implement this important concept within the Tongan context. Numerous follow-up discussions with individuals and groups harnessed a number of views and perspectives in relation to not only environmental issues associated with this subproject, but also the broader development direction for the urban environment in Tonga.

63. Public participation was also harnessed during the poverty and socio-economic survey, with participants in the household and gender surveys given a brief overview of the project and comments elicited on potential impacts. Each respondent was provided with contact details for any follow-up questions. This ensured that the basic project concept was made widely known throughout the project-affected areas.

64. In meetings with stakeholders and with the general public, all issues relating to environmental aspects were disclosed as part of the presentation. No concerns were expressed during the discussions about environmental issues related to the core subprojects. There was endorsement of the need for improved water supply and sustainable water and waste management, and no concerns were expressed in relation to construction impacts.

65. The consultation process did not inadvertently exclude participation. Forums for women only were undertaken to ensure that concerns could be expressed openly. While this elicited different perspectives, it did not bring forward any new concerns in relation to environmental issues.

66. Documenting all public consultation and information disclosure is important to provide a transparent overview of dialogue within the context of environmental assessment. A record of meetings needs to include an overview of invitees, attendance, and details of how information has been disclosed, and any pertinent issues raised in each public forum. See Annex 5 for a summary of the information to be documented and an example of the type of meeting minutes that may be taken. Consultation summaries are to be provided as an annex to the IEE.

VIII. GRIEVANCE REDRESS MECHANISM

A. General Principles

67. ADB requires that a grievance redress mechanism (GRM) be established and maintained. It should be designed to efficiently receive and facilitate the resolution of affected peoples' concerns and grievances about project-level social and environmental issues within a reasonable timeframe. The GRM should be scaled to the risks and impacts of the project. It will address affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the community. The GRM may be revised once the project commences to ensure that its provisions are relevant and practical. It should also be updated as required during the construction process, to optimize the redress process.

68. During project implementation, it is possible that people may have concerns about the project's environmental performance. People may perceive negative impacts during the construction or operational phase, and they have the right to have their complaint fairly heard and acted on. Many issues can be resolved effectively through timely communication, inquiry, and mitigation measures.

69. The grievance redress process will be widely disseminated to all affected people during project consultations, focus group discussions and the resettlement plan census. It will be

contained in the public information brochure distributed to each affected household / business during the census. The GRM is in place for all safeguard issues, providing a streamlined process for any concerns or issues in relation to resettlement, social safeguards, and environmental impacts.

70. Consideration of the grievance process should be given to both the construction and operational phases. Environmental impacts from operations are considered within an IEE and EMP, and as such breaches to the EMP in operations need to also provide a GRM. In the post project period, this GRM will usually revert to the mechanisms available within the facility operator's procedures, or within an external agency such as MECC or MLSNR.

B. Grievance Coordination

71. A grievance focal point (GFP) will be established by the district/town Officer to coordinate and address all complaints and concerns arising from the project. The contact details will be provided to all affected persons.

72. The GFP will be assisted and supported by the PMU ST who will maintain a register of complaints, keep track of their status, and report to the Director of the PSC. They will regularly track complaints received, actions taken and the status of resolution. All communications with the affected person(s) will be documented, and whether management action has been taken to avoid community concerns in the future. Complaint forms will be distributed to the GFP to facilitate recording of complaints.

C. Grievance Procedures

73. Affected persons will be informed that they should ask any questions or discuss grievances with their community leader or the district/town GFP by phone or in person; or to project staff visiting the area. The GFP is encouraged to discuss the issue with the contractor or ST, as often minor environmental impacts can be remedied with immediate action.

74. If these questions/grievances are not answered within 1 week, they should be prepared in writing (using the assistance of the local community leader, church, or school if necessary). The complainant will also be informed that national and international project staff could assist them with writing a grievance if necessary.

75. Written complaints can be sent or delivered to the GFPs, where they will be registered as being received, and will be treated confidentially. The district GFP will have 1 week to deliver a resolution to the affected person.

76. In the event that a satisfactory answer cannot be provided, the affected person may lodge the complaint with the PMU and receive a reply within 7 days.

77. Affected persons will have the right to take the dispute to the MLSNR, who will also have 1 week to respond.

78. In the event that the situation is not resolvable, or the complainant does not accept the decision, the affected person(s) may have recourse to the land court (or other relevant court). All court costs (preparation and representation) will be paid for by the project, regardless of the outcome.

79. Table 6 outlines a summary of the grievance resolution process.

Table 6: Grievance Resolution Process	
Stages in Response Handling	Required Activities

Village head or district/town GFP	Verbally responds to questions and or complaints. May represent affected person in direct discussions with contractor or safeguards team. If no response within week, or response is unsatisfactory, affected person prepares a grievance in writing (utilize standard forms where possible).
District/town GFP	Registers the written complaint and attempts to solve it. If complaint is not resolved in 1 week, it is passed by the GFP to the PMU for resolution.
PMU	Registers the written complaint and attempts to resolve it with the affected person within 1 week. If a solution is not reached, the PMU refers it to the Minister, MLSNR
Minister MLSNR	Consults with other ministers, the GFP, and PMU in the resolution of complaints. Makes a decision within 1 week. If the decision is still unacceptable to the complainant, s/he may take it before the Land (or other relevant) Court, with all costs paid for by the project.
Land (or other) Court	The court hears the case and makes a final decision that is binding on all parties.

80. In the postproject period, there remains the potential for environmental harm to occur through the operations of the subproject systems, such as the water supply or waste management system. The GRM would revert to existing systems of environmental protection. Persons or groups can seek resolution of a grievance in relation to environmental harm through directly triggering the environmental complaint and investigation mechanism existing within MECC. Any complaints in relation to environmental matters are referred immediately to the Director of MECC. After assessing the nature of the complaint, it is delegated to the relevant staff member to investigate and report on the complaint and follow-up action taken.

IX. MONITORING ENVIRONMENTAL PERFORMANCE AND REPORTING

81. The EMP for each subproject will define how mitigation measures prescribed in the IEE are to be monitored during the design, construction, and operational phases. The EMP that has been completed for the water supply subproject is designed for use as a general template to be matched and/or exceeded in detail for all subprojects.

82. Monitoring procedures will include documentation of who is responsible for each monitoring action, and the timeframe and schedule for monitoring activities. Each of the three project stages of preconstruction, construction, and operation requires monitoring to be designed and implemented.

83. Good monitoring practice requires a monitoring report to be completed according to the following schedule:

- (i) a report at the end of project design (prepared by the PMU),
- (ii) a monthly report prepared by the contractor during construction,
- (iii) a report prepared every 3 months by the PMU for ADB, and
- (iv) an annual report that is prepared by the operating agency during operation for as long as the monitoring is specified in the EMP.

84. The design of the individual monitoring program within each EMP needs to be commensurate with the level of environmental impact predicted, and the complexity of mitigation measures.

ANNEX 1: CANDIDATE SUBPROJECT SELECTION CRITERIA

85. Tonga will ensure that each candidate subproject will have undergone a feasibility study, which will address technical analysis and description, subproject rationale, scope and components, cost estimates and financing plan, implementation arrangements, financial and economic analysis, environment impact assessment, and social and poverty impact assessment. Each feasibility study will be submitted initially for review and approval by ADB. After ADB has endorsed the feasibility study, the PMU will submit the feasibility study to the PSC for final review and approval.

86. Based on the feasibility study conducted, Tonga will only finance candidate subprojects which meet the following criteria:

- (i) The candidate subproject will be identified in the urban sector development plan.
- (ii) The candidate subproject will be considered a high priority urban development project within the urban/peri-urban area of Nuku'alofa, of high benefit to the people.
- (iii) The candidate subproject will be technically feasible and meets Tonga's technical standards and requirements.
- (iv) The candidate subproject will be justified as the most feasible subproject to achieve the stated objectives and is shown to be designed to minimize costs.
- (v) The candidate subproject's social and poverty impact assessment assesses that the proposed subproject (a) will have a net positive impact on stakeholders' social welfare, (b) will reduce poverty, and (c) can have its impacts monitored.
- (vi) The candidate subproject will be designed to minimize social impacts and ensure that (a) people adversely affected by civil works under the subproject are compensated in compliance with the laws of Tonga and ADB involuntary resettlement safeguard policies, (b) due consultation and process is carried out in line with land acquisition and resettlement plans agreed upon with ADB and disclosed to affected persons, and (c) the EA has submitted written confirmation to ADB that all affected persons of the subproject have consented to the terms and conditions under the land acquisition and resettlement plan. The candidate subprojects will not be selected if there is opposition from affected persons and the community to the candidate subprojects.
- (vii) All candidate subprojects will be subject to a first level of screening in accordance with the environmental laws and policy and are not found to have: (a) significantly impact on ecologically sensitive areas of the Fanga'uta lagoon national marine reserve arising from its design, location, construction or operation; (b) significant impacts on coral reefs and natural vegetation as specified in the schedule of the Environmental Impact Assessment Act, 2003; (c) permanent negative effect on known rare or endangered species; and (d) permanent damage to irreplaceable cultural relics and archaeological sites. No subprojects will be funded that are classified as Category A. That is projects that are likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. This includes transboundary or cumulative impacts.
- (viii) The candidate subproject's implementation timeframe will be reasonable, and surveys and design can be prepared, reviewed, and safeguard processes and procedures followed, and implemented within the project implementation period.
- (ix) Tonga can afford the candidate subproject cost and provides commitment to the investment through provision of budgetary resources to meet counterpart funding requirements for capital expenditures during the construction phase, resettlement costs, environment management costs, and routine operations and maintenance.
- (x) The economic internal rate of return (EIRR) will be 12% or greater in accordance with the *ADB Guidelines for Economic Analysis*. Subprojects which have an EIRR of less than 12% may only be selected where a strong justification on the basis of social inclusiveness and equity is provided.

ANNEX 2 - UPDATED URBAN DEVELOPMENT PRIORITY LISTING

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
1. WATER SUPPLY					
1.1 Upgrading of water treatment facility	OG		Committed		
1.2 Optimization of existing system	P	Yes	2,122,158		
1.3 Update of 1992 water supply master plan	P		600,000		
1.4 Securing and forestation of Mataki'eua well estate	P		213,904		
1.5 Water supply system expansion project	P	Yes		6,075,916	
1.6 Development of a new well field	P	Yes			5,385,257
1.7 Implementation of project recommendations of updated water supply master plan				TBD	TBD
SubTotal			2,936,062	6,075,916	5,385,257
Total (Water Supply)					14,397,234
Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
2. SEWERAGE & SANITATION					
2.1 CBD sewerage system and Soakaway field – CBD reconstruction project	OG		Committed		
2.2 Well drilling and groundwater quality monitoring Subproject of the IUDSP, Phase 1	OG		Committed		
2.3 Comprehensive community sanitation program	P		270,395		
2.4 Comprehensive sanitation and wastewater management master plan study	P		800,000		
2.5 Implementation of project recommendations of sanitation and wastewater management master plan			TBD	TBD	TBD
Sub-Total			2,936,062	1,070,395	TBD
Total (Sewerage & Sanitation)					1,070,395

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
3. DRAINAGE					
3.1 Cleaning of existing drainage along the waterfront – IUDSP	OG		Committed		
3.2 Comprehensive drainage and flood control master plan study	OG		800,000		
3.3 Residential infiltration program	P		267,458		
3.4 Optimizing capacities of inland wetlands and open waters	P		63,600		
3.5 Community earth canal systems	P		166,000		
3.6 Drainage and flood control program	P			10,059,558	TBD
		SubTotal	1,297,058	10,059,558	TBD
				Total (Drainage)	11,356,616
Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
4. SOLID WASTE MANAGEMENT					
4.1 Community-based solid waste management systems	P		60,600		
4.2 Preparation of comprehensive Nuku'alofa solid waste management master plan	P		100,000		
4.3 Procurement of a weighbridge	P		800,000		
4.4 Augmentation/replacement of the collection compactor trucks & Tapuhia plant & equipment	P	Yes		500,000	1,100,000
4.5 New sanitary landfill & closure of the Tapuhia sanitary landfill					3,000,000
4.6 Implementation of project recommendations of SWM master plan			TBD	TBD	TBD
4.7 Additional capacity for septage treatment	P	Yes	1,000,000		
		SubTotal	1,760,600	500,000	4,100,000
				Total (Solid Waste Management)	6,360,600

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
5. ROAD & TRAFFIC MANAGEMENT					
5.1 Road Subprojects – IUDSP	OG		Committed		
5.2 Road Subprojects – CBD Reconstruction Project	OG		Committed		
5.3 Roads TNRIP – Phases 2 & 3	OG		Committed		
5.4 Road Improvement Project – World Bank	OG	Yes	Committed	TBD	TBD
5.5 Roads Upgrading – Phase 1	P	Yes	12,733,585		
5.6 Roads Upgrading – Phase 2		Yes		10,931,704	
5.7 Roads Upgrading – Phase 3		Yes			8,152,214
5.8 Traffic Management Project	P		594,676		
5.9 Update of Road Component of the 1993 Urban Roads and Drainage Study	P		1,000,000		
5.10 Upgrading of the Ministry of Water Geotechnical Laboratory	P			267,380	
5.11 Bridge across Fanga'uta Lagoon	P			600,000	10,416,667
5.12 Lagoon Causeway	P			1,000,000	13,102,064
5.13 Implementation of project recommendations of Updated Roads Master Plan	P		TBD	TBD	TBD
		SubTotal	14,328,261	12,799,084	31,670,945
TOTAL (Road & Traffic Management)					58,798,290

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
6. MARINE TRANSPORT					
6.1 Transport Sector Consolidation Project	OG		Committed		
6.2 Vuna Wharf Construction, Phase 1	OG	Yes	Committed		
6.3 Vuna Wharf Construction, Phase 2	P			374,332	
6.4 Queen Salote Wharf Improvements	P	Yes	8,438,503	3,112,299	
6.5 New 2000T Slipway	P	Yes	802,139		
6.6 Construction of a Barge	P	Yes	534,759		
6.7 Implementation of project recommendations of Transport Sector Road Map for Nuku'alofa	P		TBD	TBD	TBD
6.8 Inter-island Port and Terminal Upgrades		Yes		10,000,000	
		SubTotal	9,775,401	13,486,631	TBD
Total (Marine Transport)					23,262,032

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
7. AIR TRANSPORT					
7.1 Resurfacing Fua'amotu runway, apron, and taxiway	P			28,000,000	
7.2 Additional fire tender	P	Yes	1,800,000		
7.3 Upgraded departure area	P	Yes	1,000,000		
7.4 New fire station – Fua'amotu airport	P	Yes		1,200,000	
7.5 Upgraded arrivals area	P	Yes		1,000,000	
7.6 Expand apron area – Fua'amotu airport	P	Yes		4,100,000	
		SubTotal	2,800,000	34,300,000	
Total (Air Transport)					37,100,000

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
8. POWER SUPPLY					
8.1 Power subproject - CBD reconstruction	OG	No	Committed		
8.2 Rehabilitation of low voltage lines	P	No	13,375,668		
8.3 New high Voltage feeder Line to eastern area of the city	P	No	267,380		
8.4 Extra transformer installations	P	No	160,428	160,428	
8.5 Extra high voltage lines	P	No	187,166	187,166	
8.6 Extra underground high voltage cables	P	No			1,283,422
8.7 Implementation of project recommendations of Tonga Energy Road Map for Nuku'alofa	P	No	TBD	TBD	TBD
8.8 Solar generation (Tongatapu – Additional 1 MW)		Yes	14,000,000		
8.9 Renewable energy pilots (Coconut Oil/Land Fill Gas)		Yes	3,000,000	10,000,000	
		SubTotal	30,990,642	347,594	1,283,422
Total (Power)					32,621,658

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
9. TELECOMMUNICATION					
9.1 Fiber optic cable	OG	Yes	Committed		
9.2 Upgrading TBC radio towers	P	Yes	1,500,000		
9.3 Local reticulation of high speed internet	P	Yes	8,000,000		
		SubTotal	42,500,000		
Total (Telecommunication)					42,500,000

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
10. SITE DEVELOPMENT/UPGRADING					
10.1 Fatai resettlement site development	P		1,833,501		
10.2 Upgrading of small industries center	P		443,422		
		SubTotal	2,276,924		
				Total	2,276,924

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
11. SOCIAL INFRASTRUCTURE					
11.1 Upgrading/Refurbishment of Vaiola Hospital, Ph 2	OG		Committed		
11.2 Development of satellite markets	P		347,520		
11.3 Community centers	P		5,946,209		
11.4 Talamahu market site improvements	P			1,947,368	
11.5 National University	P		1,000,000	10,000,000	10,000,000
		SubTotal	7,293,729	11,947,368	10,000,000
				Total (Social Infrastructure)	29,241,098

Sector/Project	Status	NIIP Listing	Indicative Costing (USD)		
			2010/11 – 2012/13	2013/14 – 2015/16	2016/17 – 2030/31
12. ENVIRONMENTAL MANAGEMENT					
12.1 Sustainable urban and environmental management capacity building and environmental protection	OG		Committed		
12.2 Fundamentals for a GIS planning database for Nuku'alofa	P		194,860		
12.3 Development of environmental preservation areas (EPAs) along water bodies	P		600,000	3,000,000	
12.4 Ma'ufanga quarries upgrading project	P			500,000	
12.5 Nuku'alofa character vegetation	P				300,000
12.6 Nuku'alofa Heritage Conservation Program	P				300,000
		SubTotal	794,860	3,500,000	600,000
			Total (Environmental Management)		4,894,860

OG - ongoing
P - planned

ANNEX 3 – CLASSIFICATION OF MAJOR PROJECTS IN TONGA**Kingdom of Tonga's Environmental Impact Assessment Act, 2003****Schedule - Major Projects**

87. Any of the following activities shall be deemed to be major projects;
- (i) Abattoirs;
 - (ii) brewery works;
 - (iii) building, works, or land associated with the landing, take-off, parking or servicing of aircraft or helicopters;
 - (iv) canning and bottling works in excess of floor space 2000 square meters;
 - (v) cattle feeding or intensive piggeries with excess of 50 animals;
 - (vi) cement works or concrete batching works in which more than 2,000 tons per annum are manufactured;
 - (vii) ceramic work, being works in which excess of 200 tons per annum are produced of brick, tiles, pipes, or glass are manufactured in furnaces or kilns;
 - (viii) chemical factories, or chemical storage areas in excess of 1,000 square meters;
 - (ix) electricity generating stations;
 - (x) marinas (comprising pontoons, jetties, pier, dry storage, mooring) for more than 20 vessels primarily for pleasure or recreation;
 - (xi) mining, being an activity that disturbs the surface of the land in excess of one hectare;
 - (xii) sand and gravel extraction from any beach within 50 meters of the high tide mark;
 - (xiii) liquid, chemical, oil, or petroleum refineries, storage or waste processing works;
 - (xiv) farms for the propagation of marine, estuaries, or freshwater organisms;
 - (xv) pre-mix bitumen works;
 - (xvi) rubber on plastic works;
 - (xvii) the removal of trees (including mangroves) or natural vegetation of any area in excess on half a hectare;
 - (xviii) construction of road, wharfs, barrages, embankments, or levees which affect the flow of tidal waters;
 - (xix) any facility involving the use, storage, or dumping of nuclear materials;
 - (xx) sawmills where more than 2,000 cubic meters per annum of timber is sawn, milled, or machined in any way; or
 - (xxi) tourism or recreational resorts, buildings or facilities involving a total building floor area of greater than 1,000 square meters or a potential total overnight accommodation level (visitors and staff combined) in excess of 20 persons.

ANNEX 4 – TERMS OF REFERENCE FOR ENVIRONMENTAL SPECIALISTS

A. International Consultant

1. Planner/ Environmental Specialist (6 person-months- intermittent)

88. The planner will have academic qualifications in urban planning or a closely related field, and a minimum of 10 years experience in environmental assessment and the preparation of environmental impact assessments for small urban infrastructure projects in developing nations. Experience in resettlement and participatory planning and implementation would be advantageous. The consultant will have excellent management and communication skills, and in-depth knowledge and experience with ADB's social safeguard policies and requirements. Demonstrated experience in the training of national personnel in the assessment of environmental impacts is essential. Experience in the training of national personnel in the planning and implementing of social surveys and preparation of land acquisition and resettlement plans would be viewed favorably. The planner will report directly to the team leader/contracts – supervision engineer and will be responsible for the implementation of the environmental and resettlement aspects of the Project as defined in the scope of works.

89. Scope of Works - Environmental and Social Safeguards Implementation

- (i) Provide orientation for PUMA safeguard team (ST) staff on safeguard measures, including implementation of the EMPs, and land acquisition and resettlement plans (LARPs).
- (ii) Provide training for ST staff responsible for designing and implementing safeguard measures for all subprojects.
- (iii) Assist the ST undertake initial environmental and social screening of candidate subprojects.
- (iv) Assist the ST to prepare initial environmental examinations (IEEs) and LARPs for subprojects in accordance with the provisions of the Project's Environmental assessment and review framework (EARF) and the land acquisition and resettlement frameworks (LARF).
- (v) Supervise and evaluate the implementation of environmental mitigation and monitoring measures as specified in the EMPs.
- (vi) Update the EMPs as necessary, including carrying out supplemental environmental assessments for additional subprojects appraised after loan approval.
- (vii) Monitor and supervise resettlement and other social impact mitigation activities, as defined in the LARPs and LARF.
- (viii) Update LARPs in accordance with the provisions of the Project LARF.

B. PUMA Staff – Safeguards Team

1. Environmental Specialist (60 person-months)

a. Objective / Purpose

90. Within PUMA, the environmental specialist will provide specialized environmental input into urban planning, policy, and practice in Tonga. Under the Nuku'alofa Urban Development Sector Project, the specialist will undertake a range of tasks to ensure that the environment is protected from impacts through project activities, and that appropriate mitigation and monitoring measures are in place.

b. Supervision / Support

91. The environmental specialist will report directly to the PMU project manager in PUMA. Support and training will be provided by the planner / environmental specialist in the project implementation assistance (PIA) team, who will be leading the environmental assessment process for future subprojects, and overseeing monitoring of IEEs. The project implementation consultants working directly with each subproject will also provide specific advice and support in relation to respective subprojects.

c. Detailed Tasks

92. The responsibilities of the environmental specialist will include the following:
- (i) Ensure that project implementation will comply with the government's environmental policy and procedures, ADB's Safeguard Policy Statement and requirements, the TWB subproject's (IEE) and its EMP.
 - (ii) Update IEEs or EMPs (as necessary) based on detailed engineering design, with reports submitted to PMU, PSC, and SP which will seek comments and approval from ADB. Undertake this task in collaboration with the project implementation consultants.
 - (iii) Undertake monitoring and reporting in relation to implementation of each EMP. The first task for each EMP monitoring process is to finalize the relevant audit checklist to ensure that it fully addresses all environmental issues associated with the subproject. The environmental specialist will then lead the Safeguard Team in undertaking regular subproject audits, including preconstruction, midconstruction, and operational phases.
 - (iv) Provide inputs into quarterly reports to ADB and PSC on the environmental aspects of project implementation.
 - (v) Communicate with stakeholders and the general public on the environmental objectives, actions, and outcomes of the subproject.
 - (vi) Undertake rapid environmental assessment screening of each future candidate subproject proposed by the PSC for feasibility, and classify according to ADB categories, reporting to the PMU.
 - (vii) Assist the planner / environmental specialist international consultant to prepare the IEE or environmental review for future selected candidate subprojects and provide to the PMU.
 - (viii) Conduct consultation and disclosure events during project preparation and implementation, facilitating informed participation.
 - (ix) Coordinate the GRM in accordance with the procedure outlined in EARF
 - (x) Review and approval of contractor EMPs, including the monitoring aspects.
 - (xi) Prepare quarterly EMP progress reports for inclusion in the project quarterly progress reports for PMU to submit to the PSC.
 - (xii) Maintain regular communications, coordination, and support to project implementation cells on environmental matters.

d. Qualifications / Experience

93. The environmental specialist will have an undergraduate degree in environmental science or environmental management. A masters qualification in the environmental field is seen as highly desirable.

94. The specialist will have at least 5 years experience in environmental management, with at least three years in the design and implementation of EMPs, environmental auditing, and environmental planning processes. Experience in the Tonga will be viewed favourably.

ANNEX 5 – DOCUMENTATION OF PUBLIC CONSULTATION ACTIVITIES

Table 1: Summary of Key Information Required for Consultation

CONSULTATION METHOD	DETAILS OF ACTIVITIES		CONSULTATION OUTCOMES	
Public notice	Date(s) of notice		n/a	
	Location of notice			
Newspaper notification	Date(s) of notice		n/a	
	Name of newspaper			
Public announcement/ radio	Date(s) of announcement		n/a	
	Time(s) of announcement			
Newsletter / questionnaire	Date(s) sent		Number received	
	Number sent		Main issues raised	
	Area of distribution			
	Feedback sought (Yes / No)			
Public meeting	Date(s) held		Meeting minutes attached (Yes / No)	
	Location(s) held		Attendees	
	Invitees			
	Methods of invitation			
	Agenda attached (Yes / No)			

Note: You may need to include agendas, list of attendees, minutes of meetings etc. as annexes to the EMP.

Table 2: Example of Meeting Minutes Documentation

Name of Subproject:

Location:

Date:

Time:

Location:

MEETING AGENDA

1. Introduction
2. Presentation and key points.....:

PARTICIPANTS

Name (if possible) number, associated organization, gender.

QUESTIONS / COMMENTS OF PARTICIPANTS AT MEETING

- 1.
- 2.
- 3.
4. etc

REPLIES OF PRESENTORS

- 1.
- 2.
- 3.
4. etc

The meeting was at XXX the same day. All participants agreed with the minutes of meeting.

Signed by person taking minutes:

Position: