Environmental Assessment and Review Framework (Draft)

TONGA: Climate Resilience Sector Project

Prepared by the Ministry of Lands, Environment, Climate Change and Natural Resources, Kingdom of Tonga, the Coordinating Implementing Agency for the Asian Development Bank (ADB)

TABLE OF CONTENTS

ABREVIATIONS

ADB	Asian Development Bank
APs	Affected Persons
CAE	Climate Adaptation Engineer
CCA	Climate Change Adaptation
CCDRA	Climate Change and Disaster Risk Adviser
DECC	Department of Environment and Climate Change
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
EAC	Environmental Assessment Committee
EARF	Environmental Assessment Review Framework
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management Specialist
ESU	Environment and Social Unit
GFP	Grievance Focal Point
GoT	Government of Tonga
GRM	Grievance Redress Mechanism
IEE	Initial Environment Examination
JNAP	Joint National Action Plan On Climate Change Adaptation And Disaster Risk Management 2010–2015
JNAP-TWG	Technical Working Group for JNAP coordinated by a Secretariat
MAFF	Ministry of Agriculture And Food, Forests And Fisheries
MDB	Multilateral Development Bank
MLECCNR	Ministry of Lands, Environment, Climate Change and Natural Resources
MFNP	Ministry of Finance and National Planning
MOI	Ministry of Infrastructure
MOET	Ministry of Education and Training
MOH	Ministry of Health
NEMO	National Emergency Management Office
NGO	Non Government Organization
NIIP	National Infrastructure Investment Plan
PIU	Project Implementation Unit
PMU	Program Management Unit
PPCR	Pilot Program for Climate Resilience
PPTA	Project Preparatory Technical Assistance
REA	Rapid Environmental Assessment
SPCR	Strategic Program for Climate Resilience (PPCR Phase II)
SPS	ADB Safeguard Policy Statement (2009)
TOR	Terms of Reference
TWG	Technical Working Group on Climate Change (See JNAP-TWG)

I. INTRODUCTION

A. Project Background

1. The Tonga Strategic Program for Climate Resilience Sector Project (SPCR) is to implement Phase I of the Pilot Program for Climate Resilience (PPCR). The Project will mainstream climate resilience into development planning and address country priorities focusing on the most vulnerable sectors and communities. The Project will be implemented under the following three components: (i) build capacity in climate change adaptation and disaster risk management at community, sector and national levels; (ii) provide information, tools, and legislative frameworks needed to introduce climate change considerations into government and sector planning and budgeting processes; and (iii) provide access to resources (technical, human, financial) to address the climate change risk priorities of the Government, as well as those of vulnerable communities through a combination of soft and hard measures. This will lead to a progressive increase in the resilience of ecosystems and infrastructure; the foundations of the country's sustainable development aspirations. The Program will be financed on a grant basis from the Strategic Climate Fund which is one of two funds within the design of the Climate Investment Funds.

2. While there is country commitment and a national strategy—the Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management (JNAP)—to address climate and related disaster risk challenges facing Tonga, efforts to date have been constricted due to severe resource-constraints. During the design and capacity building phase of the PPCR, the Government of Tonga and other stakeholders identified impediments to a more effective response including: (i) a limited pool of qualified and trained experts to mainstream climate change adaptation and disaster risk management at community, sector, and national levels; (ii) lack of information, tools, and legislative frameworks for relevant sectors and stakeholders to develop and implement adaptation strategies; and (iii) challenges in accessing adequate climate change financing for priority adaptation needs. This requires a systematic and integrated approach toward climate change resilience and disaster risk reduction.

3. The Asian Development Bank (ADB) has developed a strong partnership with the Government of Tonga. Both ADB's Pacific Approach 2010–2014, and country operations business plan 2013–2015 for Tonga, emphasize the need for integration of climate change adaptation and disaster risk management to deal with climate-induced natural disasters. Current ADB programming under the Integrated Urban Development Sector Project, Implementing Strategic Economic Management Technical Assistance, and Public Finance Management Road Map provides ADB with a clear understanding of the challenges Tonga faces in mainstreaming climate change considerations into government operations. This includes the need for increased capacity, coordination, whole-of-government involvement, donor harmonization as well as consideration of recurrent costs for the sustainability of critical investments.

4. This document presents the environmental assessment and review framework (EARF). The provision for the use of frameworks is required for non-sensitive components of projects where detailed design of further subprojects takes place after ADB Board approval. This EARF has been prepared to provide consistent and appropriate environmental standards for additional climate change infrastructure investment subprojects to be considered under component three of the project. In this context three core subprojects under component three have been selected under the SPCR to improve the climate resilience of infrastructure through an initial investment in (i) Evacuation and post-disaster access roads; (ii) Coastal protection - construction and monitoring of five sections of coastline; and (ii) Climate proofing of schools.

5. The remaining funds have been allocated to candidate subprojects identified in the Project Preparatory Technical Assistance (PPTA) following an evaluation against designated selection criteria (**Annex 1**), and approved in principle 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 for all additional candidate subprojects.

6. Initial Environmental Examination (IEE) reports were developed for the three core subprojects during the Project Preparatory Technical Assistance (PPTA).

7. The core subprojects were selected from previously identified priority projects for climate change infrastructure investment. These were previously identified under priorities of the (i) Joint National Action Plan On Climate Change Adaptation And Disaster Risk Management 2010–2015 (JNAP); (ii) Government of Tonga's (GoT) review of the National Infrastructure Investment Plan (NIIP); and (iii) additional PPTA consultation's with respective line ministries. The complete listing is also provided in Annex 1.

8. 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

9. 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 climate change infrastructure investment subprojects funded within the project. Consultation mechanisms, and environmental monitoring and reporting will also be addressed within this framework to ensure ongoing adherence to environmental safeguards.

II. OVERVIEW OF SUBPROJECT COMPONENTS

A. Evacuation and Post-Disaster Access roads (3 roads)

10. This subproject will involve the rehabilitation of two existing roads in Eastern Tongatapu (Navutoka and Manuka roads) and Tufu road on the island of Eua, the improvement of which will benefit the residents in: (i) improving the security of the local population in the event of a major climate related event by both allowing for evacuation and allowing post disaster access by emergency vehicles; (ii) enhancing the livelihoods of the local population through facilitating their access to economic centers such as markets; and (iii) providing employment and training opportunities for local and national workers.

B. Coastal Protection: construction and monitoring of five sections of coastline (2.75 kms)

11. This subproject will be conducted in Eastern Tongatapu using different hard and soft engineering and bioengineering techniques to control coastline erosion, and limit sediment runoff, which will benefit 2,164 residents. The expected benefits are reduction in building and road damage, household income loss, statistical value of life loss and decrease in emergency costs, due to mitigating flood and wave effects; mangrove benefits such as improved breeding grounds for fish, carbon sequestration and run-off nutrient filtering; as well as recreation and amenity benefits from preserving the shoreline and beaches.

C. Climate Proofing of schools (3 schools)

12. This subproject will provide climate resilience on the island of Tongatapu and will consist of upgrading the school compounds and road access of three primary schools (Fanga, Kolomotu'a and Lavengamalie) to control wet season flooding and provision of a long-term sustainable water harvesting system. The expected benefits are: (i) avoided income/time loss resulting from school closures; (ii) reduced inconvenience to parents; (iii) avoided damage to schools due to the flooding; and (iv) piped water cost and drought alleviation reduction provided by the large source of drinking water.

D. Candidate Subprojects

13. The PPTA in collaboration with the JNAP Secretariat; the Technical Working Group for JNAP (JNAP-TWG) and the PSC facility created under the SPCR provides for a longer term level of strategic support to the sector. In this context funds from the project have been allocated to candidate subprojects identified in the PPTA as indicated in Table 1 below. These Subprojects have met the selection criteria as outlined in Annex 1, but have yet to complete environmental, social/resettlement, and economic assessments. These will be submitted to ADB for approval and must conform to ADB's Safeguard Policy Statement (SPS 2009).[1]

Table 1 - Candidate Subprojects

a)	Relocation of Ha'apai Medical Centre
b)	Rehabilitation of existing outer island marine landings
c)	(1) additional evacuation and post disaster access road
d)	(7) additional schools for climate proofing

III. TONGA'S ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURES

A. EIA Review Procedures

14. The Ministry of Lands, Environment, Climate Change and Natural Resources (MLECCNR) is the Coordinating implementing agency. The Divisions of Environment and Climate Change (DECC) in this context were formally created by the Environmental Management Act 2010. The role of DECC is to protect the environment and promote sustainable development. Under the Act, the Deputy Director of DECC is empowered to inspect or investigate any facility or activity deemed to be causing potential impact on the environment. The Deputy Director also has the power to serve a notice to cease the activity, which takes effect immediately.

15. 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.

16. Under this regulatory framework, all development activities must be referred to the Minister of MLECCNR, either directly or through the Determining Authority (designated ministry). 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. DECC 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 DECC secretariat, which makes

[1] ADB. 2009. Safeguard Policy Statement.

recommendations to the Environmental Assessment Committee (EAC). The Minister receives an assessment report and issues an approval (with or without conditions), a request for further information, or a rejection. The schedule outlining major projects as per the EIA Act 2003 (**Annex 2**). 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

17. The recent ADB Country Environment Review for Tonga highlighted one of the serious constraints to sustainable development as a lack of capacity and resources within DECC to act as an independent regulator for the environment.[2] Development permit conditions are not currently followed up to ensure that implementation has occurred, and DECC does not have the resources to monitor environmental impacts from individual developments. This results in a reactive rather than proactive environmental management context.

18. The capacity of DECC 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 DECC 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.

19. **Annex 3** provides a terms of reference (TOR) for the local environmental management specialist, as well as TOR for the International Climate Change Adaptation specialist to be recruited for project implementation assistance. The TOR covers how the consultant will work with the local specialist and other program management unit (PMU) members to provide environmental capacity building for MLECCNR and other implementing agencies (IAs).

IV. ANTICIPATED ENVIRONMENTAL IMPACTS

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

21. Candidate subprojects identified in Table 1 have been selected restricted by the selection criteria developed for the project. These already have some mechanisms for environmental protection in place. Candidate subprojects in this context span a number of sectors, including upgrade of school facilities, water supply, drainage, roads and traffic management, marine transport, health clinics, 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.

22. In analyzing the climate change infrastructure investment priority list, a number of environmental issues will potentially arise, as outlined in Table 2. The mitigation measures provide general guidance, but will need to be adapted to suit the particular development activities.

[2] ADB 2010: Country Environment Review, Tonga. Manila.

Table 2: 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. Siteing 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 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 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 civil 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 Waste Management Authority Limited.
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 and any refueling sites. 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 road and school drainage subprojects. 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 design and mitigation measures.
Sustainable resource use	Where 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 employed, 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 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

23. All subprojects were subject to a first level screening. Accordingly, subprojects were not selected if they

(i) adversely impact on the environmentally sensitive areas arising from their design, location, construction, or operation;
(ii) have potential to cause significant loss to mangroves, sensitive wetland habitat, or natural vegetation as specified in the Schedule of the Environmental Impact Assessment Act, 2003;
(iii) have potential to cause permanent negative effect on known rare or endangered species; or
(iv) have potential to cause permanent damage to irreplaceable cultural relics or archaeological sites.

24. 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.

25. 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

26. There are nine steps to be conducted for the environmental assessment process for candidate subprojects outlined in this section.

27. **Initial screening** is 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 (REA) tool was employed by the PPTA to initially categorize each project according to the ADB classification system.

28. Category A projects are likely to have significant adverse environmental impacts, and as such are not eligible for funding under the nature of this project. Category B projects have fewer adverse impacts than category A projects, are site-specific and impacts 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 assessment. . 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.

29. **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 post closure or rehabilitation issues. Most climate change infrastructure investment project environmental assessments will focus predominantly on construction, but this must be reviewed on a case by case basis.

30. **Baseline environmental conditions** will require review and analysis as steps in the project's assessment mode. 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.

31. **Predicting likely impacts** requires a thorough analysis of potential environmental impacts and proposed mitigation measures. Table 2 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.

32. **Public consultation, information disclosure, grievance redress mechanism.** Consultation and 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 nongovernmental 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. The grievance redress mechanism (GRM) is meant for people seeking satisfactory resolution of their complaints on the environmental performance of the project. The mechanism will ensure that (i) the basic rights and interests of every affected person by poor environmental performance of the project are protected; and (ii) their concerns arising from the poor environmental performance of the project during the phases of design, construction and operation activities are effectively and timely addressed.

33. **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.

34. **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.

35. **Costing mitigation and monitoring measures** provides for adequate resourcing. Costs covered within civil works budgets should not be double-counted, requiring good communication between the environmental assessment staff and the technical project designers. Monitoring will be undertaken to establish baseline parameters where necessary and to ensure compliance of the contractor with the approved EMP.

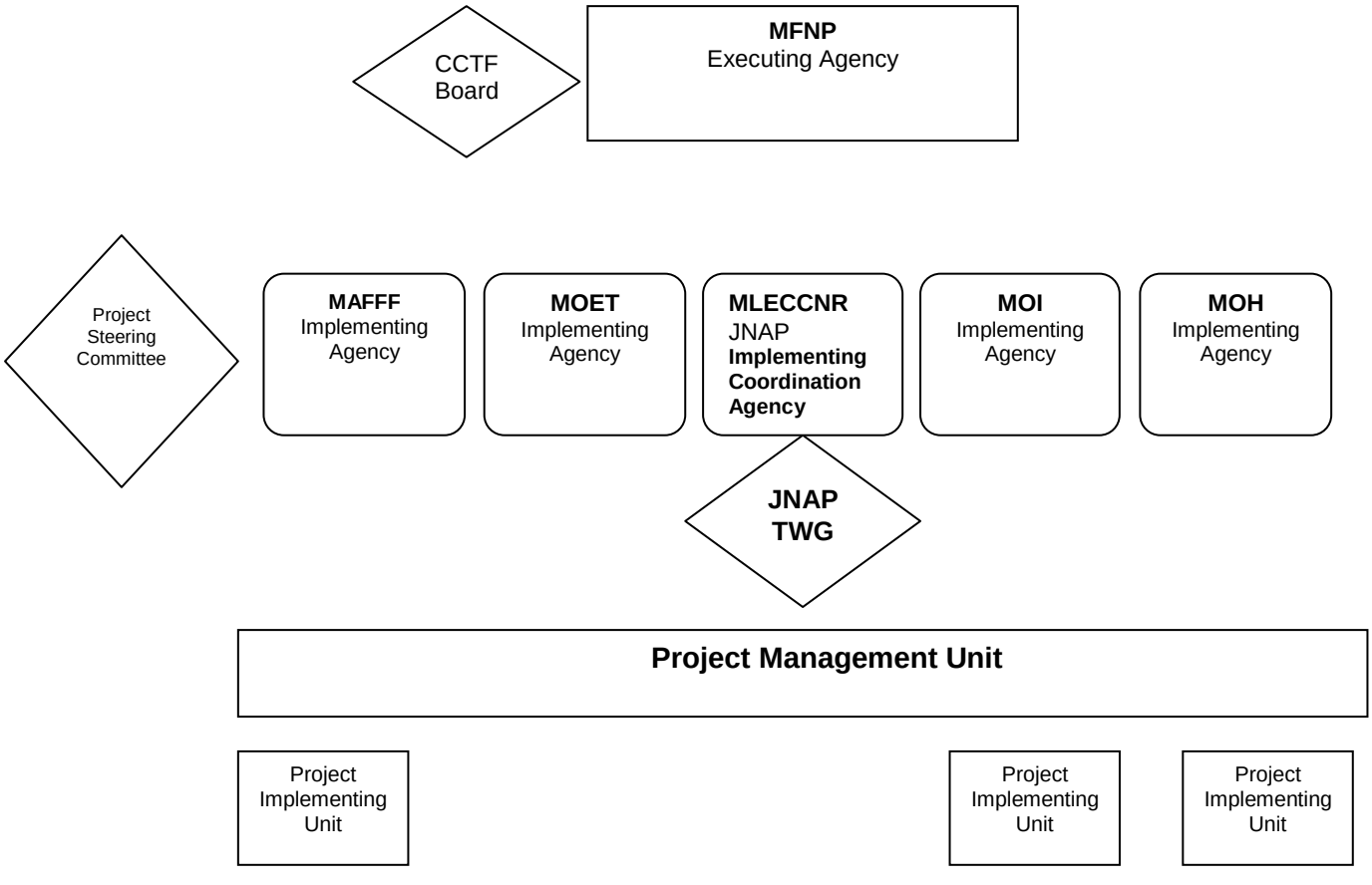
36. **Reporting** is the final step in the process, although all steps require documentation to compile the final report. The preparation of environmental assessment documentation will be based on the ADB SPS of 2009, and will also comply with the requirements of Tonga's EIA Act 2003 and EIA Regulations 2010. It is imperative in this context that monthly reports are provided by contractors on any environmental incidents that impacted on the environment. This will feed into quarterly reports of the IAs and substantiate semi-annual safeguard monitoring reports to ADB.

VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. Implementation Arrangements

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

Figure 1 – Project Implementation Structure



38. **Executing agency (EA).** The EA for the project will be the Ministry of Finance and National Planning (MFNP). It will administer the overall project grant, and chair the PSC. The PSC will also consist of all implementing agencies and a representative of Civil Society. 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 MLECCNR in particular to review and provide inputs for the environmental aspects of project implementation and quarterly monitoring reports.

39. **Implementing agencies (IAs).** The implementing coordination agency will be MLECCNR. In particular DECC whom will be responsible for the operations of the PMU working with the other relevant IAs of the program namely Ministry of Infrastructure (MOI); Ministry of Education and Training (MOET); Ministry of Health (MOH); and Ministry of Agriculture Food, Forestry and Fisheries (MAFFF).

40. **Program management unit (PMU).** The Deputy Director of DECC and head of JNAP will be the national counterpart program manager in collaboration with the national climate change program coordinator to supervise the PMU. The PMU will (i) serve as the secretariat for the PSC; (ii) undertake project management, administration, and inter-agency 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. National counterparts will be closely assisted and supervised by international expertise as indicated in Table 3.

41. The PMU will be made up of the staff members as outlined in Table 3.

Table 3 – Program Management Unit

International	**National**
Climate Change and Disaster Risk Adviser Adviser	Climate Change Program Coordinator
Climate Change Finance Specialist	Gender & Community Development Specialist
Climate Adaptation Engineer	Environment Management Specialist
Climate Change Training Specialist	Climate Change Finance Specialist
Meteorology and Oceanography Adviser	Legal Specialist
Hydro Adviser	Education and Communications Specialist
Trainer on Climate Proofing Infrastructure	Monitoring & Evaluation Specialist
Trainer on CCA Finance & Corporate Budgeting	Accountant
Trainer on CCA and Community	Data Base & Web Page Designer
Trainer on CCA Monitoring	Office Administration Assistant

42. **Environment and Social Unit (ESU).** Within the PMU, an ESU will be established to oversee all social/resettlement and environmental assessment and review activities. This will be staffed by the national environmental management specialist; the gender and community development specialist; the legal specialist; and the monitoring and evaluation specialist. The PMU's program coordinator will supervise the ESU with advice from the International climate change and disaster risk adviser.

43. Further support for the ESU will be provided by the relevant international consultants where appropriate including the Climate Adaptation Engineer (CAE).

44. Currently, there is some capacity within DECC for environmental assessment and review procedures. A focus of the PMU is strengthening capacity to manage strategic environmental planning issues, as well as the practical implementation of environmental plans and monitoring processes. Utilizing a permanent national environmental management specialist from the PMU will deliver practical training and increase the capacity of DECC in this critical area. Annex 3 provides TOR for the national environmental management specialist, the international climate change adaptation adviser, who will supervise and provide training and mentoring of national counterparts.

45. **Project Implementation Unit (PIU)**. Separate PIUs will be established in relevant implementing agencies such as MOI, MAFFF, MOET and MOH to oversee implementation of the subprojects on a day-to-day basis.

46. The MOI PIU in this context will be staffed by a national senior civil engineer and project manager, a coastal environmental engineer, and an accounting administrative assistant. MOI staff and the PIU will be assisted by an international design and supervision consultant firm. The PIU and technical consultants will be funded by the project grant.

47. The MAFFF PIU will be staffed by a national senior technical project manager, and two fisheries officers. MAFFF staff and the PIU will be assisted by an international socio economic expert and an international coral reef biodiversity expert. The PIU and technical consultants will be funded by the project grant.

48. The PIUs 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.

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

B. Implementation Responsibilities

Table 4 - Implementation Responsibilities

Organization	EARF Implementation Responsibilities
ADB	- Review and approve IEEs. - 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 client's 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 and National Planning	- Overall responsibility for management of the project. - Submit of subproject IEEs from relevant IAs to ADB. - Submit any updates or changes to subproject IEEs to ADB for approval. - Chair of the project steering committee.
Organization	**EARF Implementation Responsibilities**
Coordinating Implementing Agency Ministry of Lands, Environment, Climate Change and Natural Resources	- Establish appropriately staffed and qualified PMU with responsible ESU. - Overall responsibility for applying the EARF to prepare each IEE and EMP for subprojects. - Ensure compliance with ADB Safeguard Policy 2009.
Implementing Agency Ministry of Infrastructure Ministry of Agriculture, Food, Forestry and Fisheries Ministry of Education and Training Ministry of Health	- Establish appropriately staffed and qualified PIU. - Prepare and submit IEE to MLECCNR along with a *Determination of Category of Assessment* form, and provide any further information as requested by MLECCNR. - Obtain necessary permit from MLECCNR to proceed with each subproject.
Program Management Unit Department of Environment and Climate Change / SPCR	- Recruit qualified international design and supervision consultant firms for environmental inputs, and recruitment of environmental specialist for ESU and engage environmental consultants to support environmental assessment as required - Update subproject EMPs or IEEs from relevant IAs 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 integrated into civil works bidding documents, along with financial penalties for breaches and the requirement for the contractor to pay for mitigation measures. - Provide training to contractor prior to preparation and submission of contractors construction EMP (CEMP) - Assess the contractor's proposed environmental mitigation measures and costs, and its capacity to implement them as a part of the bid evaluation process. - Approve contractor's CEMP in consultation with ADB. - Provide contractor with induction prior to commencement of any site works. - Monitor contractor's compliance with the CEMP. Undertake necessary actions to address noncompliance of CEMPs. - Maintain regular communications, coordination and support to PIUs on environmental matters. - Submit monitoring reports to EA and ADB and provide inputs on safeguards to quarterly progress reports
Organization	**EARF Implementation Responsibilities**
Environment and Social Unit (within PMU)	Direct responsibility for implementing the EARF under the PMU, including the following; - Undertake rapid environmental assessment screening of each 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 and implementation, facilitating informed participation. - 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 PIUs on environmental matters.
Project Implementation Units	- 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	- Prepare CEMP , 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: 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, hours of operation/construction. - Implement GRM as appropriate and maintain a complaints/grievance record. The records will be the subject of monitoring. - 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 PIUs.

C. Staffing Requirements and Budget for EARF Implementation

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

Table 5 – EARF Implementation Budget

Organization	Responsible Personnel	Person Months
MLECCNR/PMU	Climate Change and Disaster Risk Adviser (international)	12
	Climate Adaptation Engineer	7
	Environmental Management Specialist (national)	60
MOI/PIU	Environmental engineer (national)	60

51. The GoT will provide assistance in environmental screening through DECCs EIA unit. All positions as above however will be funded by the project grant and is included in the costing.

VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

52. 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.

53. In undertaking the PPTA, there has been extensive consultation undertaken with relevant stakeholders. Key issues of environmental concern were discussed, particularly with MLECCNR, MOI, MOET, MOH, MAFFF, and the Civil Society Forum. 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.

54. 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.

55. A public information brochure was developed for the overall project. While it provided a general overview of the whole program, it also outlined the commitment to undertaking the development with minimal environmental impacts. The information brochure, will be updated

during implementation to incorporate IEE process, translated into Tongan and can be used as a model for the PMU in the development of additional subprojects.

56. Meaningful public participation has been encouraged throughout the project cycle using a range of mechanisms. Public consultation was conducted at national and sector levels, and included environmental, social, and resettlement presentations. Meeting highlights from the initial project inception briefing and discussion were broadcast on TV and over the radio. This sought to develop and confirm a climate change priority list for investment under the program. A follow-up public discussion was also facilitated seeking input on how to improve outcomes of the program. 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 line ministries, non government organizations (NGOs), individual 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 environment, climate change adaptation and development in Tonga.

57. Public consultations 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 concepts were made widely known throughout the project-affected areas.

58. In meetings with stakeholders and with the general public, all currently known issues relating to environmental aspects were disclosed as part of the presentations. No concerns were expressed during the discussions about environmental issues related to the core subprojects. There was endorsement of the need for climate proofed infrastructure investments and improved water supply for climate resilience, and no concerns were expressed in relation to construction impacts.

59. 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 4** 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

60. 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.

61. 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.

62. 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.

63. 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 MLECCNR.

B. Grievance Coordination

64. 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.

65. The GFP will be assisted and supported by the PMU ESU who will maintain a register of complaints, keep track of their status, and report to 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

66. 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 ESU, as often minor environmental impacts can be remedied with immediate action.

67. 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.

68. Written complaints can be sent or delivered to the DECC PMU/ESU, where they will be registered as being received, and will be treated confidentially. The PMU/ESU will have 1 week to deliver a resolution to the affected person.

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

70. 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.

71. 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	- Registers the written complaint and attempts to resolve it with the affected person within 1 week. - 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).

Stages in Response Handling	Required Activities
DECC PMU/ESU	- Registers the written complaint and attempts to resolve it with the affected person within 1 week. - If a solution is not reached, the DECC/PMU refers it to the Minister, MLECCNR
Minister MLECCNR	- 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, she/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.

72. In the post project period, there remains the potential for environmental harm to occur through the operations of the subproject systems. 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 DECC. Any complaints in relation to environmental matters are referred immediately to the Deputy Director of DECC. 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

73. 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. EMPs must be completed for the core subprojects and approved before any awarding of civil works. They will then be used as general templates to be matched and/or exceeded in detail for remaining candidate subprojects.

74. 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.

75. 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

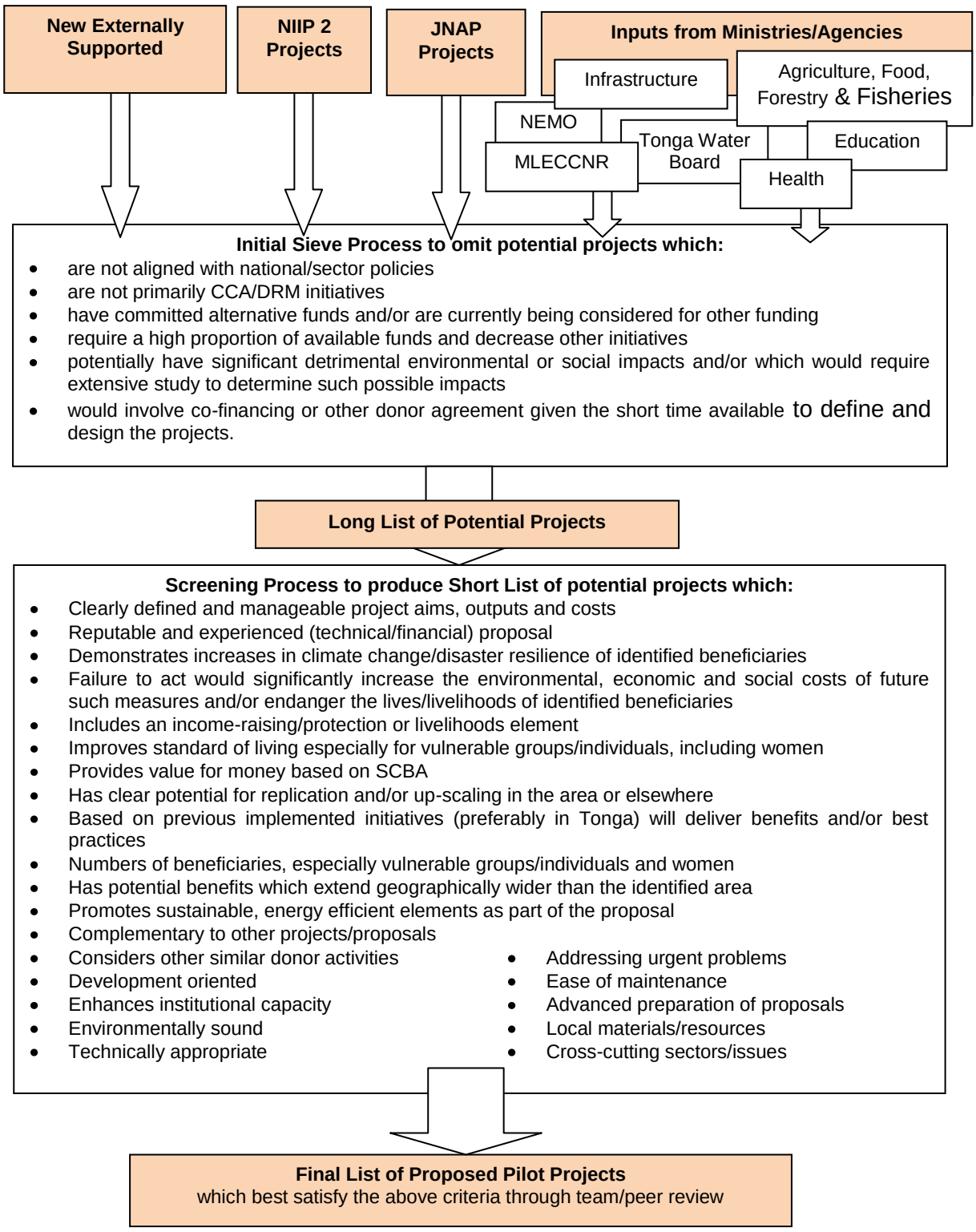
(iv) an annual report that is prepared by the operating agency during operation for as long as the monitoring is specified in the EMP.

76. 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: SUBPROJECT SELECTION CRITERIA

Determining Pilot Projects for Climate Change Infrastructure Investments

The process is shown below:



The process included an initial assessment (sieve) of all identified projects to omit those which did not satisfy any/all of the criteria shown above. During the Inception period the PPTA:

- Reviewed NIIP2 which is the main source of potential projects and which considered proposals in excess of TOP$2 million. The NIIP2 process sought to integrate CCA and DRM issues into the selection process and Annex D of that report highlights all such potential projects. The PPTA reviewed those projects according to the given criteria as well as all other NIIP projects (based on the December 2012 version of that report) in case other potential projects may be appropriate for SPCR;
- Reviewed the recently updated list of outstanding JNAP projects: the list includes small projects to be handled by the Civil Society Forum, a number of pending projects as well as potential synergies with partner organisations;
- Discussed potential climate proofing projects with several government sources including: MLECCNR (including PUMA); Ministries of Infrastructure (including NEMO); Health; Agriculture, Food, Forestry & Fisheries; and Education, as well as the Tonga Water Board.
- Discussed other possible projects/initiatives which may not be on any of the above lists; and
- Consulted with the JNAP Secretariat regarding the final proposed long list of projects.

The PPTA team considered that this approach included a review of all known 56 projects to date.

Project constraints to the evaluation process and details of the full list of projects investigated together with costs in TOP$ and other remarks are given below:

Constraints to Long Listing Process
In the ideal world there would be sufficient resources (time and qualified personnel) to be able to undertake the whole assessment/evaluation process (including the sieve and detailed screening described above). Unfortunately this is not the case here. Time dictated a minimum of 3 infrastructure projects included in the draft PPTA design document by end May 2013, i.e. 1.5 months from the date of the Inception Report. Those projects long-listed had to include sufficient detail to allow for costing to at least pre-feasibility level by that date. That allows (assuming they are accepted) for the remainder of 2013 to be utilised for further detailed design so that the approved projects are ready for implementation at the start of 2014. The international infrastructure specialist mobilised in mid-April 2013. This meant that the initial sieving had to be more precise to quickly reduce the list of possible projects to a manageable number for further assessment with the time and personnel resources available.

The list below was reduced by assuming that all projects are aligned with national/sector policies.

Revised Process
The sieve process was supplemented with additional clarifications for rejection as detailed below:

1. are not primarily CCA/DRM initiatives **(Projects highlighted in Annex D of the NIIP Report which specifically covers CCA/DRM are marked High CCA/DRM)**
2. have committed alternative funds and/or are currently being considered for other funding **(are classified as ongoing or committed in NIIP)**
3. require a high proportion of available funds and decrease other initiatives **(>TOP$12 million, even though with more time it might have been possible to assess this**

project further: unless it is clear it could be split into several more manageable parts, some of which might be within the budget)

4. potentially have significant detrimental environmental or social impacts and/or which would require extensive study to determine such possible impacts **(these are noted but are not necessarily reasons for omission as scale of impacts may not yet be clear).**

In addition the following factors were taken into account in not proceeding further with the assessment:

- would involve co-financing or other donor agreement given the short time available to define and design the projects;
- the expected start time is shown as "**beyond 2017**" in NIIP and therefore outside the timeline of SPCR unless the project is considered a priority by the relevant agency; and
- the project ideally should be "current" with work proceeding on its definition and considered a priority by the relevant agency rather than one which may be selected primarily to obtain funding.

The result of this sieve process is the selection of 20 projects as "Long Listed" from the 56 projects identified as shown in the Table below.

PROJECT ID	1. CCA/ DRM	2. Commit	3. High Cost	4. Impacts	Project Description	Estimate (TOP$m)	General Remarks	Long Listed
NIIP PROJECTS								
E [Energy Sector]								
E9	✓	x	✓	✓	Expand the capacity of the existing tank farm and associated facilities to enable bulk buying of fuel on the international market.	30	High Cost. Not clear CCA/DRM	
E11	✓	x	✓	✓	Installation of 1-2 MW of solar generation and storage capacity. Possible financing by JICA.	24	High Cost High CCA/DRM	
E12	✓	x	x	✓	Based on the outcomes of research and feasibility studies, construct pilot plants to test the viability of wind power, tidal power, producing bio-fuel from coconuts, etc	3	Time issue. Perhaps not clear CCA/DRM. But to be checked.	Yes
E13	✓	?	?	✓	Program to implement the recommendations of the Tonga Energy Roadmap, based on the results of pilot plants and research	NA	Unknown Cost; Not appropriate for Component 3.	
E15	✓	x	✓	✓	Generation of electricity from Biomass (wood chips and forestry waste) on ‘Eua	10	Not appropriate for Component 3. Insufficient time for Feasibility Studies	
E16	✓	Under Preparation	x	✓	Construct grid-connected PV solar plants on outer islands ('Eua, Ha'apai, Vava'u).	4	High CCA/DRM. Possible CDM project. To check	Yes
E17	✓			✓	Move the power station and tank farm to a location outside of the tsunami and storm surge risk zone.	NA	Estimated Start beyond 2017	
E18	✓	DB Grant [ADB]	?	✓	Overhead power lines are amongst the most vulnerable infrastructure to cyclone, storm surge, earthquakes and tsunami. Involves under grounding key sections of electricity supply on Tongatapu, such as electricity supply to the hospital.	NA	Likely ADB Funded but Estimated Start beyond 2017	
T [Telecommunication Sector]								
T8	x	DB Grant [being discussed]	✓	x	Enhanced information sharing, Government portal website and website presence for all agencies and Government services	20	High Cost; Estimated Start beyond 2017	
T9	x	DB Grant [ADB/WB]	✓	x	Extend the proposed international undersea fibre-optic communications cable to Ha’apai and Vava’u. Planning has commenced and initial discussions have taken place	30	High Cost. Estimated Start beyond 2017. High CCA/DRM	
T10	✓	x	x	✓	Install new AM radio mast on Vava’u, to (a) improve signal on the Niuas and north-facing areas of the Vava’u group; and (b) provide a backup to Tongatapu mast in case of disaster/ failure. Relocate TBC studios at Tongatapu to climate proof TBC operations. Upgrade/relocate studios at Vava’u to improve services and provide a backup in case of disaster/failure at Tongatapu.	6	Inside the Project Duration range. High CCA/DRM. Perhaps choose one component if well defined.	Yes

PROJECT ID	1. CCA/ DRM	2. Commit	3. High Cost	4. Impacts	Project Description	Estimate (TOP$m)	General Remarks	Long Listed
W [Water Sector]								
W3	✓	x	✓	✓	Rehabilitation and expansion of outer islands water systems (wells, distribution). Possible funding under the JICA Outer Islands Water Supply Improvement Project.	15	High Cost. Still being discussed internally within JICA so approval date uncertain. Could be split into several projects. High CCA/DRM	Yes
W4	✓	DP Grant [JICA] Under Discussion	✓	✓	Extension of piped water supply to growth areas of Nuku'alofa. [TWB considers this as a low priority]	11.4	TWB considers this as low priority. High CCA/DRM	
W5	✓	x	✓	✓	New well field to cater for projected increase in demand for water)	10	Perhaps Estimated Start beyond 2017	Yes
W6	x	x	✓	✓	Facilities to treat water to reduce the mineral content and "hardness" of the Nuku'alofa water supply	8	Not clear CCA/DRM	
W7	✓	x	✓	✓	New source of water to cater for growing demand in Neiafu	12	Estimated Start beyond 2017	
S [Solid Waste Management]								
S1	X	X	X	✓	Refurbish/expand existing facilities to increase capacity to treat	3	Not clear CCA/DRM	
S2	X	X	X	x	Replacement/upgrade of equipment (septage trucks x2, compactor, etc) and install a weighbridge at the Tapuhia facility	2	Not clear CCA/DRM	
S3	X	Unknown [JICA ??]	X	✓	Construction of a new waste management facility at Vava'u. JICA is providing assistance for a feasibility/design study.	5	Not clear CCA/DRM May be funded by JICA	
S6	X	X	X	✓	Implementation of improved solid waste disposal arrangements for Ha'apai. First step is a feasibility of study of options; either landfill on Ha'apai or transfer station and disposal on Tongatapu. Then implement the preferred option.	4	Not clear CCA/DRM. High CCA/DRM. Complex	
R [Road Sector]								
R7	✓	X	✓	✓	Causeway rehabilitation. Increase bridge section to improve water flow.	20	High Cost. Estimated Start beyond 2017	
R8	✓	X	✓	✓	New road link to southern side of Fanga'uta Lagoon. Options include a new causeway along the western edge of the lagoon, or a bridge across the Lagoon, south from Nuku'alofa	50	High Cost. Estimated Start beyond 2017	
R9	✓	X	✓	✓	Repair and resealing of the road from Nuku'alofa to Fua'amotu Airport.	11.6	High Cost.	
R10	✓	X	✓	✓	Rehabilitation and resealing of around 60 km of roads on Vava'u, Ha'apai, 'Eua and Niuaofou.	10	**Estimated Cost given not high enough to complete;** Too general. Not a priority. High	

PROJECT ID	1. CCA/ DRM	2. Commit	3. High Cost	4. Impacts	Project Description	Estimate (TOP$m)	General Remarks	Long Listed
							CCA/DRM	
R11	✓	X	✓	✓	Rehabilitation of around 95 kms of trunk and agricultural roads on Tongatapu	16	High Cost.	
P [Ports & Shipping]								
P9	✓	X	✓	✓	Improve safety and resilience to climate change and disasters in the maritime sector, with a focus on outer island ports. Including navigational aids, port upgrades, dredging, etc.	20	High Cost. High CCA/DRM. Time to prepare proposal	
P10	✓	X	✓	✓	Complete the yacht marina at Vuna Wharf and associated works. PAT has committed $3.4 m to the project.	23.4	High Cost.	
P11	✓	X	✓	✓	Construct a new Domestic Wharf to separate the domestic and international wharf areas and relieve congestion in the current location	9	Not clear CCA/DRM	
P12	✓	X	X	✓	Refurbish Yellow Pier. Consider swimming zone links to Vuna Marina.	7.5	Not clear CCA/DRM	
P13	✓	X	X	✓	New slipway at QSW capable of handling 2,000 tonne ships, associated workshops and facilities	3	Not clear CCA/DRM. Estimated Start beyond 2017	
P14	✓	X	X	✓	Construction of a barge capable of deeper water dredging, and suitable for services and maintenance to the outer islands	1	Estimated Start beyond 2017	
P15	✓	X	✓	✓	Relocation of international wharf, upgrade of domestic wharf, and improved terminal facilities at Vava'u.	25	Estimated Start beyond 2017	
P16	✓	DP Grant [JICA] Under Discussion	X	✓	Upgrade port infrastructure to allow operation of the new inter-island ferry to 'Eua	3	JICA FUNDED	
P17	✓	X	X	x	Multi-purpose barge for disaster recovery, installation and maintenance of navigational aids; marine oil spills; and general maintenance works.	4.5	Needs further check	Yes
A [Airports & Aviation]								
A7	✓	X	X	x	Additional Fire Tender to improve safety and fire response at Vava'u Provide Category 5 fire fighting capability, and to provide extra capability and flexibility in TAL's overall fire fighting capability.	2	Not clear CCA/DRM	
A9	X	X	✓	✓	Expand the runway apron and construct additional taxiways to cater for larger aircraft; reduce congestion; provide more flexibility in aircraft operations; and provide additional parking space for aircraft.	25	High Cost.	
A11	X	X	✓	x	Resurface the runway to ensure safe ongoing operations for aircraft types/sizes likely to operate to Ha'apai and for	9	Not clear CCA/DRM. High CCA/DRM	

PROJECT ID	1. CCA/ DRM	2. Commit	3. High Cost	4. Impacts	Project Description	Estimate (TOP$m)	General Remarks	Long Listed
					compliance with ICAO requirements. If not resurfaced soon will result in operations restricted to small, light aircraft and eventually closure.			
A12	✓	X	✓	✓	Construct new control tower in position central to runway and with updated technology. Existing tower is old and out-dated; and its location is not ideal and technically non-compliant with regulations.	7	Not clear CCA/DRM High CCA/DRM	
A13	X	X	X	✓	New common user hanger for maintenance and safety checks of domestic and visiting aircraft	2	Not clear CCA/DRM	
M [Multi Sectors Project]								
M2	✓	X	✓	✓	Engineering, design and construction of seawalls from Nukuleka to Manuka to provide protection from climate change and tsunami.	15	High Cost. Funding source currently being discussed. High CCA/DRM. Could be clear sub-projects	Yes
M3	✓	X	✓	✓	Includes engineering, design and construction of seawalls from Ha'lafu to Puke and protection of groundwater resources.	20	High Cost.	
M4	✓	X	✓	✓	Construction of cyclone and flood proof meteorological office, central disaster response control centre, related communications links, and district level emergency response offices on Eua, Ha'api, Vava'u, Niuas	12	Clear sub-project . High CCA/DRM delineation. Could select 1 of the islands.	Yes
M5	✓	X	✓	✓	Ha'api. Includes strengthening of foreshore protection and groundwater infrastructure resilience; and relocation of key community facilities away from the most vulnerable coastal zone.	12	Could be clear sub-projects	Yes
M6	✓	X	✓	✓	Provision of services/utilities supporting the Government Ministerial Complex project. Total project is around $30m including construction and services.	NA	Expected High Cost. Estimated Start beyond 2017. Not clear CCA/DRM	
M7	✓	X	✓	✓	New and upgraded fixed infrastructure (roads, services, etc) to support holding the Pacific Games in Tonga in 2019. Does not include sporting venues and associated buildings.	NA	Expected High Cost. Estimated Start beyond 2017. Not clear CCA/DRM	
J: JNAP								
J1	✓	JICA/USAID	X	✓	Tefisi village in Vava'u was selected as the pilot site for this project based on its terrain and climate related parameters which heavily impact its natural environment. Overland flow has caused contamination of the nearby coastal ecosystem and the marine edible creatures which are a source of food of people that are living not only in Tefisi but also the adjacent villages.	1	This project was scheduled to be implemented last year.	Yes
J2	✓	JICA???	X	✓	This project aligns with the activities outlined in the Tonga's	6.8	Was scheduled for 3 year	Yes

PROJECT ID	1. CCA/ DRM	2. Commit	3. High Cost	4. Impacts	Project Description	Estimate (TOP$m)	General Remarks	Long Listed
					JNAP on CCADRM. It consists of three major components: Component 1: Policy and institutional strengthening for climate resilient planning, management, monitoring and enforcement; Component 2: Shoreline protection; and Component 3: Groundwater protection.		of implementation from 2012 – 2014. To check with final NIIP 2 list.	
J3	✓	World Bank	X	✓	Improved resilience of Tonga to the impact of natural disasters, and better preparedness of the population in disaster-prone areas through upgrading weather monitoring equipment, upgrading of communications systems, and capacity building of Meteorology Staff, for disseminating timely and quality meteorological information		Wide and currently vague. Possible duplication with other projects. Check donor status	Yes
NES: NEW EXTERNAL SUPPORTED [Community & Outer Island Development Committee]								
NES1	✓		X	✓	Eastern Tongatapu soft/hard coastal protection. SPC.. Review and costing process for both options about to begin	2		
NES2	✓		X	✓	Feasibility Study, Design and Construction of Niuafo'ou Water Reticulation Network, Office Building including domestic metering network and water treatment facilities		Niuafo'ou is often impacted by severe drought; A reliable source of water supply and a reticulation network is desperately needed by this remote community	Yes
NES 3					Water tanks for vulnerable communities on eastern side of Tongatapu.		Possibly JICA or use emergency fund or other donor. To check	Yes
IFM: INPUTS FROM MINISTRIES/AGENCIES [NEMO; TWB; MOH; MOI; MAFFF; MOE]								
IFM1					MOI currently working on preparation the inputs on 4 projects in Ha'apai as one package.		Possible duplication with other projects	Yes
IFM2					Coastal Protection Systems/Small drainage systems. MoI		MoI currently checking priorities	Yes
IFM3					Upgrade Evacuation Road for Villages of Makaunga, Navutoka, Manuka and Kolonga		MoI preparing costs and designs. High MoI priority.	Yes
IFM 4					Climate Proofing Schools to enable more Primary Schools to stay open during extreme weather conditions and flooding		Discussed with MoE to produce a priority list	Yes
IFM 5					Building a Hurricane Proof Shelter at Niu'ui Hospital on Ha'apai		To check for duplication and details from MoH	Yes

ANNEX 2: CLASSIFICATION OF MAJOR PROJECTS IN TONGA

Kingdom of Tonga's Environmental Impact Assessment Act, 2003

Schedule - Major Projects

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

ANNEX 3: TOR FOR ENVIRONMENTAL SPECIALISTS

1. Climate Change and Disaster Risk Adviser (CCDRA) – International (12 person-months over 5 years)

The international adviser will have substantial experience addressing climate change and disaster risk issues in the Asia-Pacific region, especially through involvement in the actual implementation of a range of physical projects. As the international adviser with the most planned inputs to the PMU, he/she will play an important role in ensuring continuity of advice and monitoring processes throughput the whole program. He/she will work closely with the international Climate Adaptation Engineer (CAE) throughout. The CCDRA will be a qualified climate change adaptation expert or environmental engineer and will have at least 15 years of work experience with at least 10 years of specific CCA and DRM experience advising on project implementation. Previous direct project experience in Tonga is preferred. The CCDRA will (on an annual basis):

a) Act as the international liaison between ADB, the PMU and the MLECCNR for the duration of each input.
b) Advise on undertaking detailed environmental and engineering surveys and site investigations to be carried out by others;
c) Report regularly to the CCPC on current international projections on climate change and research on CCA/DRM which may be relevant for Tonga and for SPCR projects in particular.
d) Report regularly to the CCPC on progress and performance of civil works, and identify any critical environmental issues which require attention.
a) Assist the CAE to identify Quality Assurance issues in the Project arising from the design and construction of physical works, and bring these to the attention of the CCPC, if they are not able to be promptly and effectively resolved at site.;
b) Undertake regular field visits to all project sites to monitor implementation and supervision of project physical works, to confirm that specified quality standards are being achieved and contribute to resolving any QA issues arising;
c) Assist to manage/participate in programs for on-site audit checks during the execution of physical works (construction and maintenance), of quality control, and provide advice on remedial actions as required;
d) Assist with the certification of the quality of all works, based on on-site approvals by the PIUs;
e) Assist the CAE to train PIUs on QA procedures for construction and subsequent maintenance of the different types of physical infrastructure in the Project
f) Contribute to the preparation of project reports such as IEEs; review EMPs, and participate in regular co-ordination meetings with PIUs; and
g) Assist and cooperate with other specialist members of the PMU under the direction of the CCPC

2. Climate Adaptation Engineer – International (7 person-months over 3 years)

The Climate Adaptation Engineer (CAE) will be responsible for overseeing the implementation of the pilot climate proofing projects, for providing advice on other engineering aspects of SPCR project activities as well as providing assistance in the design and implementation of community projects seeking funding through the national climate change trust fund. The CAE will work closely throughout with the international Climate Change and Disaster Risk Adviser (CCDRA) and with the individual PIUs for each project.
The CAE will be a senior qualified civil engineer with qualifications in civil/ structural engineering and a background in project management, with at least 15 years extensive experience of the implementation of a wide range of infrastructure projects in the developing world, including the Pacific and preferably Tonga. The CAE will (on an annual basis):

a) Assist in checking and supervising detailed engineering surveys and site investigations carried out by others;
b) Monitor on-site material and equipment storage and handling procedures, and environmental practices, and advise on remedial actions as required;
c) Assist in the site supervision of all construction works to ensure that design standards and technical specifications are achieved, including use of appropriate construction methods, on-site quality control, and proper checking in accordance with the approved Quality Plans.
d) Identify any issues related to the performance of field and laboratory testing which should be addressed
e) Undertake spot checks with PIUs of works quantities presented for payment, and report on the quantity and quality of all works;
f) Report regularly to the CCPC on progress and performance of civil works, and identify any critical issues which require attention.
g) Identify Quality Assurance issues in the Project arising from the design and construction of physical works, and bring these to the attention of the CCPC, if they are not able to be promptly and effectively resolved at site.;
h) Undertake regular field visits to all project sites to monitor implementation and supervision of project physical works, to confirm that specified quality standards are being achieved and contribute to resolving any QA issues arising;
i) Assist to manage/participate in programs for on-site audit checks during the execution of physical works (construction and maintenance), of quality control, and provide advice on remedial actions as required;
j) Assist with the certification of the quality of all works, based on on-site approvals by the PIUs;
k) Train PIUs on QA procedures for construction and subsequent maintenance of the different types of physical infrastructure in the Project
l) Contribute to the preparation of project reports, review bidding documents for environmental significance and participate in regular co-ordination meetings with PIUs; and
m) Assist and cooperate with other specialist members of the PMU under the direction of the CCPC.

3. Environmental Management Specialist (EMS)– National (60 person months)

The EMS will be responsible for ensuring the quality and timeliness of the Component 3 project activities relating to improved eco-resilience and overall to ensure that projects follow the provisions of any previous environmental assessments to ensure that identified impacts are minimised and mitigating actions undertaken.

The EMS will have a minimum Masters Degree in a relevant field and at least 7 years experience working on environmental issues and climate change resilience in Tonga. The EMS will:

a) Assist in facilitating participatory planning and governance activities and the implementation of the initial environmental examination recommendations; their proposed construction technology, and project implementation plan to identify any potential adverse impacts;
b) Regularly review and report on the impact of project actions on the environment and determine the nature and extent of environment impact, if any, caused by the project;
c) Assist the CCPC in reviewing all infrastructure designs, their proposed construction technology, and project implementation plan to identify any potential adverse environmental impacts;

d) Undertake training of PIU staff to carry out initial environmental examination for its projects, awareness-building of and motivating stakeholders/ beneficiaries on environmental issues;
e) Monitoring of the Environmental Monitoring Plan (EMP) and compliance progress toward the expected outcomes, verify monitoring information to identify adverse environmental impacts, document results, identify the necessary corrective actions, and reflect them in a corrective action plan;
f) Take responsibility for the effective transfer of climate resilience principles to other key PMU staff, PIU staff and other stakeholders in the detailed design, construction and operation/maintenance of projects.
g) Assist and cooperate with other specialist members of the PMU under the direction of the CCPC.

ANNEX 4: DOCUMENTATION OF PUBLIC CONSULTATION ACTIVITIES

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.

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: