

Project Administration Manual

Project Number: 46351
November 2013

Proposed Administration of Grant
Kingdom of Tonga: Climate Resilience Sector Project

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Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Finance and National Planning (MFNP) is the project's executing agency (EA). The Ministry of Lands, Environment, Climate Change and Natural Resources (MLECCNR) is the coordination implementation agency (IA), and the Ministry of Infrastructure (MOI), Ministry of Education and Training (MET), Ministry of Agriculture, Food, Forestry & Fisheries (MAFFF) and Ministry of Health (MOH) are the implementing agencies (IA). They are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by the MLECCNR, MOI, MET, MAFFF and MOH of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At grant negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the grant agreement. Such agreement shall be reflected in the minutes of the grant negotiations. In the event of any discrepancy or contradiction between the PAM and the grant agreement, the provisions of the grant agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the project administration instructions (PAI)) and upon such approval they will be subsequently incorporated in the PAM.

CURRENCY EQUIVALENTS

(as of 4 November 2013)

Currency unit	–	pa'anga (T\$)
T\$1.00	=	\$0.5582
\$1.00	=	T\$1.7911

Abbreviations

ADB	=	Asian Development Bank
CCA	=	climate change adaptation
CCTF	=	climate change trust fund
CEO	=	chief executive officer
CRSP	=	Climate Resilience Sector Project
DRM	=	disaster risk management
DRR	=	disaster risk reduction
EA	=	executing agency
EARF	=	environmental assessment and review framework
EMP	=	environmental management plan
ESU	=	environment and social unit
GoT	=	Government of Tonga
IA	=	implementing agency
IEE	=	initial environmental examination
JNAP–TWG	=	joint national action plan–technical working group
MAFFF	=	Ministry of Agriculture, Food, Forestry & Fisheries
MET	=	Ministry of Education and Training
MFNP	=	Ministry of Finance and National Planning
MIA	=	Ministry of Internal Affairs
MLECCNR	=	Ministry of Lands, Environment, Climate Change and Natural Resources
MOH	=	Ministry of Health
MOI	=	Ministry of Infrastructure
NCB	=	national competitive bidding
NEMO	=	national emergency management office
NGOs	=	nongovernment organizations
PAM	=	Project administration manual
PIU	=	project implementation unit
PMU	=	program management unit
PPCR	=	Pilot Program for Climate Resilience
PSC	=	Project steering committee
QBS	=	quality based selection
QCBS	=	quality and cost based selection
RF	=	resettlement framework
RP	=	resettlement plan
SBD	=	standard bidding documents
SPCR	=	Strategic Program for Climate Resilience
SPS	=	Safeguard Policy Statement

I. PROJECT DESCRIPTION

1. The purpose of the project (the project) is to implement the Climate Resilience Sector Project (CRSP) prepared by the Government of Tonga (GoT) under phase II of the Pilot Program for Climate Resilience (PPCR). The project will mainstream climate resilience into government planning and address country priorities focusing on the most vulnerable sectors and communities.

2. The impact envisioned for the project is to increase resilience in economic, social, and eco-systems to climate variability and change and disaster risk in Tonga. The overall outcome is to strengthen the enabling environment for climate adaptation and disaster risk reduction at national and local level.

3. The project outputs are: (a) ensuring climate resilience is mainstreamed into development planning of key vulnerable sectors; (b) improving capacities to monitor and manage Tonga climate data and information; (c) establishing a sustainable financing mechanism to support community based climate change adaptation responsive investments; (d) increasing eco-system resilience and climate infrastructure investments; and (e) ensuring that the project is successfully managed and implemented.

4. **The Project Outputs and activities are:**

Output 1: Climate resilience mainstreamed into development planning of key vulnerable sectors

(i) **Upgrading climate resilience skills** The project will; (a) provide 20 government staff working on climate resilience related areas access to short term professional training or work placements on climate change adaptation (CCA) and disaster risk reduction (DRR). The project management unit (PMU) will develop eligibility selection criteria to ADB's satisfaction and awarding will be done by the project Steering Committee (PSC) upon receipt of applications from relevant line Ministries; (b) provide up to 20 scholarships for Tongan citizens to undertake academic degrees on CCA and DRM subjects at the University of the South Pacific. The Ministry of Education and Training (MET) and the PMU will establish the eligibility criteria to ADB's satisfaction; (c) deliver about 35 courses to government staff, private sector and NGOs on CCA of infrastructure, climate change finance and corporate budgeting, community based CCA and DRR assessments, environmental assessments and climate change monitoring and coastal monitoring. A total of 300 people are expected to benefit from these trainings, participants will be invited by the PSC and preference will be given to professionals with responsibilities requiring skills provided by the course.

(ii) **Integration of climate resilience in legal framework.** The project will review prevailing statutory laws that are relevant to the implementation of CCA and DRR policies and provide recommendations on integrating these policies into existing statutory laws in particular building codes and laws relating to development planning and water and natural resources.

Strengthening coordination and monitoring of community vulnerability assessments and plans. The project will (a) standardize the methodology to be used in Tonga for CCA and DRR community based plans as well as procedures and institutional set-up; (b) disseminate data through a searchable data base on CCA and DRM community based plans and on integrated water resource management plans; (c)

strengthen Ministry of Lands, Environment, Climate Change and Natural Resources (MLECCNR) capacity to coordinate, monitor and evaluate the activities implemented by communities.

- (iii) **Improvement of Water Resource Inventories and Integrated Water Resource Management (IWRM) and Coastal Zone Monitoring** by; (a) developing integrated water resources management plans in 6 communities; (b) developing a manual on rainwater harvesting and drought management to enable the development of community based rainwater harvesting projects; (c) developing a GIS data base as a knowledge depository for all activities carried out in Tonga on IWRM; and (d) carrying out a feasibility study on the water supply requirements for the island of Niuafo'ou (population 524)

Output 2: Improved monitoring and management of Tonga climate data and information

- (i) **Establishment of national hydro-meteorological and coastal monitoring and data dissemination systems** to improve early warning for cyclones, storm surges, drought and tsunamis through (a) designing and installing hydro-meteorological and coastal monitoring and data dissemination systems; and (b) training staff in national emergency management office (NEMO), natural resources division and meteorology division to operate these systems and interpret data to enable them to provide information and shape national policies on natural resources (especially freshwater, agriculture and coastal zones).

Output 3: Sustainable financing mechanism to support community based climate responsive investments

- (i) **Establishment of Tonga Climate Change Trust Fund (CCTF).** The project will support CCA responsive investments approaches identified and implemented by vulnerable communities, particularly women by supporting the establishment of CCTF. The CCTF¹ will be established in accordance with the Public Finance Management Act 2002 and will be managed by Ministry of Finance and National Planning (MFNP). It will initially be endowed with a capital sum of \$5 million, of which an initial capital sum of \$4 million will be placed in an endowment account and an initial capital of \$1 million will be placed in operational account² to finance small community CCA projects of up to a maximum of \$50,000 each and small to medium scale governmental CCA projects of up to a maximum of \$250,000 each. The operational principles and criteria to select these projects are described in Annex I of the project administration manual (PAM). The CCTF will be overseen by a board chaired by MLECCNR with selected ministries³ as members, including a nominated development partner representative. MLECCNR, with the support of consultants, will develop the CCTF operational manual, covering among others; (a) elaboration on the eligibility and selection criteria for subprojects described in Annex I of

¹ The CCTF was established on 17 May 2013 and Cabinet approved the purpose and procedures of the fund which are included in the PAM.

² The operational account will initially be financed through the project, plus any interest and capital gains earned on the funds placed in the endowment account and any money raised through other sources including bi-lateral and multi-lateral development partner contributions, duties, taxes levied for the specific purpose of providing climate funding by the government.

³ The Minister of the MLECCNR will chair the CCTF Board, which will include representatives from MFNP; Ministry of Infrastructure (Mol); Ministry of Foreign Affairs (MOFA); and a bi-lateral/multi-lateral development partner representative (who should be a resident in Tonga) as nominated by the bi-lateral/multi-lateral development partners present in Tonga.

the PAM; (b) procedures and requirements for submission of applications; (c) implementation arrangements with communities, NGOs and government agencies; (d) governance, technical and financial supervision mechanisms; and (e) monitoring and reporting on the use of funds. Once approved, the Operational Manual will be used for a trial period of one year. At the end of the trial period the MLECCNR will make any necessary revisions to the Operational Manual and submitted for ADB approval. The revised Operational Manual will be drafted into Regulations for promulgation by the Minister of Finance and National Planning pursuant to the PFM Act.

Output 4: Eco-system Resilience and Climate Infrastructure Investments

- (i) **Increased ability of coral reefs to recover after climate related events.** The project will establish 6 community managed special marine management Areas (SMA) to introduce sustainable fishing and management of coral reefs that will benefit approximately 1,000 persons in outer islands, the areas will be selected according to criteria described in annex 3. This project will add to the existing 8 areas and thereby establish comprehensive baselines for biodiversity, ecological health, socio-economic status and governance arrangements in a national SMA network; strengthen eco-system resilience to climate change will be strengthened in the 6 pilot sites and in the broader marine protected areas network, which will in turn support increased marine biomass, larger breeding fish populations, increased ability for the SMA to support local livelihoods: and strengthened ability of the ecosystem to recover after climate related events, e.g. cyclone, coral bleaching. The project will support national workshops to share monitoring information, community approaches and methodologies and to identify and share lessons learned.
- (ii) **Improved management of mangroves for climate adaptation.** The project will (a) identify and support potential sites for further investment in mangrove planting to provide shoreline protection; (b) develop best guideline practices and support field demonstrations on the use of mangroves as natural infrastructure. This subproject will (i) finalize a full mangrove inventory of Tonga as a baseline for the identification and quantification of value of mangroves for coastal protection/ecosystem services particularly in relation to protection of the coastal infrastructure from the impacts of natural disaster and climate change: (ii) identify lessons learnt to strengthen capacity to support for mangrove rehabilitation and management in Tonga; (iii) identify potential sites for further investment in mangrove planting for CCA for coastal protection; and (iv) trial mangrove planting to support field demonstrations to support use of mangroves as natural infrastructure. Field demonstrations will include community awareness, training on mangrove planning and provision of mangrove seedlings. Approximately 126 hectares of mangroves will be rehabilitated.
- (iii) **Upgraded evacuation and post disaster access roads.** The project will upgrade 5.95 kms of roads to provide evacuation and post-disaster access roads to two villages in Tongatapu and one in the island of Eua⁴. The expected benefits are improving the security of the local population (in eastern Tongatapu) in the event of a major climate related event by both allowing for evacuation and allowing post disaster access by emergency vehicles, enhancing the livelihoods of the local population through facilitating

⁴ Identified roads are Navatoka (2.25 km), Talafo'ou (2.1 km) in the island of Tongatapu and Tufu (0.85 km) on the island of Eua.

their access to economic centers such as markets and providing employment and training opportunities for local and national workers.

- (iv) **Enhanced coastal protection.** The project will build and monitor coastline protection in five sections of coastline⁵ in eastern Tongatapu using different hard and soft engineering and bioengineering techniques (such as coral rock revetment, rock gavion construction, groyne placement and mangrove rehabilitation) to (a) control coastline erosion; (b) reduce impact of flood surges in coastal communities' households; (c) identify best practices on coastline protection to be replicated. The expected benefits are reduction in building and road damage, household income loss, statistical value of life loss and emergency costs, 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;
- (v) **Upgraded Schools.** The project will upgrade 5 schools⁶ by improving roofing, building structures, road access, and drainage to reduce the number of days that schools are closed during cyclone season and to adapt them to other effects of climate change such as droughts. The expected benefits are: avoided income/time loss resulting from school closures; inconvenience to parents; avoided damage to schools due to flooding; piped water cost, drought and disaster alleviation reduction.

5. **Additional candidate sector subprojects** have been identified for which due diligence needs to be completed. The candidate subprojects include:

- (i) **Climate proofing existing outer island marine landings.** This candidate subproject is aimed at the rehabilitation of a number of degraded but critical coastal infrastructure (wharves and jetties). Rehabilitation of existing structures would make them less vulnerable to the impacts of climate change and disasters. The key outcome is the improved resilience of remote outer island communities through improving their access to markets, education and health facilities not available on the island.
- (ii) **Planned retreat of Ha'apai Hospital to higher ground.** This candidate subproject is aimed at the long-term need for relocation of the hospital to a less disaster-prone area. The current site is located no more than 5 metres from the low lying coastline of Lifuka island in the Ha'apai group. This coastal site is zoned and classified extremely vulnerable to coastal erosion and inundation from storm surges and potential sea level rise. Relocation of the hospital as planned retreat to a less vulnerable and climate appropriate site is the preferred option.
- (iii) **Popua Road.** This additional road will be added to the evacuation and post-disaster access roads subproject . It will benefit the two villages of Patangata and Popua in Tongatapu. It will improve 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

⁵ Total length of the sections is 2.7 km from over a total length of some 6.2 km of coast line.

⁶ Kolofo'ou, Kolomotua, Tofoa and Neiafu schools were selected because of frequency they were closed due to effects of cyclone weather; Pangai schools because of limited access to potable water and its role as emergency shelter for Hapa'ai.

- (iv) **Upgrading 7 additional schools.** These additional schools will be added to the climate proofing of schools subproject in improving roofing, building structures, road access, and drainage to reduce the number of days that schools are closed during cyclone season and to adapt them to other effects of climate change such as droughts.

Output 5: Project Successfully Managed and Implemented

The Project will provide; (i) implementation support to the PMU and Project implementing units (PIUs) in order to manage and coordinate the project effectively and successfully; (ii) monitoring, reporting and evaluation support to PMU and PIUs; (iii) operational support to the Joint National Action Plan Technical Working Group (JNAP–TWG) and CCTF Board; and (iv) knowledge management and information dissemination support to PMU and PIUs. Knowledge depository established and maintained in MLECCNR with dedicated web page on CCA and DRR which will disseminate information on all project activities and report on its progress; coordinate knowledge management activities carried out under the project including the GIS database and best practices on community based CCA and DRR small grants, IWRM assessments and plans, meteorology and coastal data, mangrove assessments GIS database and best practices, SMAs baseline data and best practices.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Indicative Activities	Months							Responsibility
	Aug 2013	Sept 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	
Grant Negotiations			X					PPTA, ADB
Advance Procurement			X	X	X	X		PPTA, ADB
ADB Board approval					X			ADB
Grant signing					X			GOT, ADB
Government legal opinion provided					X			GOT
Grant effectiveness						X		ADB

ADB = Asian Development Bank; GOT = Government of Tonga; PPTA = Project Preparatory Technical Assistance

B. Overall Project Implementation Plan

[illegible]

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations–Roles and Responsibilities

6. **Project executing and implementing agencies.** The MFNP will be the executing agency (EA). The MLECCNR will be the coordinating IA with the Ministry of Infrastructure (MOI), MET, Ministry of Health (MOH) and Ministry of Agriculture, Food, Forestry & Fisheries (MAFFF), the IA.

7. **Project steering committee (PSC).** A PSC will be appointed by the government to provide strategic direction, guidance, and oversight over the project. The PSC will be alternatively co-chaired by the Ministers for MLECCNR and MFNP. The PSC will include representatives from MLECCNR, MFNP, MOI; MAFFF; MET, MOH, the Ministry of Foreign Affairs (MFA); and the civil society forum. The PSC will meet at least quarterly. The composition of the PSC may vary, during the implementation of the project, be amended or expanded to include representatives from development committees' areas where the project is being implemented.

8. Design, procurement and construction packages will be led by the respective IA and leading department with the support of the PMU. A project procurement committee, chaired by MFNP will make decision on recommendations for contract awards and recruitment. Preparation of bidding documents and evaluation of proposals for each subproject will be led by the respective IA and leading department with support of the PMU. The PIUs will undertake day to day supervision and monitoring of all project activities for the sub-projects under their mandate, with the assistance and capacity building support of the PMU. Table 1 indicates each subproject, leading IA and procurement arrangements.

Table 1: Implementing Agencies for Subprojects

Activity	IA	Leading Department
Climate Change Scholarship Program	MET	Scholarship Unit
Technical Trainings on Climate Change and Adaptation Mangrove assessment and rehabilitation program Standardization and monitoring of Community Plans	MLECCNR	Department of Environment Division of Climate Change
Update of legal framework and building codes	MLECCNR	In coordination with MOI
CCTF Management	MFNP	Treasury Division
Management and Monitoring of community projects financed by CCTF	MLECCNR	JNAP–TWG
System water resources inventory and study of water supply requirements for the island of Niuafo'ou	MLECCNR	Department of Natural Resources
National Hydro-Meteorological and Coastal Monitoring and Data Dissemination and Early Warning System	MOI MLECCNR	Meteorological Services Department, Natural Resources Division NEMO
Establishment of 6 Special Management Areas	MAFFF	Fisheries Division
Evacuation and Post-Disaster Access roads	MOI	Civil Engineering Division Land Transport Division
Climate Proofing of schools	MOI	Building Control Division in coordination with MET
Construction and monitoring of Hahake coastal protection	MOI	Civil Engineering Division

Climate Proofing of marine landings	MOI	Civil Engineering Division
Relocation of Ha'apai Hospital	MOI	Building Control Division in coordination with MOH

CCTF = climate change trust fund; JNAP-TWG = joint national action plan technical working group; MAFF = Ministry of Agriculture, Food, Forestry & Fisheries; MFNP = Ministry of Finance and National Planning; MLECCNR = Ministry of Land, Environment, Climate Change and Natural Resources; MET = Ministry of Education and Training; MOH = Ministry of Health; MOI = Ministry of Infrastructure; NEMO = national emergency management office.

9. The PMU will be established and housed with MLECCNR. It will work in close collaboration with the JNAP-TWG and its Secretariat. The PMU will provide support to all IAs and focus on managing the implementation of the project, including public outreach and awareness on the SPCR. The project director of the PMU will head the climate change division of the MLECCNR. The PMU will be supported by a consulting firm and it will have a fulltime national program coordinator who will be assisted by a team of national consultants including a community development specialist, an accountant, a database and web developer, a media and awareness specialist and environmental engineer, and a team of International advisers with expertise in climate change, climate proofing of infrastructure, meteorology, climate change finance, hydrology, CCA and DRM training. The international advisers will provide intermittent support to the PMU, while the national consultants, will be in most cases full time. The recruitment of the PMU will be the first project activity and is expected to be advertised before the grant is approved.

10. The PMU will recruit; (a) a Meteorology/Oceanographic Adviser to prepare the prequalification and bidding documents for the design, procurement and installation of the meteorology equipment, and support the meteorological services department of MOI in the evaluation of proposals and review detailed design; and (b) a Hydrologist Adviser to prepare the bidding documents for the design, procurement and installation of the hydrology equipment, and support the natural resources division of the MLECCNR in the evaluation of proposals and review of detailed design.

11. The sub-projects to be implemented by other IAs will be supported by the PMU and by small project implementation units (PIU) located within those Ministries. This will ensure appropriate project management and knowledge transfer. Table 2 indicates PMU consulting team personnel.

Table 2: Project Management Unit Consulting Team

Position	Person Month
International	33
CC DR Adviser	12
CC Finance Adviser	6
CC Adaptation Engineer	7
Meteorology and Oceanography	2
Hydro Adviser	3
International social safeguard specialist	3
National	431
CC Program Coordinator	60
Social safeguard/Gender Specialist	60
Environmental Management Specialist	41
Accountant and Contract Administrator	60
Position	Person Month
Education and Communication Specialist	35

Procurement and Quality Engineering	41
CCFT Coordinator	48
Data Base and Web Page Designer	26
Office Assistant	60
Total Person Month	464

12. PIUs in the identified ministries and Groups⁷, headed by a senior staff member designated by the chief executive officer (CEO) or equivalent agency director, will be responsible for implementing the project activities with the support and guidance of the PMU. Table 3 summarizes PIUs to be established under climate change and environment division of the MLECCNR and that will report to the PMU.

Table 3: PIU Climate Change and Environment Division-MLECCNR

Position	Person Month
Train the Trainers	
International	5.5
Trainer in Climate Proofing Infrastructure	1
Trainer on CC Finance and Corporate Budgeting	0.5
Trainer on CC and DRR Community Assessments	2
Trainer on Environment Impact Assessments	1
Trainer on CC Monitoring and Coastal Protection	1
Scholarships	
International	
CC and DRM Scholarship Application Assessor	2
Community Plans	
National	22
Community Vulnerability Assessment Specialist	22
Mangrove Assessment	
International	
Mangrove and Coastal Zone Advisor	2
National	
Project Manager Senior Technical Officer	30
Mangrove Field Officer	30
Legal Framework	
International	
CCA and DRM Legal Adviser	2.5
National	
CCA and DRM Legal Specialist	2.5

13. Table 4 summarizes PIU to be established under the natural resources division of MLECCNR and will report to the PMU.

⁷ MLECCNR, MOI, MET (including Parent Teacher Association representation for individual schools), MAFF, MOH and civil society forum.

Table 4: PIU Natural Resources Division - MLECCNR

IWRM and Hydrology Advisors	
Position	Person Month
International	14
Hydrology Adviser Senior	3
Hydrology Technicians	2
IWRM Advisor	3
IWRM Officer	4
Water Supply Engineer	2
National	43
IWRM Knowledge Management	20
Water Supply Specialist National	3
Hydrology /Natural Resources Specialist	20
Total Person Month	57

14. Table 5 summarizes PIU to be established under the civil engineering division of MOI and will report to the CEO of MOI and to the PMU.

Table 5: PIU Civil Engineering Division - MOI

Design and Supervision of Infrastructure Sub-projects	
Position	Person Month
International	26
Coastal Civil Engineer/ team leader	14
Coastal Monitoring & Processes Specialist	5.5
Supervision Engineer	5.5
National	221.5
Civil Engineer/Coastal	35.5
Roads Engineer	35.5
Architect	24
Civil Engineer/Marine Landings	35.5
Drainage Engineer	9
Surveyor (3 positions)	54
CAD Technician (2 positions)	20
Procurement expert	8
Total Person Month	247.5

15. Table 6 summarizes PIU to be established under the fisheries division of MAFF and will report to the CEO of MAFF and to the PMU.

Table 6: PIU Fisheries Division - MAFF

Special Marine Areas	
Position	Person Month
International	5
Social Economic Fisheries Adviser	2.5
Coral Reef Biodiversity Adviser	2.5
National	105

Project Manager/Senior Technical Officer	35
Fisheries Adviser Va'vau	35
Fisheries Adviser Tongatapu	35
Total Person Month	110

16. The existing scholarship committee chaired by MET will be responsible for selection and awarding of CCA and DRM scholarships funded under the project. Eligibility selection criteria to ADB's satisfaction will be developed following existing guidelines. The scholarships will be administered through existing systems of the scholarship unit of MET in collaboration with MFNP and with the support of the PMU. Applicants will be screened by an independent assessor funded by the project and the logistics, required bonds and stipend rates will adhere to those set up by AusAID and NZAid in the region.

17. Part of the grant will be allocated to a CCTF, designed to support mostly small-scale community climate change adaptation initiatives throughout Tonga, which will be managed by the MFNP, with the board of the CCTF chaired by the MLECCNR. Selected ministries⁸ will also be members of the CCTF board. The board will also include a nominated bi-lateral/multi-lateral development partner representative (resident in Tonga). The operational principles and criteria to select projects is described in Annex I with an Operational Manual to be developed by the project. MLECCNR and MFNP will jointly act as the IA for CCTF operations. MFNP will hold and disburse funds for community projects financed by CCTF which will be managed and monitored by MLECCNR.

18. MLECCNR will report regularly to the cabinet committee on climate change to provide updates on project implementation and administration. The existing JNAP-TWG for climate change, comprising experts from government ministries, NGOs, private sector and statutory boards, will provide technical inputs during implementation of the CRSP including initial screening of community projects for funding under the CCTF. The JNAP-TWG supported by the PMU will also act as the CCTF's technical secretariat.

⁸ The Minister for MLECCNR will chair the CCTF Board, which will include representatives from MFNP; MOI; Ministry of Internal Affairs; and a bi-lateral/multi-lateral development partner representative (who should be a resident in Tonga) as nominated by the bi-lateral/multi-lateral development partners present in Tonga.

19. The management roles and responsibilities of the various stakeholders are tabled below.

Project implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> EA MFNP 	<ul style="list-style-type: none"> ➤ Coordinate with the IAs on the preparation of withdrawal applications and submit to ADB. ➤ Responsible for maintaining separate project accounts, have all project accounts audited annually and sent to ADB. ➤ Responsible for managing the CCTF accounts and have its accounts audited annually and sent to ADB ➤ Chair the project procurement committee and submit Bid Evaluation Reports to ADB
<ul style="list-style-type: none"> PSC 	<ul style="list-style-type: none"> ➤ Oversee and monitor all aspects of project implementation. ➤ Advise government on any issues raised or concerns and propose remedial actions ➤ Submit candidate subprojects for approval to the EA
Project implementation organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> Coordination and IA MLECCNR <p>Implementing Agencies</p>	<ul style="list-style-type: none"> ➤ The Coordination and IA will supervise the PMU and will co-chair the PSC. ➤ Chair the CCTF Board ➤ Ensure compliance with grant covenants ➤ Monitor and evaluate project implementation and prepare quarterly and annual reports. ➤ Carry out socio-economic monitoring surveys and compliance with mitigation plans. ➤ Ensure compliance with safeguards requirements. ➤ Ensure implementation and monitoring of the Gender Action Plan and the participation and communication strategy and consultation plan ➤ Prepare overall project implementation plan and consolidated annual work plan. ➤ Provide support to IAs in the preparation of withdrawal applications to be forwarded to EA for submission to ADB ➤ Recruit project management consultants ➤ Provide training opportunities to IAs <p>In addition, the coordination and implementing agency will be responsible for day to day implementation of activities of their subprojects and for the recruitment and procurement of those subprojects. This activities include:</p> <ul style="list-style-type: none"> ➤ Recruitment of technical and implementation consultants. ➤ Prepare subproject implementation plan for consolidation by PMU. ➤ Prepare bid documents to comply with ADB requirements, evaluating bids, contract administration, and supervision for subprojects ➤ Measure works carried out by contractors and certifying payments. ➤ Carry out environmental assessments and project performance management system (PPMS). <p>Each IA will be responsible for the day to day activities for the implementation of the subprojects. For their respective subprojects the IA will:</p>

Project implementation organizations	Management Roles and Responsibilities
	<ul style="list-style-type: none"> ➤ Ensure compliance with grant covenants. ➤ Provide required information to PMU for the preparation of monthly reports. ➤ Provide required information to PMU and EA for the preparation of withdrawal applications. ➤ Ensure compliance with safeguards requirements. ➤ Ensure implementation and monitoring the Gender Action Plan activities. ➤ Recruit technical expertise required for subproject implementation. ➤ Participate in training opportunities. ➤ Recruitment of project management and implementation consultants. ➤ Preparing subproject implementation plans to be consolidated in the project annual work plan. ➤ Preparing bid documents to comply with ADB requirements, evaluating bids, and awarding works, contract administration, and supervision. ➤ Measuring works carried out by contractors and certifying payments. ➤ Carrying out environmental assessments and project performance management system (PPMS). ➤ Procurement of equipment and services for climate infrastructure investment activities.
<ul style="list-style-type: none"> • Project procurement committee 	<ul style="list-style-type: none"> ➤ Review IA bid evaluations and bid award recommendations. ➤ Endorse bid award recommendations. ➤ Ensure ADB Procurement Guidelines are complied with
<ul style="list-style-type: none"> • ADB 	<ul style="list-style-type: none"> ➤ Monitor and review overall implementation in consultation with EA and IAs including project implementation schedule; actions required with reference to the summary poverty reduction & social strategy, gender action plan, environment management plan, and resettlement plan if applicable, and monitoring reports; timeliness of budgetary allocations and counterpart funding; project expenditures progress with procurement and disbursement statement of expenditures when applicable; compliance with grant covenants; and likelihood of attaining project development objectives. ➤ Participate in annual workplan discussions.

B. Key Persons Involved in Implementation

Executing Agency

MFNP

Officer's Name: Mr Tatafu Moeaki
 Position: Secretary for Finance and National Planning
 Telephone: (676) 23066
 Email address: secretary@finance.gov.to
 Office Address: Treasury Building, Vuna Road,
 Nuku'alofa, Kingdom of Tonga

Implementing Agencies

MLECCNR

Officer's Name: Mr. Asipeli Palaki
 Position: CEO
 Telephone: (676) 23611
 Email address: apalaki@gmail.com
 Office Address: Vuna Road, Nuku'alofa,
 Kingdom of Tonga

MOI

Officer's Name: Mr. Ringo Fa'oliu
 Position: CEO
 Telephone: (676) 23201
 Email address: rfaoliu@gmail.com
 Office Address: Vaololoa, By Pass Road,
 Kingdom of Tonga

MAFFF

Officer's Name: Ms. Losaline Ma'asi
 Position: CEO
 Telephone: (676) 23038
 Email address: linemaasi@gmail.com
 Office Address: Ma'ufanga, Vuna Road, Nuku'alofa,
 Kingdom of Tonga

MET

Officer's Name: Ms. Emili Pouvalu
 Position: CEO
 Telephone: (676) 23055
 Email address: director@tongaeducation.gov.to
 Office Address: Vuna Road, Nuku'alofa,
 Kingdom of Tonga

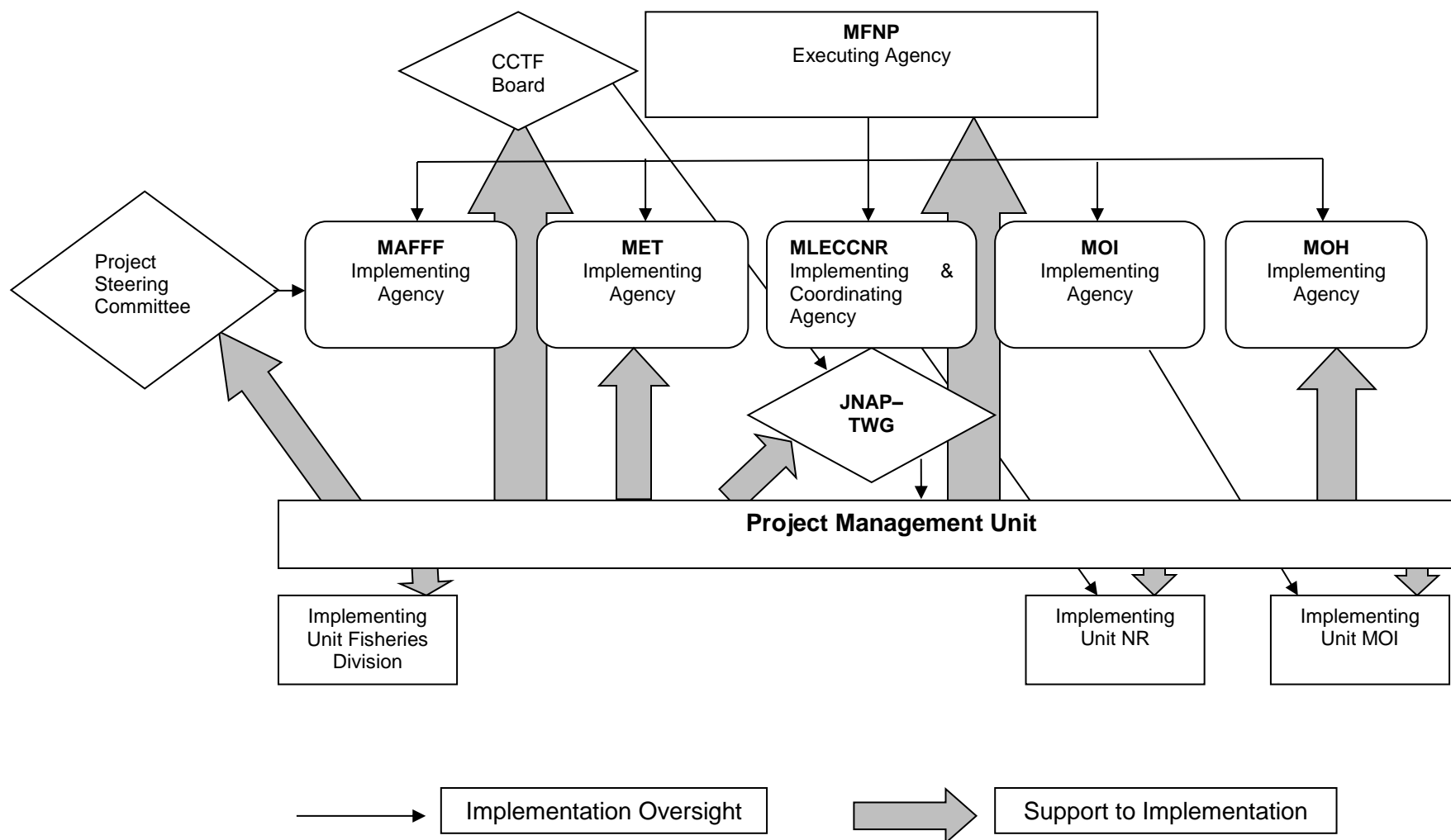
MOH

Officer's Name: Dr. Siale Akau'ola
 Position: CEO
 Telephone: (676) 28233
 Email address: sakauola@health.gov.to
 Office Address: Vaiola Hospital

Mission Leader

Staff Name: Maria Paniagua
 Position: Unit Head, Project Administration
 Telephone No: (679) 3318101
 Email address: mppaniagua@adb.org

C. Project Organization Structure



IV. COSTS AND FINANCING

20. The project is estimated to cost \$23.13 million including taxes and duties calculated at \$1.43 million, through exemption. The ADB SCF⁹ will provide a grant equivalent to \$19.25 million, to be administered by ADB.

21. The government will provide \$2.45 million mainly in the form of recurrent costs (comprising of government staff time and associated subsistence and equipment costs) equivalent, as well as \$1.43 equivalent for taxes and duties through exemption associated with the equipment purchases and civil work contracts. Costs and financing arrangements are presented below.

A. Project Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Strategic Climate Fund (grant) ^a	19.25	83.0
Government	3.88	17.0
Total	23.13	100.0

^a Under the PPCR financed by the SCF administered by ADB.
Source: Asian Development Bank

⁹ Under the Pilot Program for Climate Resilience financed by the SCF.

B. Detailed Cost Estimates By Expenditure Category

Item		Base Cost	Taxes and Duties	Total Cost	% of Total Base Cost
A.	Investment Costs^a				
1	Civil Works	5,169,955	950,000	6,119,955	28.2%
2	Mechanical and Equipment	2,815,429	470,322	3,285,751	15.1%
3	Consultants	4,386,395	0	4,386,395	20.2%
	a. Project Management	2,081,471	0	2,081,471	9.6%
	b. Technical Expertise	1,959,043	0	1,959,043	9.0%
	c. Capacity Development	345,881	0	345,881	1.6%
4	Training	459,750	3,000	462,750	2.1%
5	CCTF Seed Funding	5,000,000	0	5,000,000	23.0%
	Subtotal (A)	17,831,529	1,423,322	19,254,851	88.7%
B.	Recurrent Costs				
1	Salaries	1,340,278	0	1,340,278	6.2%
2	Office Space and Expenses	273,050	0	273,050	1.3%
3	Equipment Operation and Maintenance	540,262	0	540,262	2.5%
4	Outer Island Travel Expenses ^b	300,000	0	300,000	1.4%
	Subtotal (B)	2,453,590	0	2,453,590	11.3%
	Total Base Cost	20,285,119	1,423,322	21,708,441	100%
C.	Contingencies^c				
1	Physical ^d	777,158	0	777,158	3.6%
2	Price ^e	641,313	0	641,313	3.0%
	Subtotal (C)	1,418,471	0	1,418,471	6.5%
Total Project Cost (A+B+C)		21,703,590	1,423,322	23,126,912	
	a In mid-2013 prices.				
	b Budget allocation to be provided to PMU for travel expenses related to project management by IA staff				
	c Contingencies do not include \$5 million for the CCTF Seed Funding				
	d Computed at 15% for civil works				
	e Computed at 5.7 % for foreign purchased equipment and 11 % for domestic cost				
Source: Asian Development Bank					

C. Allocation and Withdrawal of Grant Proceeds

ALLOCATION AND WITHDRAWAL OF GRANT AGREEMENT			
Climate Resilience Sector Project			
Number	Item	Total Amount Allocated for Strategic Climate Fund Financing (\$) Category	Basis for Withdrawal from the Grant Account
1	Civil Works**	5,169,955	100 percentage of total expenditure claimed*
2	Equipment	2,815,429	100 percentage of total expenditure claimed*
3	Consulting Services	4,386,395	100 percentage of total expenditure claimed*
4	Training***	459,750	100 percentage of total expenditure claimed*
5	CCTF****	5,000,000	100 percentage of total expenditure claimed*
6	Unallocated	1,418,471	
TOTAL		19,250,000	

*Exclusive of taxes and duties imposed within the territory of the Recipient

** Subject to recruitment of consultants required for the PMU and the PIU in MOI

*** Subject to developing selection criteria for scholarships in agreement with ADB

**** Subject to (i) endowment and operational accounts for the CCTF having been established, and (ii) an Operational Manual for the CCTF establishing the operational procedures satisfactory to ADB having been approved by the Board of CCTF

D. Detailed Cost Estimates by Financier

		ADB		Government of Tonga				Total Cost
Item		Amount	Financing % of Cost Category	Amount (Costs)	Amount (Taxes and Duties)	Amount (Total)	Financing % of Cost Category	
A.	Investment Costs^a							
1	Civil Works	5,169,955	84.5%	0	950,000	950,000	15.5%	6,119,955
2	Mechanical and Equipment	2,815,429	85.7%	0	470,322	470,322	14.3%	3,285,751
3	Consultants	4,386,395	100.0%	0	0	0	0.0%	4,386,395
	a. Project Management	2,081,471	100.0%	0	0	0	0.0%	2,081,471
	b. Technical Expertise	1,959,043	100.0%	0	0	0	0.0%	1,959,043
	c. Capacity Development	345,881	100.0%	0	0	0	0.0%	345,881
4	Training	459,750	99.4%	0	3,000	3,000	0.6%	462,750
5	CCTF Seed Funding	5,000,000	100.0%	0	0	0	0.0%	5,000,000
	Subtotal (A)	17,831,529	92.6%	0	1,423,322	1,423,322	7.4%	19,254,851
B.	Recurrent Costs							
1	Salaries	0.00	0.0%	1,340,278	0	1,340,278	100%	1,340,278
2	Office Space and Expenses	0.00	0.0%	273,050	0	273,050	100%	273,050
3	Equipment Operation and Maintenance	0.00	0.0%	540,262	0	540,262	100%	540,262
4	Outer Island Travel Expenses ^c	0.00	0.0%	300,000	0	300,000	100%	300,000
	Subtotal (B)	0.00	0.0%	2,453,590	0	2,453,590	100%	2,453,590
	Total Base Cost	17,831,529	82.1%	2,453,590	1,423,322	3,876,912	17.9%	21,708,441
C.	Contingencies^b	1,418,471	100%	0	0	0	0.0%	1,418,471
	Total Project Cost (A+B+C)	19,250,000		2,453,590	1,423,322	3,876,912		23,126,912
	% Total Project Cost	83%			17%			100%
a	In mid-2013 prices.							
b	Computed at 15% for civil works, 5.7 % for foreign purchased equipment and 11 % for domestic cost							
c	Budget allocation to be provided to PMU for travel expenses related to project management by IA staff							
	Source: Asian Development Bank							

F. Detailed Cost Estimates by Year

			(\$)					
			Total Cost ^a	Year 1	Year 2	Year 3	Year 4	Year 5
Item								
A.	Investment Costs							
	1	Civil Works	5,169,955	1,288,634	3,497,705	383,616	0	0
	2	Mechanical and Equipment	2,815,429	940,821	1,589,138	189,370	57,500	38,600
	3	Environment and Social Mitigation	0	0	0	0	0	0
	4	Consultants	4,386,395	1,729,892	1,145,746	770,693	398,881	341,183
		a. Project Management	2,081,471	506,495	554,236	487,665	300,143	232,932
		b. Techncial Expertise	1,959,043	1,100,974	522,437	220,483	44,193	70,956
		c. Capacity Development	345,881	122,423	69,073	62,545	54,545	37,295
	5	Training	459,750	38,000	160,650	152,650	72,850	35,600
	6	CCTF Seed Funding	5,000,000	5,000,000				
		Subtotal (A)	17,831,529	8,997,347	6,393,239	1,496,329	529,231	415,383
B.	Recurrent Costs ^b							
	1	Salaries	1,340,278	195,520	339,650	259,550	291,314	254,244
	2	Accommodation	273,050	71,250	83,730	60,210	28,690	29,170
	3	Equipment Operation and Maintenance	540,262	44,384	142,700	180,138	86,280	86,760
	4	Outer Island Travel	300,000	70,000	90,000	90,000	30,000	20,000
		Subtotal (B)	2,453,590	381,154	656,080	589,898	436,284	390,174
		Total Base Cost	20,285,119	9,378,501	7,049,319	2,086,227	965,515	805,557
C.	Contingencies		1,418,471	283,700	283,692	283,693	283,693	283,693
D.	Financing Charges During Implementatio		0	0	0	0	0	0
	Total Project Cost (A+B+C+D)		21,703,590	9,662,201	7,333,011	2,369,920	1,249,208	1,089,250
	% Total Project Cost		100%	44.5%	33.8%	10.9%	5.8%	5.0%
a. The total cost amount represented in this table is the sum of all ADB (or ADB administered co-financier) funds for the project, excluding taxes and duties.								
b. Recurrent cost are government contribution to project in form of salaries of government staff involved in project management and technical trainings, per diems and travelling expenses to outer islands of government staff, office space for PMU and PIUs and operation and maintenance of equipment								

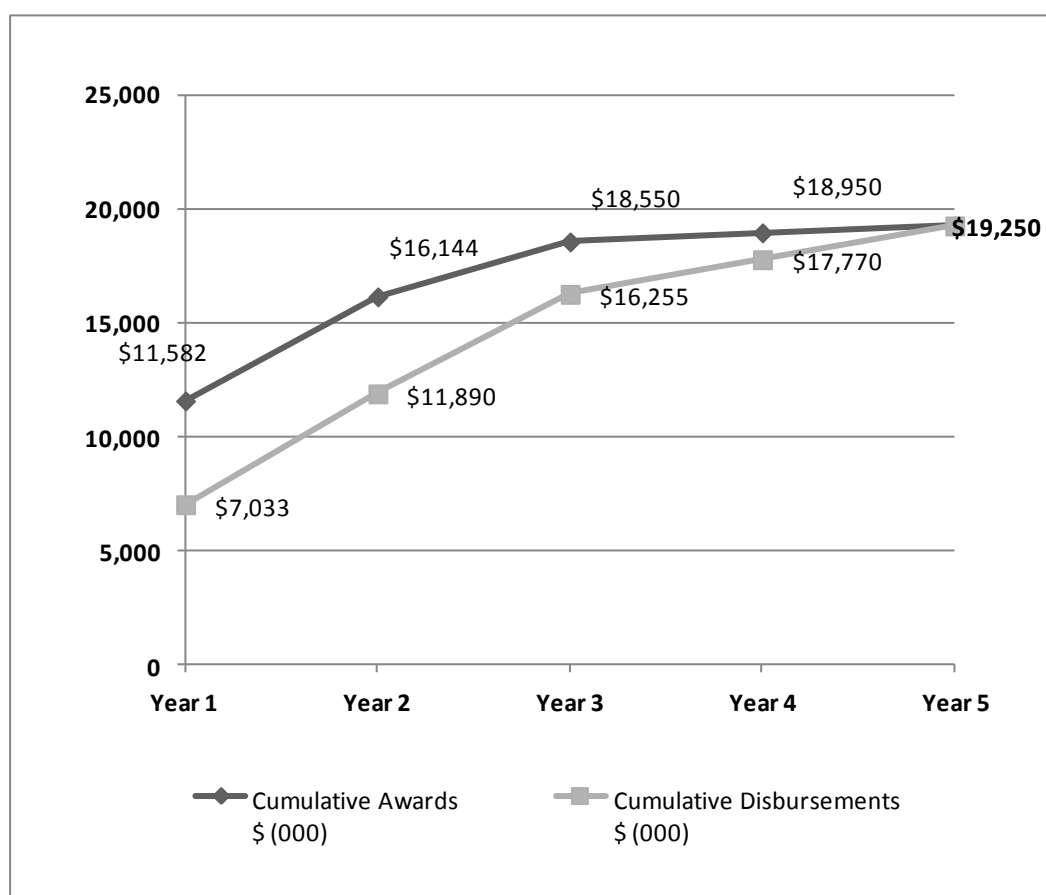
G. Detailed Cost By Activity and Output

Item			Investment Cost	Recurrent Cost	Taxes and Duties	Total Cost
A		Base Cost ^a				
		Output 1; Mainstreaming Climate Resilience in Planning				
	1.1	Professional Training and Scholarships	715,750	689,299	3,000	1,408,049
	1.2	Legal framework Review for CCA and DRM	82,360	17,862	-	100,222
	1.3	Community Plan Assessment and Monitoring and Evaluation	154,000	10,000	0	164,000
	1.4	Water resource inventory and IWRM / ICZM planning	698,986	116,340	98,000	913,326
	1.5	Feasibility study of Niufo'ou water reticulation network	97,929	-	-	97,929
		Total - Output 1	1,749,025	833,501	101,000	2,683,526
		Output 2: Monitoring of Climate Data and Information				
	2.1	Hydro-meteorological & Coastal Monitoring	1,857,966	162,840	266,500	2,287,306
		Total - Output 2	1,857,966	162,840	266,500	2,287,306
		Output 3: Climate Change Trust Fund				
	3.1	Administratin of the Climate Change Trust Fund	200,000	62,767	111,600	374,367
	3.2	Seed funding to the Climate Change Trust Fund	5,000,000	-		5,000,000
		Total - Output 3	5,200,000	62,767	111,600	5,374,367
		Output 4: Eco-system Resilience and Climate Resilient Infrastructure				
	4.1	Special Marine Management Areas & National Network	526,999	533,174	25,480	1,085,653
	4.2	Magrove Assesment and Rehabilitation	249,998	37,368	6,151	293,517
	4.3	Soft & hard coastal protection in Hahake	2,236,776	116,834	301,940	2,655,550
	4.4	Climate proofing evacuation roads 1 in Eua and 2 in East Tongatapu	1,155,182	75,062	186,475	1,416,719
	4.5	Climate proofing of 5 schools	389,500	70,135	27,688	487,323
	4.6	Cadidate Sub-projects ^c	2,740,118	303,489	361,133	3,404,740
		Total - Output 4	7,298,573	1,136,062	908,867	9,343,502
		Project Management	1,725,965	258,420	35,355	2,019,740
		Subtotal (A)	17,831,529	2,453,590	1,423,322	21,708,441
B		Contingency ^b	1,418,471	-	-	1,418,471
		Total (A) + (B)	19,250,000	2,453,590	1,423,322	23,126,912
	a	In mid-2013 prices.				
	b	Computed at 15% for civil w orks, 5.7 % for foreign purchased equipment and 11 % for domestic cost				
	c	Candidate subprojects have been identified and budget allocated in principle (\$1.34 million Ha'apai Hospital; \$0.23 million Popua Road; \$0.32 million additional schools; \$0.85 illion marine landings)				
	Source: Asian Development Bank					

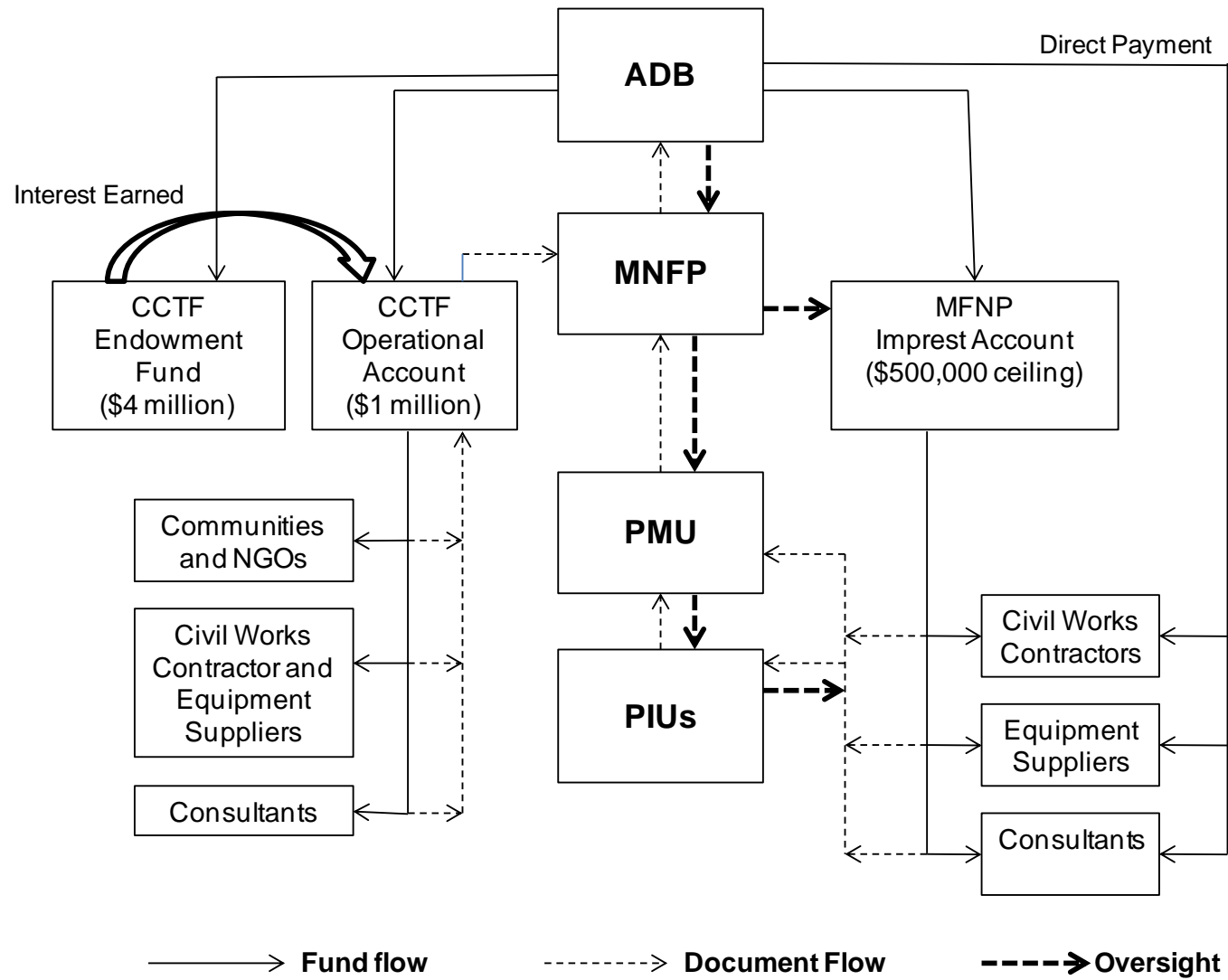
H. Contract and Disbursement S-curve

Contract Awards ^a			Disbursements		
Awards \$(000)	Cumulative Awards \$(000)	% of Total Awards	Disbursements \$(000)	Cumulative Disbursements \$(000)	% of Total Disbursements
11,582	11,582	60.17%	7,033	7,033	36.50%
4,562	16,144	83.86%	4,858	11,890	25.20%
2,406	18,550	96.36%	4,365	16,255	22.70%
400	18,950	98.44%	1,514	17,770	7.90%
300	19,250	100.00%	1,480	19,250	7.70%
19,250		100.00%	19,250		100.00%

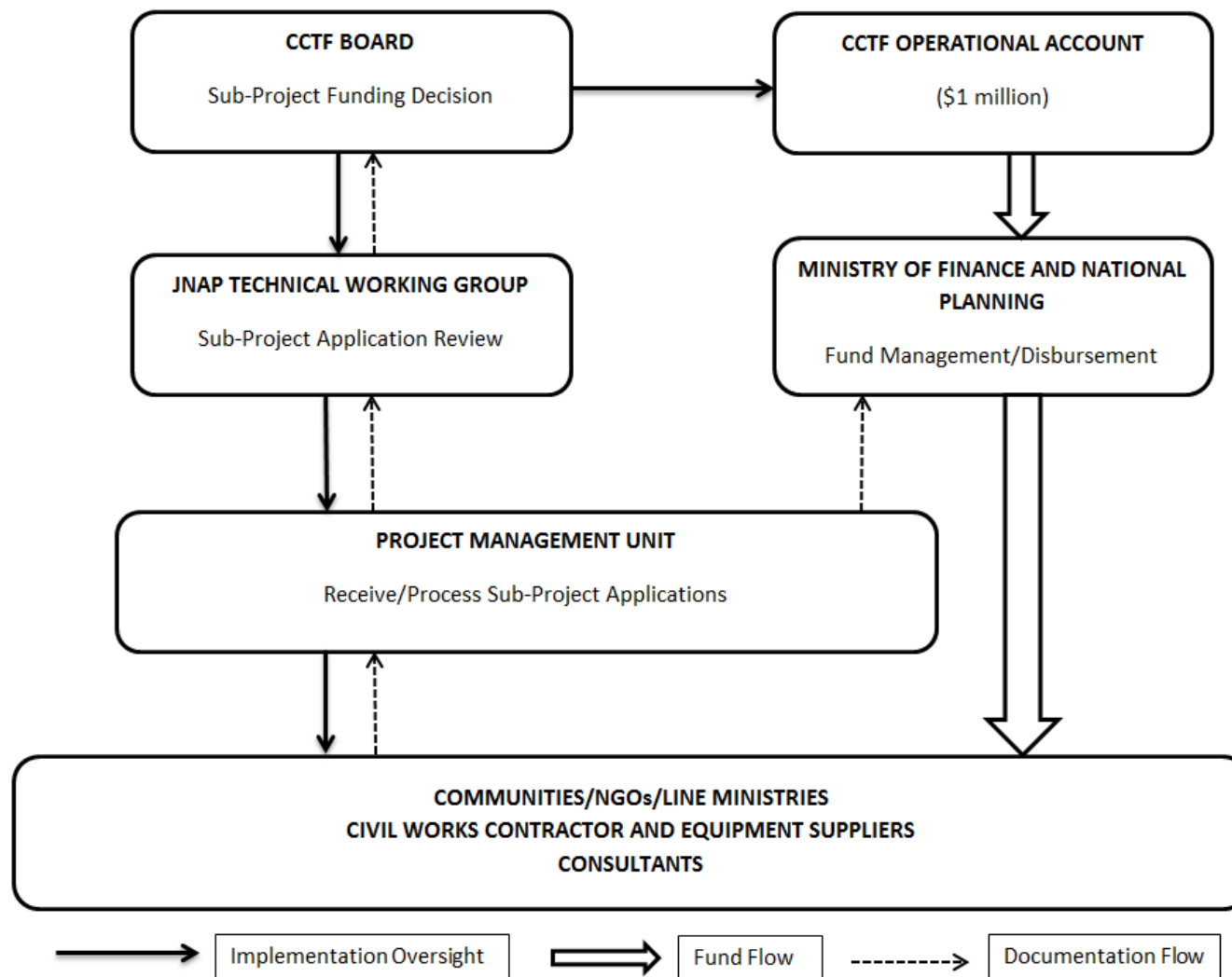
^a The initial seed funding for the CCTF will be liquidated when the funding is transferred by ADB into the CCTF Endowment Fund.hey how come



I. Fund Flow Diagram



J. CCTF Implementation and Fund Flow Diagram



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

22. Tonga has made solid progress in improving public financial management (PFM) since achieving internal self-governance in 1984, particularly in government financial accounting and reporting. Tonga's Public Financial Management Act (PFMA) 2002 (amended 2010) provides a comprehensive framework for effective fiscal financial management and for financial reporting.¹⁰ The 2010 Public Expenditure and Financial Accountability (PEFA)¹¹ assessment indicated an improvement in Tonga's PFM systems over the three years following the 2007 PEFA assessment. The number of satisfactory ratings that Tonga received increased from 16 to 20 out of the 27 indicators. However, unsatisfactory ratings were issued for aspects of the multi-year perspective in fiscal planning, expenditure policy and budgeting, the effectiveness in the collection of tax payments, competition, value for money and controls in procurement, and the effectiveness of internal audit. The weaknesses in the multi-year perspective are not uncommon in thin capacity environments, where the focus is rightly placed on the annual budget, while the weaknesses noted in the collection of tax payments stemmed from both the timing of a set of assessment and delays in the collection some large arrears which are before the courts. Reflecting reform efforts over the recent years, both the ADB and World Bank policy and institutional ratings for Tonga—as measured via the country performance assessments—have improved over the last five years (refer to footnote 11). This conclusion is based on the 2010 PEFA's assessment that the legal and regulatory framework for PFM in Tonga provides a solid basis for budgeting, spending and accountability, and on the government's commitment to continue to implement PFM reforms.

23. MLECCNR is the coordinating IA for the project because it is the leading agency on climate change policy, but the MFNP will oversee the financial management of the project and will be responsible for opening the imprest account, endorse all replenishment withdrawal applications (WAs) and all the authorized signatories for this imprest account will be based in MFNP. The financial management capacity of the MFNP based on the PEFA assessment is considered adequate.

24. The MFNP is currently the EA for G0108-TON: Integrated Urban Development Sector project (closing at the end of this year) and for the past 2 years, the audited project financial statements for G0108 have been received before the due date, have been acceptable to ADB and there have not been any issues with their WAs or statement of expenditures (SOE). The PMU under MOI had a qualified project accountant who worked closely with MFNP.

25. The CCTF has been established under the Public Financial Management Act which was developed with assistance from donors and meets the fiduciary requirements for WB and AusAID to provide budget support. The MFNP will be responsible for the opening of the CCTF and the authorized signatories for disbursements from the fund will be the Minister and Secretary for MFNP and the Minister and Secretary for MLECCNR. The CCTF is managed by MFNP and they will be responsible for preparing a reconciliation of this fund on a monthly basis.

26. To address staff capacity and facilitate MFNP financial management of the project, a qualified project accountant will be based in the PMU to support all IAs and to prepare the WAs, which will then be forwarded to MFNP for their endorsement and signature.

¹⁰ ADB. 2013. *Tonga Social and Economic Report*. Manila.

¹¹ Government of Tonga. 2010. *Public Financial Management Performance Report*. Nuku'alofa.

B. Disbursement

27. The grant proceeds will be disbursed in accordance with ADB's Loan Disbursement Handbook (2012, as amended from time to time)¹² detailed arrangements agreed upon between the government and ADB.

28. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS)¹³ ADB funds may not be applied to the activities described on the ADB prohibited investment activities list set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to sub-projects financed by ADB.

29. Direct payment, reimbursement, and imprest account procedures will be used for civil works, equipment, consulting services, training, and the CCTF. The PMU under the MLECCNR, the coordinating IA, will be responsible for (i) preparing WAs and disbursement projections; (ii) requesting budgetary allocations for counterpart funds; and (iii) collecting supporting documents.

30. Imprest Fund Procedure

To facilitate cash flows during project implementation, the EA, MFNP, will open and maintain one imprest account with a ceiling of \$500,000 for the project. The currency of the imprest account will be in US dollars. The imprest account is to be used exclusively for ADB's share of eligible expenditures. The MFNP who will establish the imprest account in its name is accountable and responsible for proper use of advances to the imprest account. The MFNP and the EA will be responsible for the management and administration of the imprest account, including a monthly reconciliation of the account verifying and sending the endorsed WAs to ADB.

31. Before the submission of the first WA, the MFNP should submit to ADB sufficient evidence of the authority of the person(s) who will sign the WAs on behalf of the recipient, together with the authenticated specimen signatures of each authorized person. The minimum value per WA is \$100,000, unless otherwise approved by ADB. Individual payments below this amount should generally be paid from the imprest account, or by the EA and subsequently claimed to ADB through reimbursement. ADB reserves the right not to accept WAs below the minimum amount.

32. The EA may request for an additional advance to the imprest account based on an estimate of expenditure sheet setting out the estimated expenditures to be financed through the accounts for the forthcoming six (6) months. Supporting documents should be submitted to ADB or retained by the EA in accordance with ADB's Loan Disbursement Handbook when liquidating or replenishing the imprest account.

33. The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the imprest account. The ceiling of the SOE procedure is the equivalent of \$50,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of

¹² Available at: <http://www.adb.org/sites/default/files/loan-disbursement-handbook.pdf>

¹³ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payments in excess of the SOE ceiling should be supported by full documentation when submitting the WA to ADB.

34. The CCTF will initially be endowed by ADB with a capital sum of \$5 million to be disbursed in two tranches; (i) an endowment account comprising an initial capital sum of \$4 million that will be invested in a low risk financial instrument (or bank account); and (ii) an operational account comprising an initial capital of \$1 million which will be used to finance projects approved by the board of the fund. The CCTF shall be used primarily to finance community grant projects as well as small to medium scale climate investments. The CCTF will be overseen by a board chaired by MLECCNR with selected ministries¹⁴ as members, including a nominated development partner representative. Funds will only be disbursed for works, goods and services that have been approved by the board of the CCTF and meet the following criteria (i) have a clear and demonstrable link to CCA and (ii) outputs and objectives for the project should be aligned with the national climate change priorities. MLECCNR, with the support of the PMU consultants, will develop the CCTF operational manual, covering among others; (a) detailed eligibility and selection criteria for sub-projects; (b) procedures and requirements for submission of applications; (c) implementation arrangements with communities and NGOs; (d) governance, technical and financial supervision mechanisms; and (e) monitoring and reporting on the use of funds. The development of a detailed operational manual for the CCTF in agreement with ADB will be a condition for disbursement of CCTF funds. The operational manual will be submitted for approval to ADB and Cabinet. Once approved it will be used for a trial period of two years. At the end of the trial period the MLECCNR will make any necessary revisions to the operational manual and submit for ADB approval. The revised operational manual will be drafted into regulations for promulgation by the MFNP pursuant to the PFM Act.

35. The CCTF will be allocated an endowment fund and invested in an investment account (as government bonds and other low risk investment) Interest generated from the endowment fund will be transferred to the CCTF operational account to be used to fund CCTF activities, in addition to the \$1.0 million provided under the project.

36. MFNP has financial management capacity to administer the imprest account as demonstrated in their administration of G0264/0265-TON: Nuku'alofa Urban Development Project and G0108-TON: Integrated Urban Development Sector Project, which uses imprest fund procedures. The MFNP also has the financial management capacity to manage the CCTF as they currently administer the agricultural marketing fund of approximately \$T2 million. This fund handles small grants to farmers for export of their produce.

37. Funds will be withdrawn from the CCTF following the MFNP's existing processes. Cheques will be signed by the two (2) authorized signatories from the MFNP, based on request for payment made only from the board of the fund. Where approved Project funding has not been fully utilized by the project sponsor, all unused funds shall be re-deposited into the CCTF operational account.

38. The CCTF is not expected to have a finite life and will continue operation beyond the lifespan of the project. The operational arrangements of the CCTF are described in detail in the operating procedures included in Annex 1 of the PAM.

¹⁴ The Minister for MLECCR will chair the CCTF board, which will include representatives from MFNP; MOI; Ministry of Internal Affairs; and a bi-lateral/multi-lateral development partner representative (who should be a resident in Tonga) as nominated by the bi-lateral/multi-lateral development partners present in Tonga.

C. Accounting

39. The MFNP will maintain separate records by funding source for all expenditures incurred on the Project. The PMU will prepare a consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices to be submitted to MFNP for review and verification.

D. Auditing and Public Disclosure

40. The MFNP will cause the detailed consolidated project financial statements to be audited in accordance with international standards on auditing and in accordance with the government's audit regulations, by an independent auditor acceptable to ADB. The audited project financial statements will be submitted in the English language to ADB within six months of the end of the fiscal year by the EA. The annual audit report for the project accounts will include an audit management letter and audit opinion which will cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether grant proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project; and (iv) use of the imprest fund and the SOE procedures in accordance with ADB's Loan Disbursement Handbook (2012, as amended from time to time) and the project documents.

41. The MFNP will also cause the CCTF to be audited in accordance with international standards on auditing and with the government's audit regulations, by an independent auditor acceptable to ADB. The audited financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within one month after their approval by the competent authority. Technical audits of projects funded by the CCTF will also be carried out on a selective basis as recommended by the Auditor General, to be funded by the fund. The technical auditor will be expected to use international audit standards. The technical auditor will present a report to the Cabinet which will give an opinion on the accuracy of the records and financial accounts of the CCTF, the completeness of income of the fund and the conformity of payments with the priorities laid down in these procedures.

42. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

43. The government, MFNP, MLECCNR, MOI, MAFFF, MET and MOH have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁵ ADB reserves the right to

¹⁵ ADB Policy on delayed submission of audited project financial statements: When audited project financial statements are not received by the due date, ADB will write to the EA advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed. When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the EA of ADB's actions; and (ii) advise that the grant may be suspended if the audit documents are not received within the next six months. When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the grant.

require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

44. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011).¹⁶ After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The audit management letter will not be disclosed.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting

45. All advance contracting will be undertaken in conformity with ADB's Procurement Guidelines¹⁷ (2013, as amended from time to time) and ADB's Guidelines on the Use of Consultants¹⁸ (2013, as amended from time to time).

46. Advance contracting shall be undertaken to proceed with the initial steps of procurement to accelerate project implementation. The types of advance contracts will include (i) tendering, and bid evaluation for civil works packages; (ii) preparation of tender documents and request for quotation to procure materials and equipment; (iii) evaluation of bids; and (iv) recruitment of the PMU and PIU consultants. The issuance of invitations to bid under advance contracting will be subject to ADB approval. The government, MFNP, MLECCNR, MOI, MOH and MAFFF have been advised that approval of advance contracting does not commit ADB to finance the project.

B. Procurement of Goods, Works and Consulting Services

47. All procurement of goods and works will be undertaken in accordance with ADB's Procurement Guidelines. ADB's Standard Bidding Documents (SBD) will be used for all procurement involving international competitive bidding (ICB) for works and goods, national competitive bidding (NCB) for works, and shopping for goods.

48. ICB procedures will be used for civil works contracts estimated to cost \$1 million or more, and supply contracts valued at \$1 million or higher. NCB procedures will be used for civil works contracts estimated to cost less than \$1 million and equal to or more than \$100,000. Shopping will be used for contracts for procurement of works and equipment worth less than \$100,000. Community participation will be used for works and equipment by communities and NGOs worth less than \$30,000. Direct contracting will be used to contract the University of South Pacific courses. Limited International Bidding (LIB) procedures will be used for the design, procurement, installation and training of meteorology and coastal monitoring systems. Procurement for community projects funded under the CCTF will follow ADB guidelines on working with communities and NGOs.

¹⁶ Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

¹⁷ Available at: <http://www.adb.org/sites/default/files/Guidelines-Procurement.pdf>

¹⁸ Available at: <http://www.adb.org/sites/default/files/guidelines-use-consultants.pdf>

49. Before the start of any procurement, ADB and the government will review the public procurement laws to ensure consistency with ADB's Procurement Guidelines and ADB's Consulting Guidelines. ADB and the government shall update, within six months following the effective date, the procurement plan to reflect any necessary modifications and clarifications in relation to the Public Procurement Regulations 2010 and ADB's procurement and ADB's Consulting guidelines.

50. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

51. The government shall not award and shall not permit the project EA to award any works contract under Component 3 which involves environmental impacts until:

- a. the MLECCNR has granted the final approval of the initial environmental examination (IEEs) updated for the relevant facility sites; and
- b. the government has incorporated the relevant provisions from the updated environmental management plans (EMPs) into the works contracts.

52. The government shall not award and permit the project EA to award any works contract involving involuntary resettlement (IR) impacts under component 3 until the government has prepared and submitted to ADB the final resettlement plan (RP) based on the relevant detailed design and obtain ADB's clearance of such RP. The government shall not award and permit the project EA to award any works contract involving IR impacts under the remaining components of the project, if pursuant to the resettlement framework (RF) a RP is required to be prepared, until the government has prepared and submitted to ADB the final RP based on the relevant detailed design and obtained ADB's clearance..

53. The government shall not award and ensure that the project EA shall not award, any works contract which involves impact on indigenous people; provided however that in the event that works in respect of any facility site are later determined to potentially involve any impacts on indigenous people, as determined under the ADB Safeguard Policy Statement (SPS), no works contract shall be awarded until the government has prepared and submitted to ADB a final indigenous people plan and obtained ADB's clearance..

54. International consultants and consulting firms will be recruited according to ADB's Guidelines on the Use of Consultants.¹⁹ The terms of reference for all consulting services are detailed in Section D.

55. An estimated 972 person-months (875 national, 97 international) of consulting services are required to (i) establish and facilitate the project management and implementation; (ii) strengthen the institutional and operational capacity of the PMU and IA's to deliver activities; (iii) deliver activities component 1: capacity building, including technical supervision of the design and procurement of the meteorology and coastal monitoring systems; (iv) design and supervise infrastructure sub-projects; (v) design, procure and install meteorology and coastal monitoring systems; (vi) design hydrology monitoring system and provide support for integrated water management assessments; and (vii) establish baselines and monitoring for special marine areas (SMA) and provide support to the fisheries division to strengthen SMA network.

¹⁹ Checklists for actions required to contract consultants by method available in e-Handbook on project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

Consulting firms will be engaged using the quality–and cost–based selection (QCBS) method with a standard quality cost ratio of 80:10. Suppliers of meteorology and coastal monitoring systems will be selected using limited international bidding considering the limited number of suppliers available to design, install, commission and transfer the systems. The PMU and PIUs will follow national labor regulations and are expected to offer equal opportunities to women.

C. Procurement Plan

Basic Data

Project Name: Climate Resilience Sector Project	
Country: Kingdom of Tonga	Executing Agency: Ministry of Finance and National Planning
Grant Amount: \$19.25 million	Grant Number: 46351-002:TON
Date of First Procurement Plan: 11 Oct 2013	

a. Project Procurement Thresholds

56. Except as the ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works

Method	Threshold
International Competitive Bidding (ICB) for Works	Above or equal to \$1,000,000
International Competitive Bidding (ICB) for Goods	Above or equal to \$100,000
National Competitive Bidding (NCB) for Works	Below \$1,000,000 and above or equal to \$100,000
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000
Limited International Bidding for Goods and Works	Above or equal \$200,000
Community Participation in procurement	Below \$30,000

b. ADB Prior or Post Review

57. Except as the ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
International Competitive Bidding (ICB) Works	Prior	
International Competitive Bidding (ICB) Goods	Prior	
National Competitive Bidding (NCB) Works	Prior	
Limited International Bidding (LIB)	Prior	
Shopping for Works	Prior	
Shopping for Goods	Prior	
Community participation in procurement (CPP)	Post	
Recruitment of Consulting Firms		
Quality and Cost-based Selection (QCBS)	Prior	90:10
Recruitment of Individual Consultant		
Individual Consultants	Prior	(national and international)

58. The first 2 (two) contracts for each NCB goods and works will be reviewed using prior review procedures. Following that, post review will be used.

c. Goods and Works Contracts Estimated to Cost More than \$1 million

59. The following table lists goods and works contracts estimated to cost more than \$1 million is expected to be advertised within the year 2014.

Package No.	General Description	Contract Value	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Ministry of Infrastructure						
CRSP-LIB-2014-MOI-02	Meteorology System	\$1.25 million	LIB	Y	Q2 2014	Design, procurement, installation and training of Meteorology Monitoring System
CRSP-NCB-2014-MOI-02	Ha'apai Hospital	\$1.15 million	ICB	N	Q3 2014	Construction Ha'apai Hospital in Lifuka Island
CRSP-ICB-2015-MOI-01	Hahake Coastal Protection & Marine Landings	\$2.90 million	ICB	Y	Q1 2015	

d. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000

60. The following table groups smaller value goods, works and consulting services contracts for which procurement activity is either going or ongoing or expected to commence within the next 18 months.

Package No.	General Description	Value of Contracts	Number of Packages	Procurement Method	Comments
Ministry of Education					
CRSP-DC-2014-MET01	Scholarships	\$0.20 million	Various	Direct Contracting	Using existing scholarship selection and awarding systems at MET, award approximately 20 long term scholarships at the University of South Pacific.
Ministry of Infrastructure					
CRSP-NCB-2015-MOI-01	Tufu Evacuation Road	\$0.65 million	NCB	N	Q1 2015
CRSP-NCB-2015-MOI-02	Navutoka Evacuation Road	\$0.44 million	NCB	N	Q1 2015
CRSP-NCB-2015-MOI-03	Talafoou Evacuation Road	\$0.52 million	NCB	N	Q1 2015
CRSP-NCB-2015-MOI-04	Popua Evacuation Road	\$0.27 million	NCB	N	Q2 2015
CRSP-SHO-	Climate Proofing of	\$0.76 million	12	Shopping	12 schools total, in different locations, including outer

Package No.	General Description	Value of Contracts	Number of Packages	Procurement Method	Comments
2014-MOI-01	Schools				islands
CRSP-LIB-2014-MOI-02	Coastal Monitoring System	\$0.66 million	1	LIB	Design, procurement, installation and training of Coastal Monitoring System
CRSP-SHO-2014-MOI-03	3 Vehicles 4x4	\$0.08 million	1	Shopping	3 vehicles 4x4 for meteorology station operations
Ministry of Lands, Environment, Climate Change and Natural Resources					
CRSP-ICB-2014-MLECC-01	Hydro Equipment	\$0.39 million	1	ICB	Hydro Equipment
CRSP-SHO-2014-MLECC-02	Mangroves	\$0.05 million	1	Shopping	Seedlings and planting
CRSP-NCB-2014-MLECC-03	CCTF Medium Size Investments	\$0.25 million	various	NCB	Medium size projects (between \$50,000 and \$250,000 to be funded by CCTF)
CRSP-CPP-2014-MLECC-04	Community projects	\$0.70 million	various	CPP	Small community based projects to be implemented by communities applying to the CCTF with a maximum value each of \$30,000
Project Management Unit					
CRSP-SHO-2014-PMU-01	Vehicles	\$0.05 million	1	Shopping	2 vehicles for PMU
CRSP-IND-2014-PMU-02	Legal Experts	\$0.09 million	2	Individuals	Recruitment of legal expert for Activity 1.2
Ministry of Fisheries, Forestry and Food					
CRSP-ICB-2014-MAFFF-01	SMA Equipment	\$0.18 million	1	ICB	Buoys, barriers, diving equipment

e. Consulting Services Contracts Estimated to Cost More than \$100,000

61. The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value	Recruitment Method	Advertisement Date (quarter/year)	International or National Assignment	Comments
PMU consultants and PIU consultants for Climate Change and Environment Division	\$2.77 million	FBS	Q1 2014	Both	PMU consultants and consultants to support community plans, training and scholarships and Mangrove activities
General Description	Contract Value	Recruitment Method	Advertisement Date	International or National	Comments

			(quarter/year)	Assignment	
Design and Supervision consultants - PIU Civil Engineering Division	\$1.22 million	QCBS	Q2 2014	Both	Design & Supervision for infrastructure subproject (roads, schools, marine landings, coastal protection & hospital)
PIU consultants for Fisheries Division-MAFF	\$0.40 million	QCBS	Q3 2014	Both	Consultants for SMAs
Hydro & Water Supply Consulting Services PIU Natural Resources Division	\$0.40 million	QCBS	Q4 2014	Both	Water resource inventory, specification of hydro equipment and water supply study for Niuafu'ou (Activity 1.4 and 1.6)

D. Consultant's Terms of Reference

62. All consultants under the project will be recruited using quality-and cost-based selection procedures in accordance with ADB's Guidelines on the Use of Consultants by the ADB and its Borrowers (April 2010, as modified from time to time). See Annex 2 for detailed TORs for the PMU and PIUs.

63. **PMU Scope of Works.** Government has incorporated the whole of the JNAP–TWG Secretariat (currently 3 persons) within the MLECCNR. The support to the overall JNAP–TWG from AusAID will expire in April 2014. After that date, funding for the secretariat will be solely from the government budget and respective personnel will be required to be government staff.²⁰

64. There will be a need for close coordination between the JNAP–TWG and the PMU. The former (which includes wide agency representation including NEMO from the MOI) will be coordinating and monitoring all CCA and DRM activities in the country while the latter will be focused on the detailed implementation of projects and activities under CRSP. This creates the opportunity for the PMU to provide necessary expertise on CCA and DRM which can be utilized by JNAP.

65. The tasks of the PMU, under the auspices of the CEO MLECCNR, will be to:

- (i) manage all CRSP projects/activities, either directly or through the designated PIUs; in support to the JNAP–TWG; or via discrete specialized design and/or construction packages;
- (ii) monitor the quality and timeliness of all SPCR projects/activities and ensure that the PSC is aware of progress and able to influence program;
- (iii) support the JNAP–TWG through capacity building in PMU personnel specialisms; providing additional expertise where appropriate; and undertake technical assistance to ensure that the TWG can continue to coordinate and monitor nationwide CCA & DRM activities;
- (iv) support the JNAP–TWG in its role as technical secretariat to the CCTF including processing and coordinating vulnerable community applications;
- (v) ensure that the community Plan process is streamlined and provides a pipeline for vulnerable communities to obtain funding through the CCTF;
- (vi) provide capacity building through on-the-job training to ministry based PIUs in their implementation of CRSP activities/projects.
- (vii) Manage safeguard activities in line with the project's environmental assessment and review framework (EARF) and resettlement framework (RF).
- (viii) The PMU will contain the expertise required to monitor and coordinate the projects and activities which will be implemented through a range of ministries (e.g. MLECCNR, MOI, MET,²¹ MOH, MAFFF) utilising specific design and construction packages.

²⁰ It is the intention of the MLECCNR to expand the JNAP Secretariat and currently have proposals for 2 new staff lodged with the Public Service Commission. In the longer term it is proposed that the climate change division within the department of climate change and environment would consist of 5 sections, namely: JNAP Secretariat; inventory and mitigation; vulnerability assessments; national communications; and Ozone depletion.

²¹ The MET PIU should also include representation from individual Parent Teacher Associations (PTA) in relation to their specific schools.

66. The PMU consultants will sit under MLECCNR and report to the project Manager and the PSC. They will coordinate overall project implementation, lead activities under Component 1 and provide support to project PIUs sitting under MOI, MAFFF and Natural Resources Division as required. The PMU consultants will assist the EA and IAs to effectively manage the project by:

- (i) Review and update the PAM including, but not limited to, the Project implementation schedule and the project procurement plan within 3 months of initial fielding of the consultants and thereafter annually. Copies of the updated PAM shall be provided to (i) all members of the PMU, (ii) PIUs project managers in MOI, MAFFNR Division, MET and MOH and (iii) the ADB project officer.
- (ii) Establish and maintain separate project accounts and records by funding source for all expenditures incurred on the project. project accounts will follow international accounting principles and practices. Note that the MFNP will also maintain separate accounts for the project. The project accounts will be audited annually by an external auditor appointed by the MFNP.
- (iii) Prepare draft grant WAs for the payment of eligible project costs. Submit the draft WAs to the MFNP for verification and sign-off by authorized signatories.
- (iv) Facilitate and monitor the implementation of the gender action plan.
- (v) Provide other services to the project manager and PMU as necessary to deliver the project.
- (vi) Ensure that the project including its contractors and consultants comply with the laws of Tonga and ADB's SPS, and ADB's Anticorruption Policy and ADB's Public Communications Policy 2011.²²
- (vii) Assist in staff training and safeguards compliance during project implementation.
- (viii) Assist in preparation of resettlement plans following the RF if any subproject involves unanticipated resettlement impacts during implementation and to prepare semi-annual safeguard monitoring reports.
- (ix) Based on detailed designs, assist in updating of IEEs already prepared and preparation of new IEE/environmental assessments following the EARF if any subproject involves unanticipated resettlement impacts during implementation.
- (x) Provide orientation and training for MLECCNR, MOI, MOH and MAFFF personnel and civil works contractors on safeguard measures, including implementation of the EMP and RPs, if required.
- (xi) Assist with subproject staff training to ensure that environmental and social measures are well understood and implemented effectively.
- (xii) In consultation with the PMU and PIU Managers, prepare: (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) semi-annual safeguard monitoring reports; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan, and (d) updated implementation plan for the next 12 months quarterly progress reports in a format

²² See <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf> ; <http://beta.adb.org/documents/anticorruption-and-integrity-policies-and-strategies>.

consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project.

- (xiii) Assist the project manager and PIUs in the preparation of subproject completion reports in a manner satisfactory to GoT and ADB, and ensure as-built data, such as as-built drawings, equipment operations and maintenance manual, and guarantees, are collected and collated at the completion of each subproject.
- (xiv) Identify the training needs in relation to contract administration and construction supervision and incorporate on-the-job training for MOI staff to address the training needs.

67. The PMU will recruit an international and a national legal expert to review the legal framework of CCA and DRM. The consultants will work under the guidance of the PMU and report to the MLECCNR and MOI. The consultants will:

- (i) Amend acts, codes, guidelines and policies identified by PMU to better incorporate climate change into among other things, laws relating to water, infrastructure, building code and environmental impact assessment for submission to Parliament
- (ii) Develop an overarching policy document for projects requiring an environmental impact assessment and how they should both manage their impacts of climate change and incorporate climate change into their design. This would include for example, criteria and specific calculations for CCA. This work should assess current international law, best practice with respect to legal amendment develop mechanisms that are achievable in relation to compliance in Tonga.
- (iii) Draft and finalize the previously proposed CCTF bill on behalf of the Tongan Government that could be enacted in the future to ultimately take over from the trust fund developed as part of the project preparatory technical assistance (PPTA). The current legislation is overly complex and has ambiguous fiduciary procedures.

a. Mangrove Assessment and Rehabilitation Consultants

68. The mangrove assessment and rehabilitation consultants will possess substantial experience in the management of mangrove ecosystems, in particular to the CCA. They will contribute to the development of a full work plan for the sub-project and contribute to the more detailed scoping out of all Project activities with the Project team. They will be responsible to the PMU and support the Department of Environment and Climate Change to implement the Mangrove and Rehabilitation subproject. The consultants will support the MLENCC in developing project work plans, annual work plans and a monitoring and evaluation framework for the project and they will coordinate and provide PMU with information required for project reporting and monitoring. The consultants TORs and scope of works are detailed in Annex 2.

b. Strengthening of Special Marine Management Areas National Network (PIU MAFFF)

69. The MAFFF PIU consultants will support strengthening the national system of SMA network by; a) to building a national strategy for a network of SMAs that are geographically and ecologically diverse and represent local, regional, and national interests; and b) establishing an

additional 6 SMAs to be added to the system to make a substantial contribution to enhancing the number SMAs in Tonga. The consultants will report to the MAFFF PIU and to the PSC. They will liaise with the PMU for advice and guidance on procurement, financial management, monitoring and reporting. The consultants TORs and scope of works are detailed in Annex 2.

c. Design and Supervision Consultant for Infrastructure Subprojects (PIU MOI)

70. ADB will engage an international consulting firm (the Consultant) for three years under the project. The consultant will provide specialized services through a team of international and national consultants, and will be engaged in accordance with *ADB's Guidelines on the Use of Consultants* (2010, as amended from time to time) using the CQBS method and full technical proposals. The consultants will report to the project manager of the PIU in the MOI as the IA for this component.

71. The project is intended to:

- (i) Pilot a variety of coastal protection measures in Hahake (east Tongatapu) where currently erosion is threatening the coastal road and floodwater runoff is believed to be causing damage to the near shore environment and coral reefs.
- (ii) Provision of four sections of road on the islands of Tongatapu (3) and Eua (1) which are intended to be used for evacuation of at-risk communities in the event of storm surge or tsunami events; for access to the communities following such events; and also for day-to-day use as part of the normal road network. The road alignments are within the existing road reserves except one road. LIDAR mapping of Tongatapu is available at a one metre resolution.
- (iii) Pilot a variety of schools climate-proofing on the islands of Tongatapu, Ha'apai and Vava'u (total of up to 12 schools). The works at the schools are primarily to reduce flooding and flood risk, install water tanks and improve roofing. At Ha'apai high school the works are to install a substantial increase in rainwater harvesting. (pre-feasibility studies, costing and TORs have been developed for five schools, initial costing and TORs for the additional seven schools under the candidate subproject will be finalized before the bidding for design and supervision consulting services).
- (iv) Relocate Lifuka Hospital, in Ha'apai to a less vulnerable area. A new structure for the hospital will be built in higher ground, close to Ha'apai high school. The hospital will have approximately 250 square meters. (Initial drawings and costing have been developed by MOH with assistance of MOI but a pre-feasibility studies, review of initial costing and TORs for the design and supervision of hospital structure will be finalized before the bidding for design and supervision consulting services)
- (v) Rehabilitated and climate proofed up to 5 marine landings in outer islands. As part of the candidate subproject up to five jetties or small wharfs will be climate proofed, site selection, pre-feasibility studies, initial costing and detailed TORs for the design and supervision of the marine landings will be finalized before the bidding for design and supervision consulting services.

72. The Design and Supervision consultants will provide (a) project design and supervision of infrastructure subprojects, including preparation, updating and supervision of relevant safeguard plans in compliance with Tonga's laws, ADB's SPS and frameworks prepared for the project; (b) monitoring and reporting of project progress; (c) facilitate the timely delivery of the

project in compliance with standards acceptable to the government and ADB and within the project budget (quality and cost control); (d) integrate EMP and other safeguards provisions into bid and contract documentation; (e) administer contracts awarded under the project; (f) support contractors in preparation of construction EMP through training, assist PMU in review and approval of EMPs, facilitate and monitor the implementation of the EMPs and the gender action plan by contractors; and (f) provide other services to the project manager and PMU as necessary to deliver the project. The consultants' scope of works for each subproject include are detailed in Appendix 2.

d. Water Resource Inventory and IWRD/CMZ Planning Consultants (Natural Resource Division PIU)

73. The objective of this consultancy is to support the natural resources division to improve the following areas: (i) hydrological monitoring; (ii) water resource inventorying; and (iii) planning for integrated water resource management and integrated coastal monitoring. The consultants will sit under the natural resource division PIU and will report to MLECCNR CEO, the PMU and the PSC. They will support natural resource division PIU to implement activity 1.5 and 1.6. The consultants TORs and scope of works are detailed in Annex 2.

e. Candidate Subproject Selection Criteria

74. Candidate subprojects for the project include (i) climate proofing of schools; (ii) relocation of Ha'apai hospital (iii) popua evacuation and post disaster access road; and (iv) rehabilitation and climate proofing marine landings in outer islands. The Government of 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. The subprojects will be prioritized and approved according to availability of funding.

75. The candidate subproject will be one of those already identified above. If changes are proposed by the PSC the EA and PSC will ensure that new subprojects meet the following selection criteria based on the feasibility study conducted by PMU:

- (i) The candidate subproject will have a clear and demonstrable link to climate change adaptation or disaster risk reduction and its outputs and objectives to be in alignment with national climate change or disaster risk reduction priorities.
- (ii) The candidate subproject will be technically feasible and meets Tonga's technical standards and requirements.
- (iii) 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.
- (iv) 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.
- (v) The candidate subproject will be located on existing sites or state/government land avoiding involuntary land acquisition and resettlement impacts. If avoidance of such impacts is unfeasible, the subproject will be designed minimizing impacts and a RP will

be prepared following the project's RF to ensure that (a) people adversely affected by civil works under the subproject are compensated in compliance with the laws of Tonga and ADB's SPS, 2009; (b) due consultation and process is carried out in preparation of the RP in accordance with the RF and the RP is approved by 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 RP. The candidate subprojects will not be selected if there is opposition from affected persons and the community to the candidate subprojects.

- (vi) All candidate subprojects will be subject to a first level of screening in accordance with the environmental laws and policy and the provisions of the project's EARF and are not assessed to have (a) significant impact on ecologically sensitive areas of the Faga'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 effects on known rare or endangered species or their habitat; and (d) permanent damage to irreplaceable cultural relics and archaeological sites. No subprojects that are classified as Category A under ADB's SPS i.e. projects that are likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented will be eligible for grant financing. That is projects that are likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented.
- (vii) 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.
- (viii) 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.

VII. SAFEGUARDS

76. All subprojects, within each of the project components financed by ADB and government will be subject to ADB's SPS (2009). The project has been classified as Category B for environment and Category C on involuntary resettlement and indigenous persons. Framework documents have been prepared to describe the safeguard requirements for the project, including EARF and RF. IEE have been prepared for the Hahake coastal protection, climate proofing of schools and evacuation roads subprojects. The program coordinator with the support of an established Environment and Social Unit (ESU) within the PMU will be directly responsible for all safeguard related matters.

77. **Environment.** The program coordinator, supported by the ESU, with the assistance of the JNAP-TWG will manage all day-to-day environmental activities. The environment management specialist will lead the ESU and support the PMU and be responsible for facilitating and supervising the implementation of the EMPs of Component 3 activities which contain all climate infrastructure investment projects. The environment management specialist will provide training and capacity building to PMU staff and national safeguards specialists.

78. MLECCNR, as the coordinating IA, will have overall responsibility on the project's compliance with safeguard requirements. MLECCNR will also coordinate with relevant government agencies, particularly MOI as needed. The ESU will be responsible to follow the government's safeguards assessment procedure, ADB's SPS, the project's EARF, and obtain safeguard clearance from ADB and the government prior to start of civil works. ESU will also be responsible for carrying out an environmental assessment in accordance with national laws, the requirements of MLECCNR and ADB's SPS. Monthly compliance reports (incorporated into the quarterly progress reports) and semi-annual safeguards monitoring reports will also be prepared by the ESU and submitted to MLECCNR and ADB.

79. In coordination with PIU based in MOI, the ESU and the national and international engineers will be responsible for facilitating and supervising the implementation of the EMPs which will include (i) revising the construction section of the EMPs and ensuring its integration along with other safeguards provisions into the bid and contract documents; (ii) providing induction to contractors on EMP requirements during construction and reviewing and approving the contractor's CEMPs; (iii) as required, supporting contractors in implementing the CEMPs and monitoring requirements; (iv) undertaking compliance monitoring of the CEMP implementation; (v) preparing the necessary environmental assessment of candidate subprojects to be prepared during project implementation; and (vi) preparing monitoring reports and other reports as required.

80. **Involuntary Resettlement.** The PMU within MLECCNR will be responsible for the day-to-day management of the project including resettlement safeguards lead by the ESU. The project will support the strengthening of PMU's social safeguard capacity by recruiting a national social safeguard specialist (60 months) and an international social safeguard specialist (3 months) under the PMU. The detailed ToRs for the specialists are included in the RF Annex F. The social safeguard specialists will assist the PMU in managing the Project's social safeguard activities, including: (i) preparation and implementation of the RPs, if required, and (ii) facilitation of consultations at various stages of the project and individual subprojects. During the land acquisition and resettlement process, if required, they will ensure that entitlements and compensation measures established in the RP are consistent with the RF and suitable budgetary provisions are made for timely RP implementation. They will also ensure that funds for compensation and entitlements under the RP are fully provided to affected persons prior to

the commencement of civil works under relevant subprojects. For candidate subprojects, the social safeguard specialists will prepare either (i) a satisfactory RP as per the RF if subprojects involved unanticipated land acquisition and resettlement; or (ii) a due diligence report documenting the screening and consultation process when there are no land acquisition and resettlement requiring a RP.

81. It is noted that core subprojects under the project's climate infrastructure investment component have been screened during PPTA confirming that they do not require involuntary land acquisition and resettlement. The government is expected to allocate crown or state land for candidate subprojects prior to project implementation and these are also not expected to involve involuntary land acquisition and resettlement impacts. However, if any candidate subproject entails unanticipated land acquisition and resettlement impacts during project implementation, a RP will be prepared following the RF (refer to Report and Recommendation to the President list of linked documents).

82. To ensure that any unanticipated land acquisition and resettlement activities are carried out according to the requirements of ADB SPS, the government will follow the measures included in the RF: entitlements and valuation process (Section III of the RF), impact assessment and preparation of RP (Section IV of the RF), consultation and disclosure (Section V of the RF), compensation and income restoration (Section VI of the RF), grievance redress mechanisms (section VII of the RF) and implementation and monitoring (Section VIII of the RF).

83. **Indigenous peoples.** The project has been classified as Category C on indigenous peoples following SPS. The project is not expected to impact any distinct and vulnerable group of indigenous peoples as defined under ADB's Safeguard Policy Statement. The beneficiaries in the project sites are part of mainstream Polynesian society and are not discriminated upon due to their language, skin color, or traditional practices. All project outputs will be delivered in a culturally appropriate and participatory manner.

VIII. GENDER AND SOCIAL DIMENSIONS

84. **Public Awareness** - The monitoring and evaluation specialist (gender/communication) will be responsible to ensure the actions are implemented. A Project specific participation and communication strategy and consultation plan was developed to provide strategies for:

- (i) Continued analysis of potential stakeholders, to understand their interest and include them, where appropriate, in the CRSP;
- (ii) Continued consultations with stakeholder groups throughout design and implementation stages;
- (iii) Systematic engagement through the agreed participation strategy and stakeholder communications strategy throughout design and implementation stages; and
- (iv) Informing stakeholders of safeguards and accountability mechanism.

85. Public awareness is also included as an integral part of all individual project design. Particular importance will be building awareness of educational opportunities such as training and scholarship; and of funding opportunities for the communities provided through the CCTF.

86. **Ensuring women's involvement in project implementation** - There are high levels of equality in Tonga in terms of women's rights to access education, health services, employment etc. The main area for improvement supported by this project relates to acknowledgment of women as drivers of transformational change. Apart from single mothers, who are in cultural

terms vulnerable, women in general are regarded as important stakeholders and agents of change; and as project beneficiaries.

87. An important aspect of gender mainstreaming is the increased involvement of women in decision-making processes (formal and informal), about social values; development directions; and resource and opportunities allocations. The main goal of this strategy is to go beyond women as mere participants, towards enabling women to influence the entire agenda and basic priorities ('agenda-setting'). Thus initiatives proposed in this program are not concentrated on responding to gender differences but rather at seeking to reduce gender inequality. Therefore, the objective is reshaping of the approach to women's involvement and decision-making, rather than adding activities for women at the margins of the documents.

88. Special attention will be on engaging women organizations. Women have played an important role in project identification, and will play integral role in ongoing project formulation, monitoring and evaluation. Provisions for gender-balanced access to training and capacity building will form integral part of each project developed under this program. Equal consultation with men and women, and specific engagement of women's groups, will continue throughout the project implementation and monitoring and evaluation phases. The PMU will employ a dedicated gender specialist who will ensure that activities planned, are indeed conducted.

89. In addition to the inherent gender impacts of the physical components, gender balance will be ensured in:

- (i) Project activities, including monitoring and evaluation activities
- (ii) Knowledge and experience collected, developed and disseminated
- (iii) Decision-making
- (iv) Governance
- (v) Outcomes and benefits
- (vi) Among participants in all consultation forums

90. Specifically;

Train-the-trainer and scholarships programs will aim at 50:50 coverage of men and women;

- Project PMU and PIUs will aim at 50:50 employment of men and women;
- Equal pay will be provided to men and women for work of equal type in accordance with national laws and international treaty obligations, and safe working conditions for both men and women workers will be provided;
- The CCTF will give priority to proposed CCA activities that directly benefit women, children or vulnerable groups;
- Consultations with women and mothers, prior to and during implementation of infrastructure projects, will ensure that they receive sufficient information about the project and have opportunity to voice their views, needs and preferences with regard to the project;
- For all infrastructure project, there should be a requirement for a Memorandum of Understanding (MoU) between contractor/implementation agency and the community, ensuring community requirements and cultural needs - including those of women - are met; such MoUs would also ensure that minimum numbers of outside workforce spend time in the communities; and would specify guidelines for workforce behavior in the communities, in particular in relation to women;

- PMU will conduct gender awareness training if and when required in order to raise gender awareness among staff of designated IAs, contractors, town leaders, and project area residents;
- Training will be provided to PMU and project staff to be able to detect, intercept, respond to and prevent (or refer cases) of sexual harassment, gender based violence and other problems that may emerge during project implementation;
- The mangroves subproject will specifically review the role of women and other target groups in mangrove management and planting efforts to date, identifying opportunities for further engagement of women in mangrove planting activities;
- The project will also ensure involvement of women in decision-making in any process related to site selection for mangrove replanting;
- SMAs will provide alternative livelihood opportunities, and these will be developed in collaboration with women's development groups and island committees;
- Information campaigns (written materials, local TV and newspapers) about the project components (in particular CCTF and training and scholarship opportunities) will be developed to outline the benefits for both men and women;
- Requirement for women to sit on all committees tasked with development of community plans and/or funding applications; as well as on the committee approving applications for CCTF, will strengthen women's involvement in decision making;
- Equal access and training opportunities for rainwater harvesting manual trainings;
- project performance, management, monitoring and evaluation will include sex disaggregated data and information, utilizing the baseline information collected during the PPTA and earlier studies for longitudinal analysis;
- Feedback mechanism will give equal voice to both male and female beneficiaries.

GENDER ACTION PLAN

Output	Activity/Strategy	Performance/Target Indicators	Timeframe Responsibility
A. Project Implementation overall			2013-2019
Increasing Project Awareness	<ul style="list-style-type: none"> Development of a community consultation and participation plan at the beginning of the project Organize separate consultations with women prior to and during project implementation to ensure that they receive sufficient information about the project and create opportunities for them to voice their views, needs and preferences with regard to the project 	<ul style="list-style-type: none"> Developed community & participation plan at the beginning of the project A representation of at least 40% women on consultation forums Number of women's groups and representatives consulted during project implementation 	PPTA followed by PMU – national M&E, gender and communications specialist
Ensuring Gender Inclusion in Project Implementation	<ul style="list-style-type: none"> Ensure appropriate social inclusion in decision-making As needed, provide training on gender equality to government staff engaged with the project to improve their understanding of gender concerns and increase their capacity to implement the project's gender action plan 	<ul style="list-style-type: none"> Target 20% women representation in all decision making forums Conduct one staff training and one training for implementing agencies and contractors with at least 20% women participated 	PMU – national M&E, gender and communications specialist
Skills development	<ul style="list-style-type: none"> Equal pay will be provided to men and women for work of equal type in accordance with national laws and international treaty obligations, and safe working conditions for both men and women workers will be provided The PMU will be responsible for monitoring and review of the above set targets for women annually 	<ul style="list-style-type: none"> Number of women and men involved in project activities The PMU will be staffed by at least 40% are females 	PMU – national M&E, gender and communications specialist and procurement specialist Contractors
B. Specific activities and targets set for individual project components			2013-2019
COMPONENT 1: Strengthen the capacity of vulnerable communities and relevant sectors to support transformation to a climate resilience development path			
1.1 Training of trainers program and roll-out training	<ul style="list-style-type: none"> Establish a Gender network with Women's Division, Langaonua, CSFT, WCC, WC, MFF, MAFFF and other related organisations Network established Professional trainer to design and develop gender sensitive training modules on training areas identified Conduct training of trainers with participated women and men from all island groups 	<ul style="list-style-type: none"> Establish a network and gender focal points in all relevant organisations. Produce training packages for all trainers Train equal number of men and women (50:50) 	
1.2 Provision of Scholarships and Professional training	<ul style="list-style-type: none"> Fund provided for post graduate scholarships available for government civil servants and NGO staff 	<ul style="list-style-type: none"> Number of scholarships granted at least 30% for women 	

Output	Activity/Strategy	Performance/Target Indicators	Timeframe Responsibility
1.3 Review existing building codes to incorporate CC and DRM and provide training	<ul style="list-style-type: none"> • Consultation with stakeholders using communication strategies • Appropriate communication strategies such as meetings, focus group discussions, radio talk back, TV and radio programme used 	<ul style="list-style-type: none"> • Use communication strategies to consult all stakeholders with at least 40% women participation 	
1.4 Establishing a Program Management Unit (PMU) to manage SPCR activities	<ul style="list-style-type: none"> • Fund provided to establish PMU office with recruitment process of international and national staff as indicated in the PPTA 	<ul style="list-style-type: none"> • Recruitment of PMU International and National Consultants with at least 40% are female 	
1.5 Support with relation to strengthening the vulnerability assessment mechanism for communities	<ul style="list-style-type: none"> • Compile and refer to community plans by National Council of Churches, MORDI and others being identified acceptable • In collaboration with NGOs, develop strategy to proactively identify and address concerns of vulnerable people targeting women in the communities 	<ul style="list-style-type: none"> • Data base on all project sites compiled, review and updated • Strategy developed to address concerns of vulnerable people and women 	
COMPONENT 2: Operation of the Climate Change Trust Fund			
2.1 Operation of the Climate Change Trust Fund (CCTF)	<ul style="list-style-type: none"> • Establish a sub-committee from NECCC as project Steering Committee • Utilise the expertise of the JNAP/TWG to screen and process applications • The CCTF will provide community grants (mostly small but some medium grants according to available funds) to implement community climate change risk management measures. Priorities be given to proposal that address women's needs or are developed by women's groups in the communities 	<ul style="list-style-type: none"> • By 2016, • At least 30% women represented in the JNAP/TWG • At least 30% of the grants be awarded to women's groups 	
COMPONENT 3: Climate proofing infrastructure, monitoring systems and eco-system resilience			
3.1 Evacuation roads	<ul style="list-style-type: none"> • Women, children and elderly benefiting from construction of evacuation roads identified by Ministry of Infrastructure 	<ul style="list-style-type: none"> • Numbers of beneficiaries including women, children and elderly benefiting from these roads as stated in the 2011 Census 	
3.2 Climate proofing of schools	<ul style="list-style-type: none"> • PTAs both women and men have equal participation and involvement in engagement and monitoring process of the climate proofing of schools identified by Ministry of Education and Training 	<ul style="list-style-type: none"> • PTAs should have at least 30% women involved in decision making and monitoring of the activities • Number of females in PTAs and students that will benefit from the activities as stated in the schools' yearly rolls 	
3.3 Hahake coastal protection	<ul style="list-style-type: none"> • Both women and men benefit equally and have equal participation and involvement in engagement and monitoring process 	<ul style="list-style-type: none"> • At least 30% women represented in general meetings and decision making 	

Output	Activity/Strategy	Performance/Target Indicators	Timeframe Responsibility
3.4 Establishment of new Specific Management Areas	<ul style="list-style-type: none"> Design and deliver programs with technical assistance from Fisheries Department Women's groups and community associations are consulted and encouraged to participate in decision making, design and deliver of programs 	<ul style="list-style-type: none"> Facilitate the equal participation of women and men in consultation meetings and training Gender inclusive media and support materials are developed in conjunction with women and men 	
3.5 Mangroves Project	<ul style="list-style-type: none"> Finalise a full mangrove inventory of Tonga as a baseline for the identification and quantification of value of mangroves for coastal protection/ecosystem services Identify lessons learnt to strengthen capacity to support for mangrove rehabilitation and management in Tonga Identify opportunities for further engagement of women in mangrove planting activities Trial mangrove planting to support field demonstrations to support use of mangroves as natural infrastructure 	<ul style="list-style-type: none"> Gather studies and reports as baseline information By 2016, at least 50% women participate at general meetings, trial demonstrations, providing feedback and suggestions for improvement Ensure involvement of about 30% women in decision-making in any process related to site selection for mangrove replanting 	
C. Gender Awareness & Promotion			2013-2019
To promote gender awareness amongst project stakeholders	<ul style="list-style-type: none"> Gender awareness programme will be developed and conducted if and when required in order to raise gender awareness amongst all stakeholders Conduct workshops with the project staff to ensure they are able to detect, intercept, respond to and prevent (or refer cases) of sexual harassment, gender based violence and other problems that may emerge during project implementation 	<ul style="list-style-type: none"> Develop a community awareness and education program to include men and women Conduct 4 workshops in all island group prior to implementation of activities with at least 30% represented 	PMU – national M&E, gender and communications specialist
D. Livelihood Enhancement			2013-2019
Women-specific livelihood activates	<ul style="list-style-type: none"> Ensuring that selection of the projects to be funded under the Climate Change Fund gives preference to projects that specifically bring improvement of women's livelihoods SMA process will also have a gender disaggregated livelihood enhancement component 	<ul style="list-style-type: none"> At least 50% of approved projects that specifically bring improvement of women's livelihoods At least 50% of projects/ activities developed that specifically benefit women 	PMU – national M&E, gender and communications specialist
E. Decision Making			2013-2019
Promotion of women's involvement in planning and governance at community	<ul style="list-style-type: none"> The PMU will develop leadership and governance awareness material for dissemination and delivery through women's committees, to enable women and men to be more aware of and active in climate change 	<ul style="list-style-type: none"> Materials developed and disseminated through women's committees 	PMU in collaboration with the Office of Women's Affairs

Output	Activity/Strategy	Performance/Target Indicators	Timeframe Responsibility
level	and disaster risk related discussions.		
Strengthening women's involvement in planning and decision making	<ul style="list-style-type: none"> Ensuring meaningful representation in all governing bodies (from community/ village committees to Working Group and Steering Committees) 	<ul style="list-style-type: none"> At least 20% women representation in relevant governing bodies 	PMU – national M&E, gender and communications specialist And international M&E specialist

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Increased resilience of vulnerable communities to climate variability and change, and disaster risk in Tonga	By 2028–2033, baseline: 2012 Integration of climate change into national and community planning demonstrated by: increased coordination and knowledge management capacity of JNAP Secretariat to improve implementation of the JNAP CCA and DRM policies, and increased coordination of NIIP implementation with institutional responsibilities for vulnerable sectors assigned 30% of Tonga population (men and women) supported by the project to cope with effects of climate change (baseline 0)	National communications with UNFCCC MDG, post disaster assessment reports and international disaster database United National Office for Disaster Risk Reduction Hyogo framework for action JNAP and NEMO stocktaking PPCR monitoring and reporting scorecards	Assumptions Climate change is mainstreamed in planning and budgeting, and receives political support Impacts of climate change and natural events can be measured Risk Economic and environmental shocks reverse Tonga's capacity to deal with CCA.
Outcome Strengthened capacity of government and communities to finance, develop, monitor and implement investments to improve ecosystem resilience and climate proof critical infrastructure	By the end of the project (2018); baseline: 2012 Quality and extent to which climate responsive instruments and/or investment approaches are developed and tested (baseline 0) as indicated by: 20 investment projects apply climate-proofing and resilience principles Evidence of strengthened government capacity and coordination mechanism to mainstream CCA (baseline 0) as indicated by 5 sector policies or plans integrate CCA and DRM 5% increase of dedicated allocations for climate- proofing through sector planning and budgeting (% of overall budget)	National budget and sector plans Monitoring and reporting by PMU and PIUs PPCR monitoring and reporting scorecards Climate public expenditure and institutional reviews	Assumptions All communities, and sectors are committed to cope with and adapt to climate and disaster risks Risks CCA and DRM efforts are not coordinated and the support for integrated risk management approaches is not shared at all levels Financial resources for CCA and DRM unavailable

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Outputs 1. Climate resilience mainstreamed into development planning of key vulnerable sectors	<p>By 2018 (Baseline year 2012): At least 300 professionals, of which at least 50% are women from government, private sector, and nongovernment organizations trained on CCA and DRM (baseline 0)</p> <p>At least 15 staff in sector ministries qualified to integrate climate resilience in their sector of expertise and at least 15 people working in Tonga have an academic degree in an area related to CCA and DRM, of which at least 30% are women (baseline 0)</p> <p>At least two policies or sector-specific legislation adopted integrating climate resilience and disaster risk (baseline 0)</p> <p>Six communities have IWRM and/or integrated coastal zone management plans incorporating CCA and DRM (baseline 0)</p> <p>Three GIS databases established and available online on IWRM, community-based CCA, and DRM plans; and mangrove inventory (baseline 0)</p> <p>A publication on lessons and best practices on mangrove rehabilitation and a manual on draught management and rainfall water harvesting published and available online (baseline 0)</p>	<p>PMU and PIUs monitoring reports</p> <p>PMU and PIUs monitoring reports</p> <p>Government gazette</p> <p>PMU and PIUs monitoring reports</p> <p>MLECCNR web page</p> <p>PMU and PIUs monitoring reports and web page</p>	<p>Assumptions High level officials in IAs support integrating CCA and DRM into their corporate planning and policies</p> <p>Risk Professionals are not interested in taking study courses in addition to current workload</p>
2. Monitoring and management of climate data and information improved	<p>Meteorological monitoring system covering seven island groups and meeting WMO requirements (as stipulated in WMO Guide to Meteorological Instruments and Methods of Observation) installed and operating by 2017 (baseline 0)</p> <p>Real time sea level monitoring system covering at least seven island groups installed and operating by 2017 (baseline 0)</p> <p>MET operates and maintains meteorological and coastal monitoring systems (baseline 0)</p> <p>Meteorological and coastal observations available and used to improve forecasting, provide early warning, and monitor climate change (baseline 0)</p>	<p>PMU and PIUs monitoring reports</p> <p>PMU and PIUs monitoring reports</p> <p>Reports of the PMU and PIUs</p> <p>Pacific Islands Global Climate Observing System</p>	<p>Assumption MOI and MLECCNR allocate budget for operation and maintenance</p> <p>Risk MOI and MLECCNR do not maintain and operate the technical equipment</p>
3. Sustainable financing mechanism to support community-based climate responsive	<p>CCTF legally established and operating</p> <p>Increased capacity of government to identify, select, administer, and monitor CCA and DRR community-based projects</p> <p>At least 15 communities successfully</p>	<p>MLECCNR reports</p> <p>PMU and PIUs monitoring reports</p> <p>PMU and PIUs monitoring</p>	<p>Assumption No political intervention in the decisions of the CCTF Board</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
investments	complete CCA and DRR investments financed by the CCTF, of which at least 30% are awarded to women's groups (baseline 0) 50% of projects financed by the CCTF directly benefit women or other vulnerable groups (baseline 0)	reports and CCTF annual audit reports PMU and PIUs monitoring reports	Risk The CCTF is not managed consistently with fiduciary responsibilities
4. Ecosystem resilience and climate-resilient infrastructure investments developed	126 hectares of mangrove ecosystems rehabilitated to provide protection to coastal communities (baseline 0) 1,000 people in six communities benefit from increased ability of coral reefs to recover after climate-related events (baseline 0) 90% reduction in number of school days lost due to climate change-related events in five schools (baseline 0) 2,000 people have access to evacuation roads (baseline 0) 370 households in Hahake are better protected from flooding during storm surges and 8 kilometers of road developed to protect from coastal erosion (baseline 0)	PMU and PIU monitoring reports MAFFF reports PMU and PIUs monitoring reports PMU and PIUs monitoring reports PMU and PIUs monitoring reports	Assumptions IAs have sufficient capacity to implement the project No extreme climatic and/or natural events occurring during execution of the works Risk Difficulties in transport, skilled labor, and materials availability limit contractors interested in bidding for works
5. Project successfully managed and implemented	The project is fully implemented by 31 December 2018 within budget	PMU and PIU monitoring reports	Assumption The PMU and PIUs are sufficiently staffed and budgeted

Activities with Milestones	Inputs
Activities with Milestones 1. Climate resilience mainstreamed into development planning of vulnerable sectors 1.1 Climate change trainings and scholarship program for government departments and nongovernment entities implemented by December 2018. 1.2 An appropriate enabling legal framework for CCA and DRM through consultation developed and prepared by December 2016. 1.3 A clearinghouse for community plans and capacity of JNAP TWG to identify, develop, and process vulnerable community initiatives for funding developed by December 2018. 1.4 A water resources inventory and knowledge management system for IWRM develop by December 2017. 1.5 IWRM community plans developed by June 2016. 2. Monitoring and management of climate data and information improved 2.1. National system of hydro-meteorological and coastal monitoring systems designed and installed by December 2015. 2.2. Training of MOI and MLECCNR staff to operate and maintain systems	Asian Development Bank Strategic Climate Fund: \$19.25 million Government: \$3.88 million

Activities with Milestones	Inputs
<p>conducted by June 2016.</p> <p>3. Sustainable financing mechanism to support community-based climate responsive investments</p> <p>3.1 CCTF detailed operational manual approved and made into regulations by June 2017.</p> <p>3.2 Community climate change adaptation projects for a value of \$1 million funded and implemented under CCTF by December 2018.</p> <p>4. Ecosystem resilience and climate-resilient infrastructure investments developed</p> <p>4.1 Six new special marine management areas (fisheries) established by MAFFF through community engagement processes and linked to the national system by June 2017.</p> <p>4.2 A mangrove inventory for Tonga established and lessons learned and trial mangrove planting implemented by June 2017.</p> <p>4.3 Evacuation and post disaster access roads implemented by June 2016.</p> <p>4.4 Coastal protection measures in Hahake implemented and coastal monitoring system in place by December 2015.</p> <p>4.5 Climate-proofing of five schools completed by June 2015.</p> <p>4.6 Climate-proofing candidate subprojects identified and completed by December 2018.</p> <p>5. Project successfully managed and implemented</p> <p>5.1 Project management unit and project implementation unit consultants fielded by June 2014.</p> <p>5.2 Technical capacity of JNAP Technical Working Group to support CCTF Board enhanced by December 2018.</p>	

ADB = Asian Development Bank; CCA = climate change adaptation; CCTF = Climate Change Trust Fund; DRM = disaster risk management; DRR = disaster risk reduction; GIS = geographic information system; IA = implementing agency; IWRM = integrated water resources management; JNAP = Joint National Action Plan; MAFFF = Ministry of Agriculture, Forests, Food and Fisheries; MDG = Millennium Development Goal; MET = Ministry of Education and Training; MLECCNR = Ministry of Lands, Environment, Climate Change and Natural Resources; MOI = Ministry of Infrastructure; NEMO = National Emergency Management Office; NIIP = National Infrastructure Investment Plan; PIU = project implementation unit; PMU = project management unit; PPCR = Pilot Program for Climate Resilience; TWG = technical working group; UNFCC = United Nations Framework Convention on Climate Change; WMO = World Meteorological Organization.

Source: Asian Development Bank.

B. Monitoring

91. **Project performance monitoring:** Within 6 months of the grant effectiveness, the PMU will establish a project performance and monitoring system. ADB and the government will agree on a set of indicators for monitoring and to evaluate to what extent the project is achieving its goals and purposes. These indicators will be refined and monitored during project implementation. The indicators will include data for monitoring economic development, socioeconomic development, environmental impact, and institutional development. Monitoring and evaluation will be based on gender-disaggregated data for social and poverty impact indicators. The PMU shall monitor and evaluate the indicators according to the agreed framework on a quarterly basis to determine the efficiency and effectiveness of the project. PMU through MFNP will provide quarterly progress reports, and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system. Ten Beneficiaries will be involved in Project monitoring and evaluation. In addition, the PSC will oversee and monitor overall implementation of the project.

92. **Compliance monitoring:** will be provided through regular quarterly progress reports and during regular ADB review missions.

93. **Safeguards monitoring:** The PMU will be responsible for monitoring safeguard activities through the project implementation assistance consultants. MFNP will submit semi-annual safeguard monitoring reports to ADB, and the findings will be incorporated into the progress reporting of the PMU. Measures on safeguard monitoring are included in the EARF and RF. Before commencing work, the contractor will prepare a contractor's EMP which will establish how the contractor will comply with the EMP safeguard requirements. Monitoring of the contractor's work will be undertaken by the resident engineer with assistance of the safeguards officer. Monitoring will also be carried out independently by MLECCNR. The PMU through MFNP will also submit, if required under the RF, subproject land acquisition completion reports to ADB before award of civil works contracts for subprojects involving unanticipated land acquisition and resettlement impacts during implementation. ADB review missions will also check the progress on implementation of safeguard requirements.

94. The safeguard specialists will assist PMU in monitoring of safeguard activities and preparation, review and disclosure of safeguard monitoring reports. The checklist for safeguard supervision and the outline of safeguard monitoring report on resettlement for ADB missions and PMU, respectively, are provided below.

Checklist for Safeguard Supervision: Involuntary Resettlement									
PROJECT INFORMATION									
Loan/Grant No.:		Project Name:							
Approval Date:			Closing Date:				Cumulative Progress (%):		
Project Team Leader(s):						Project Analyst:			
1) Resettlement Categorization									
(Original)		A		B		C		FI	
(additional financing, if any)		A		B		C		FI	
<i>(Please complete the following sections if the Project has been categorized as A, B or FI involving land acquisition/resettlement issues)</i>									
2) Resettlement Planning									
Resettlement Planning Documents:		RF	<input type="checkbox"/>	RP	<input type="checkbox"/>	Number of RPs			ESMS <input type="checkbox"/>
RP Finalized or Updated after Detailed Design:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
<small>(Attach a list of subProjects and status if necessary.)</small>									
Final/Updated RP Disclosed and Posted on ADB Website:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
Compensation Rates Approved by the Government:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
3) Institutional Setup for Resettlement									
PIU/PMU Resettlement Staff Assigned:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
		If yes, Name:				Since: /			
						(month) (year)			
Resettlement Specialist Consultant Mobilized:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
		If yes, Name:				Since: /			
						(month) (year)			
Grievance Redress Mechanism Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, why?			
Allocation of Government Budget:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
		If yes, amount\$:							
4) Resettlement Monitoring and Reports									
Internal Monitoring System Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
External Monitor Engaged (if needed):		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
		If yes, Name:				Since: /			
						(month) (year)			
Monitoring Report Submitted to ADB:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
If Yes, provide information below									
	Baseline Report	Report 1	Report 2	Report 3	Report 4				
Submission Date (m/yr)									
ADB Review Date (m/yr)									
Web-posting Date (m/yr)									
Name of ADB Reviewer									
5) Resettlement Field Review with Participation of Safeguard Specialist/Officer/Staff Consultant									
		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
If Yes, provide information below									
Mission Date (m/yr)									
Type of mission									
Name of safeguard specialist/officer/staff consultants									

[illegible]

Suggested Contents of Resettlement Monitoring Report

Heading/Section	Contents
Introduction	<p>Brief background on the project/sub-project and progress status</p> <p>The project's category and planning documents (original, updated or new plans) on resettlement impacts</p> <p>Institutional arrangements and budget allocation for resettlement/social management</p> <p>Arrangement for the monitoring</p>
Monitoring Activities	<p>Methodology for monitoring (whether checklists prepared etc);</p> <p>What period the monitoring covers</p> <p>Main activities – site visits, consultations, survey etc</p>
Monitoring Results and Actions Required	<p>Progress and performance in implementation of RP and other programs (how their were implemented, what are the outputs, etc)</p> <p>Results on consultations, disclosure and grievance redress (whether they have been effective)</p> <p>Whether the implementation comply with the approved RP (e.g. whether compensation rates were at replacement cost, etc)</p> <p>Results on outcome (whether APs were able to restore livelihoods)</p> <p>Compliance on monitoring and disclosure (whether reports have been submitted, posted on website)</p> <p>Whether any issues and corrective measures identified to achieve the RP objective. If yes, actions with target dates and responsible agency/person)</p> <p>Follow-up item/plan for next report</p>
Summary and Conclusions	<p>Summary of main findings;</p> <p>Main issues identified and corrective actions noted;</p> <p>A table on follow-up action which can be updated each period to track completion of actions required</p>
Attachments	<p>Monitoring checklist (based on items identified in the RP)</p> <p>Photographs</p> <p>Additional information as required</p>

AP = action plan; RP = resettlement plan

95. **Gender and social dimension monitoring:** The monitoring and evaluation specialist (gender & communication) to provide guidance to the PMU in developing and establishing an effective monitoring and reporting systems and processes. Baseline surveys will be undertaken at the start of project implementation and all indicators in the gender action plan will be continuously monitored and reported. These will be included in the PMU quarterly reports and project monitoring reports. A mid-term review will be carried out and a project completion report will be undertaken at project end.

C. Evaluation

96. Soon after the PMU and project implementation assistance consultants are mobilized, ADB will field an inception mission to agree with MFNP on implementation requirements of the project as well as discuss in detail the procedures relating to procurement of works and goods, recruitment of consultants and disbursements. ADB and GoT will undertake semi-annual reviews of the project to consider the (i) scope of the project, (ii) implementation arrangements,

(iii) compliance with grant covenants, (iv) physical achievements against targets and milestones, and (v) project implementation issues requiring resolution or action. The mid-term review will be made after 3 years of the grant effectiveness date. Prior to the midterm review, MFNP with the assistance of PMU will prepare a position paper outlining any proposals for any changes required under the project which will not adversely affect the project's outcomes. The midterm review will examine in detail the implementation progress and project design (institutional, administrative, organizational, technical, environmental, social, poverty reduction, resettlement, economic, and financial aspects), and identify courses of action that would improve project performance, viability, and the achievement of targets and project objectives. All the assumptions and risks noted in the design and monitoring framework will be reviewed. Within 6 months of physical completion of the project, MFNP will submit a project completion report to ADB.

D. Reporting

97. MLECCNR and MFNP will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure projects continue to be both viable and sustainable, project accounts and the EA audited financial statements, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

98. A participation and communication strategy and consultation plan have been prepared for the project and is included in the report and recommendation to the president list of link documents. The PMU will ensure its effective implementation.

X. ANTICORRUPTION POLICY

99. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project. All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the EA and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project. To support these efforts, relevant provisions are included in the grant agreement/regulations and the bidding documents for the project.

XI. ACCOUNTABILITY MECHANISM

100. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's accountability mechanism. The accountability mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects

can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the accountability mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the accountability mechanism.

XII. RECORD OF PAM CHANGES

101. This is the original PAM.

TONGA CLIMATE CHANGE TRUST FUND OPERATING PROCEDURES

A. Commencement

1. The CCTF will operate under the Public Finance Management Act 2002 and shall come into operation on the date of opening of the CCTF Account.

B. Interpretation

2. In these procedures, unless the context otherwise requires; “Fund” means the C I C T F established by the Minister. “Minister” means the minister responsible for finance, or his successor. “Community based” means that the project initiative comes from a community and the project itself is confined to the geographical and operational confines of that community. “Small scale funding” means no more than [USD\$50,000]. “Medium scale funding” means more than [USD\$50,000] but no more than [USD\$250,000].

C. Nature of the Fund

3. The Fund will initially be endowed with a capital sum of USD\$5 million in the form of a grant provided by the ADB.

4. The Fund will be constituted of two elements:

- a) An endowment account comprising [80%] of the initial capital sum (USD\$ [4] million). This money will be invested in a low risk financial instrument (or bank account).
- b) An operational account which will be used to finance projects approved by the board of the fund. The operational account will be financed through:
 - (i) That portion of the initial capital sum that was not allocated to the endowment account.
 - (ii) Interest and capital gains earned on the funds placed in the endowment account.
 - (iii) Money raised through other sources including: bi-lateral and multi-lateral development partner contributions, duties/taxes levied for the specific purpose of providing climate funding, etc.

5. The operational account will be used to finance projects subject to the restriction that the balance of the operational account must not be allowed to fall below [USD\$100,000]. Once the balance of the operational account reaches this threshold, no new projects may be approved or financed. This is to ensure that sufficient money is available to finance any unforeseen costs associated with existing projects.

6. The fund is not expected to have a finite life and will continue operation beyond the lifespan of the ADB programme that provided the initial grant financing for the fund. As such, the operational arrangements set out in these operating procedures should be expected to last for many years.

D. Purpose of the Fund

7. The purpose of the Fund is to finance:
 - a) Community based climate adaptation and mitigation projects. These should be relatively small scale in nature i.e. each discrete project should have a value not exceeding [USD\$50,000]. Approval for such projects would be at the discretion of the board of the fund.
 - b) Climate component of non–community based projects. This intervention may be small scale i.e. less than or equal to [USD\$50,000] or medium scale i.e. more than [USD\$50,000] but less than [USD\$250,000]. Approval for small scale projects would be at the discretion of the board of the fund. Approval for medium scale projects may also need cabinet economic development committee (CEDC) approval depending on the size of the project.
 - c) Providing supplementary financial support to small scale community based, climate related projects proposed by other organizations including charities, church groups, non government organizations (NGOs), government agencies, etc. Such projects should not cost more than [USD\$50,000].
 - d) Audits of accounts, procedures used and technical audits to check for achievement of value for money.
8. Civil society organizations, nongovernmental organizations as well as government entities may propose projects for financing by the fund.
9. Project evaluation and selection shall be made on the basis of specified criteria. Annex 1 contains an initial set of Project selection criteria to be adopted by the fund.
10. Financing of projects by the Fund may be undertaken in tranches, subject to satisfactory performance of each tranche. This may reflect the nature of the project itself, funding ceiling limitations imposed by development partners or a decision of the board of the fund.
11. All project financing undertaken by the fund must conform with the lending and procurement rules of the bi–lateral and multi–lateral development partners who have contributed to the fund.

E. Collection and Deposit Procedures

12. Treasury will undertake all necessary actions to ensure that:
 - a) All monies earmarked for the fund are directly deposited into the CCTF account(s).
 - b) Money withdrawn from the fund operational account is only used for the expenditures authorized by these operating procedures.
 - c) Budget documents accurately register the use of the projects for climate change purposes, allowing for tracking of government expenditure on climate change.
- X. Treasury will take steps to ensure that all funds due to the fund are collected and deposited in a timely manner into the CCTFund bank account(s).

F. Disbursement of Funds and Fiduciary Procedures

XI. The Fund shall be used primarily to finance community grant projects as well as small to medium scale climate components of other projects. The Fund will also meet the costs of administering the Climate Change Trust Fund.

XII. Funds will only be disbursed for works, goods and services that have been approved by the Board of the Fund and that meet the following criteria:

- a) The project must have a clear and demonstrable link to climate change mitigation or adaptation, or both.
- b) Outputs and objectives for the project must be in alignment with national climate change priorities.

16. Communities may be expected to contribute towards the cost of any project in cash or in-kind. The nature and form of any such contribution shall be specified in the project funding application.

17. Funds will be withdrawn from the Fund following the Ministry of Finance and National Planning's existing processes. Cheques will be signed by the two (2) authorized signatories for cheques of the Ministry of Finance and National Planning, based on request for payment made only from the Board of the Fund.

18. Where approved Project funding has not been fully utilized by the project sponsor, all unused funds shall be re-deposited into the Climate Change Trust Fund Operational Account.

G. Management and Structure of the Fund

19. The Fund will be managed by a multi-stakeholder Board that is co-chaired by the Minister for Lands, Environment, Climate Change and Natural Resources and the Minister for Finance and National Planning. The board shall comprise the following individuals (or their designated representatives):

- a) MLECCNR (Chair)
- b) MFNP
- c) MOI
- d) Division of Women's Affairs, Human Rights and Cultural Development.
- e) Bi-lateral/multi-lateral development partner representative (who should be resident in Tonga) as nominated by MFNP.
- f) Civil society representative as nominated by the civil society forum of Tonga.

20. The role of the board shall include:

- a) Approving fund disbursement for project applications made to the Fund.
- b) Managing and directing the work of the fund's technical secretariat.
- c) Working with relevant government organizations on planning and managing climate related projects and investments.
- d) Recommending to the Minister for Finance and National Planning how financing may be secured and spent.
- e) Reviewing and approving a communications program to inform the public about the existence, purpose and operating modality of the Fund.

- f) Publishing and presenting to cabinet a financial and technical annual report of the activities undertaken and results achieved by the fund.
- g) Publishing and presenting any other reports as required, including audit reports.

21. Project funding decisions made by the Board will normally be by consensus but may be subject to a vote. A majority of the board need to be in favour for the project funding application to proceed. In the event of a tie, the vote of the chairman of the board will be the casting vote.

22. A minimum of four members of the board constitutes a quorum and no board decisions may be made if less than four members are present.

23. The technical secretariat function of the fund will be provided by the JNAP_TWG. The role of the technical secretariat shall include:

- a) Developing and updating (as necessary) criteria and a process for the selection of projects to be financed by the fund.
- b) Receiving, reviewing and assessing project applications received by the fund.
- c) Liaising with relevant government and non-government organizations in relation to the planning and management of climate related projects and investments.
- d) Recommending to the board how funding for the fund money may be secured and spent.
- e) Developing and mobilizing a communications program to inform the public about the existence, purpose and operating modality of the Fund.
- f) Monitoring the progress of projects financed by the Fund.
- g) Producing a financial and technical annual report for submission to the board of the activities undertaken and results achieved by the fund.
- h) Producing any other reports as required.

H. Audits

24. The accounts and other financial statements of the fund will be audited annually by the Auditor General.

25. Technical audits of projects will also be carried out on a selective basis as recommended by the auditor general, to be funded by the fund. The technical auditor will be expected to use international audit standards. The technical auditor will present a report to the Cabinet which will give an opinion on the accuracy of the records and financial accounts of the CCTF, the completeness of income of the fund and the conformity of payments with the priorities laid down in these procedures.

I. Climate Change Trust Fund Monitoring

25. Within four months after the end of each financial year, the board of the fund will publish and make publicly available an annual report. The annual report will summarize the main activities of the fund during the preceding year, the audited accounts for the year just ended and the auditor's report on the accounts.

26. The board of the fund should also provide any other reporting documentation requested by bi-lateral and multi-lateral development partners (as well as any other relevant parties) who have contributed to the Fund.

Annex 1 – Project Selection Criteria

The Technical Secretariat shall apply the following criteria in evaluating and selecting projects for submission to the Board for funding approval.

1. The proposed activity addresses:
 - a) Identified immediate and urgent priority climate change risks.
 - b) Community vulnerability to, and impacts of, climate change.
2. The activity must form part of an existing community adaptation plan and/or vulnerability assessment.
3. The proposed activity does not produce adverse social and/or environment impacts.
4. The project implementing entity clearly demonstrates that it has available (or has secured access to) human resources with the necessary skills required to implement the activity.
5. The proposed activity must have clear objectives and measurable impacts.
6. The proposed activity should represent 'value for money' as represented by measures such as number of households benefited, proportion of funding allocated for non-overhead expenses, etc.
7. Priority should be given to proposed activities that directly benefit women, children or vulnerable groups.

DETAILED TERMS OF REFERENCE

A. **PACKAGE 1: PROJECT MANAGEMENT UNIT CONSULTANT SERVICES**

1. **Program Management Unit (PMU)** will be established and housed with MLECCNR. It will work in close collaboration with the JNAP–Technical Working Group and its Secretariat. The PMU will provide support to all IAs and focus on managing the implementation of the project, including public outreach and awareness on the SPCR. The project director of the PMU will be the CEO of MLECCNR. The PMU will be supported by a consulting firm and it will have a fulltime national Program Coordinator who will be assisted by a team of national consultants including a community development specialist, an accountant, a database and web developer, a media and awareness specialist and environmental engineer, and a team of International advisers with expertise in climate change, climate proofing of infrastructure, meteorology, climate change finance, hydrology and CCA and DRM training. The international advisers will provide intermittent support to the PMU, while the national consultants, will be in most cases full time.

2. The PMU will recruit (a) Meteorology/Oceanographic Adviser to prepare the prequalification and bidding documents for the design, procurement and installation of the meteorology equipment, and support the Meteorological services in the evaluation of proposals and review detailed design; and (a) recruit Hydrologist Adviser to prepare the bidding documents for the design, procurement and installation of the hydrology equipment, and support the Natural Resources Division in the evaluation of proposals and review of detailed design.

3. The subprojects to be implemented by other IAs will be supported by the PMU and by small project implementation units (PIU) located within that Ministry. This will ensure appropriate project management and knowledge transfer. The recruitment of the PMU will be the first project activity and is expected to be advertised before the grant is approved.

Project Management Unit Consultants are set in Table 1

Table 1. Project Management Unit

International	30
CC DR Adviser	12
CC DR Community Adviser	6
CC Adaptation Engineer	7
Meteorology and Oceanography	2
Hydro Adviser	3
National	398
CC Program Coordinator	59
Gender and Community Dev Specialist	53
Environmental Management Specialist	41
Accountant and Contract Administrator	59
Education and Communication Specialist	35
Procurement and Quality Engineer	36
CCFT Coordinator	30
Data Base and Web Page Designer	26
Office Assistant	59
Total Person Month	428

4. The PMU consultants will report to the PMU project manager. The PMU consultants will assist the PMU in delivering the project outputs and effectively manage the project.

5. The PMU consultants will provide (a) overall coordination and supervision of all the subprojects, working closely with the PIUs in MOI, MAFFF and MLECCNR (subprojects to be implemented by under Natural Resources Division. and the Climate Change and Environment Division) to ensure efficient delivery of the project (b) monitoring and reporting of project progress; (c) facilitate the timely delivery of the project in compliance with standards acceptable to the government and ADB and within the project budget (quality and cost control); (d) screening and preparation of resettlement plans, and initial environmental evaluations for candidate subprojects; (e) administer contracts awarded under the project; (g) facilitate and monitoring the implementation of the gender action plan; and (h) provide other services to the project manager, PMU and PIUs as necessary to deliver the project.

6. Specific tasks of the PMU consultants will include, but not be limited to

- **Project Management and Coordination:**

- a) manage all projects/activities, either directly; through project Implementation Units (PIU); in support to the JNAP-TWG; or via discrete specialized Design and/or Construction packages;
- b) monitor the quality and timeliness of all projects/activities and ensure that the Project Steering Committee (PSC) is aware of progress and able to influence program
- c) Coordinate with other specialist members of the PMU and PIUs under the direction of the PMU and/or PSC.
- d) Ensure the project is implemented in accordance to the project covenants and assurances as described in the grant agreement and the PAM.
- e) Ensure that all inputs to the program are directed toward achieving objectives, in line with PAM and grant agreement;
- f) Represent the PMU on the program's procurement committee and liaise with the head of the committee (CEO of MLECCNR) on facilitating decisions;
- g) Deploy effective coordination arrangements with all project subprojects;
- h) Oversee the PMU's efforts in mainstreaming CCA/DRM into national, sector and community planning and implementation;
- i) support the JNAP-TWG through capacity building in PMU personnel specialisms; providing additional expertise where appropriate; and undertake technical assistance to ensure that the TWG can continue to coordinate and monitor nationwide CCA/DRM activities;

- **Project Implementation and Administration**

- a) Oversee the implementation of the pilot climate proofing projects and provide advice on other engineering aspects of the project activities as well as providing assistance in the design and implementation of community projects seeking funding through the CCTF.
- b) Liaise with the Design and Supervision Consultants under MOI PIU and support MOI PIU in contract management as required.
- c) Undertake spot checks with PIUs of works quantities presented for payment, and report on the quantity and quality of all works;
- d) Report regularly to the PMU and MOI PIU on progress and performance of civil works, and identify any critical issues which require attention;

- e) Identify QA issues in the project arising from the design and construction of physical works, and bring these to the attention of the PMU and PIU, if they are not able to be promptly and effectively resolved at site;
- f) 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;
- g) 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;
- h) Assist with the certification of the quality of all works, based on on-site approvals by the PIUs;
- i) Develop and deliver training to PMU and PIU on grant disbursement, withdrawal applications and accounting procedures.
- j) Support PMU on all activities relating to contract administration;
- k) Assist the PMU to effectively manage the financial aspects of the project in a timely coordinated manner;
- l) Liaise with MFNP and report on all financial and accounting aspects of the project as required
- m) ensure participation of women in the implementation of various SPCR projects;

- **Reporting, Monitoring and Evaluation**

- a) Establish monitoring and evaluation systems for subprojects, and report results at regular intervals to the PMU, the PSC and ADB;
- b) Support the PMU in preparing annual and quarterly work plans, budgets and their revisions, and quarterly and annual progress reports;
- c) Provide guidance and work closely with the PMU and PIUs to ensure the efficient delivery of the project
- d) Act as the international liaison between ADB, the PMU and the project Steering Committee;
- e) Report regularly to the PMU and the project Steering Committee (PSC) on current international projections on climate change and research on CCA/DRM which may be relevant for Tonga and for the project in particular;
- f) Review PMU quarterly reports to ensure they reflect project progress and comply with Government and ADB reporting requirements
- g) On a quarterly basis, discuss with PMU progress and performance of all subprojects and identify any critical issues which require attention;
- e) With support of PMU and PIU, identify and report on issues in the project arising from the design and management of activities, including design and management of construction of physical works, and bring these to the attention of the SPC, if they are not able to be promptly and effectively resolved at site;
- f) Undertake regular field visits to all project sites to monitor implementation and supervision of project physical works, and confirm that project activities are adequately monitored
- h) Develop and manage a comprehensive database to monitor indicators and results of the individual subprojects based on the Design and Monitoring Framework (DMF), in collaboration with respective project teams;
- i) Identify performance targets and indicators, including gender disaggregated indicators, for the individual subproject investments;
- j) Design and support a harmonized monitoring and evaluation system that aligns with the PPCR results framework;

- k) Support the JNAP-TWG and other PPCR focal points in line ministries to conduct an annual evaluation of PPCR project performance;
- l) Liaise with the relevant ministries to ensure that the PPCR results reporting system is taken into account throughout the project implementation cycle;
- m) Assist in consolidating and updating the PPCR results measurement frameworks;

- **CCA and DR Capacity Building and Awareness**

- a) In conjunction with other PMU members identify training needs within JNAP-TWG and PIUs and where possible utilize PMU resources to improve capacities, or propose additional training within the project capacity building elements;
- b) Under the supervision of the JNAP-TWG, review the existing MLECCNR web page set-up and develop a secure, attractive and easily understood site which can be utilized for both internal ministry, program and public use and which is designed for easy population and maintenance;
- c) Maintain MLECCNR web page to reflect project activities including funding allocation, expected outputs, implementation progress, procurement plan and contract awards
- d) Coordinate the development and dissemination of knowledge products, and feed information into MLECCNR web portals.
- e) Provide capacity building through on-the-job training to Ministry based PIUs in their implementation of SPCR activities/projects.
- f) Assist in ensuring that sufficient capacity is built within the MLECCNR and JNAP-TWG by the end of the project to communicate on project progress and on CC and DR policies and projects implemented by Government and development partners.
- g) Train PIUs on QA procedures for construction and subsequent maintenance of the different types of physical infrastructure in the project;
- h) Support the JNAP-TWG in developing and implementing a knowledge management system and communications strategy for the entire SPCR as well as a results management system for various adaptation programs and projects;
- i) ensure the broad participation of women through training set-up and arrangements
- j) Assist with the development and execution of national CCA and DRM campaigns to reach and educate the general public and industry at conferences, meetings, and outreach events;
- k) Assist with development and dissemination of outreach materials such as, brochures, fact sheets and presentations. Prepare briefing packets and press releases as needed;
- l) Liaise with the data Base and web page designer in the production of a regularly updated web page which contains current program information and linkages to other on-line sites or contacts involved in training/scholarship activities;

- **Support to CCTF Board**

- a) support the JNAP-TWG in its role as technical secretariat to the CCTF including processing and coordinating vulnerable community applications;
- b) ensure that the community plan process is streamlined and provides a pipeline for vulnerable communities to obtain funding through the CCTF;

- c) Develop the CCTF operational manual in accordance with CCTF cabinet recommendation of 17 May 2013 and provide support to the CCTF to select, finance, monitor and evaluate CCA and DRM projects according to the agreements set in the grant agreement and the PAM. The monitoring of the CCTF should reflect;
- d) Number of projects financed by the fund – to be measured and reported by the fund itself. Baseline is zero.
- e) Number of projects financed by the fund that meet their objectives—to be measured and reported by the fund itself. Baseline is zero.
- f) Percentage of projects funded that directly benefit vulnerable groups and women
- g) Balance of the endowment account of the fund—to be measured and reported by the treasury manager of the fund. Baseline is the original amount of money placed in the endowment account.
- h) Balance of the operational account of the fund—to be measured and reported by the treasury manager of the fund. Baseline is the original amount of money placed in the operational account.

- **Environmental and Social Safeguards**

- a) Carry out participatory planning and governance activities and the implementation of the IEE recommendations; their proposed construction technology, and project implementation plan to identify any potential adverse impacts;
- b) Assist the PMU and EQA in reviewing all infrastructure designs, their proposed construction technology, and project implementation plan to identify any potential adverse environmental impacts;
- c) Undertake training of PIU staff to carry out IEE for its projects, awareness-building of and motivating stakeholders/beneficiaries on environmental issues;
- d) Support PIU MOI in the implementation and monitoring of the 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;
- e) 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;
- f) Ensure implementation of the gender action plan and as required audit activities in the field in particular as they relate to engagement strategy, gender action plan and learning;

- **Support the Implementation of Activity 1.3: Strengthening Community Plan Assessment and Monitoring and Evaluation Capacity**

- a) Assist in coordinating all activities relating to the development and implementation of community plans (ComP), including coordination and dissemination, (planned Year 1), processing and monitoring, detailing and processing of projects within vulnerable communities, Years 1–5 and monitoring and evaluation of ongoing and completed projects,
- b) Liaise with JNAP–TWG in community participation exercises, preparation/review of ComPs and their processing for use in obtaining funding from the CCTF;

- c) Develop an online searchable GIS based database of all ComPs in Tonga, including their location, status, issues and proposals, in a form which can be readily utilized to convey information for those determining financing under the CCTF;
 - d) Liaise with JNAP–TWG in community participation exercise, preparation/review of ComPs and their processing for use in obtaining funding from the CCTF;
 - e) Ensure community plans are prioritizing and implementing gender–equitable adaptation measures
 - f) Ensure correct implementation of CCTF funded projects, including procurement, administration, auditing and monitoring and reporting.
 - g) Effective monitoring and evaluation of ongoing and completed projects in communities, including those funded both through and outside the CCTF, to assess and apply lessons learnt;
 - h) Develop an agreed and unified Methodology for ComPs CCA and DR assessments for MLECCNR,
 - i) Establish a procedures and institutional set-up for ComPs through discussions with agencies, organizations and donors involved in ComP preparation. This will also need to ensure that all ComPs include provision for agreed early warning procedures and processes in each community.
 - j) Operational a database on CCA and DRA in Tonga for the climate change division in MLECCNR
 - k) Capacity in MLECCNR to update and analyze database information throughout the project to enable full handover of functions.
 - l) Build capacity in JNAP TWG to examine existing ComPs, agree priority projects within communities and prepare approved applications for onward transmission to the CCTF;
- **Support to the Selection and Contracting of Meteorology and Coastal Monitoring Packages**
 - a) Review and amend bidding documents in accordance with ADB procurement guidelines as of 2013 for packages 7 and 8.
 - b) Assist the PMU in selecting qualified agencies and companies to participate in the Limited International Bidding and assist the PMU in bid evaluation and preparation of the bid evaluation report.
 - c) Advise and make an assessment on the technical robustness of the design and the procurement proposed by for the meteorology and coastal monitoring systems under package 7 and 8. with recommendations, then once a suitable company is contracted, review the technical designs developed;
 - d) Review and report on the status and results of training and certification undertaken under the procurement packages for technical staff;
 - e) Provide training and knowledge sharing activities and identify areas where gender–inclusive and socially inclusive provisions can be strengthened under the project.
 - **Support to the Implementation of activity 1.1: Scholarships and Professional Training**
 - a) Oversee education initiatives in conjunction with the MET to ensure that relevant available and potential training programs and scholarship opportunities are identified and publicly communicated for the benefit of potential candidates;
 - b) Support the PMU to deliver training courses on:

- **Climate Adaptation of Infrastructure** (3 courses during years 1, 2 and 3 of the Project, 4 day courses) courses will be design to have one introductory 2 days suitable for non-engineer/technical audiences involved in CCA and DRM activities, and 3 days targeted to engineers and technical audiences. The course would be open to private parties.
 - **Climate Change Finance and Corporate Budgeting** (three 2 days courses in year 1 and 3). The training will be targeted primarily to civil servants responsible for corporate planning.
 - **Climate Change Adaptation and Community Disaster Risk Assessments** (Seven 3 day courses, 3 courses during year 1, 2 courses during year 2 and one course during year 5) The course will a) introduce the new standardized methodology for CC and DR assessments and b) provide tools to identify CCA needs and identifying DR within rural community contexts; c) discuss importance of participation of women and vulnerable r groups in assessments and provide tools to facilitate it.
 - **Environmental Assessment Impacts** (2 courses four days each in year 2 and year 5)
 - **Climate Change Monitoring and Coastal Monitoring** (Four 2 days courses in year 1, 2 , 3 and 5)
- c) Support the MET to implement the USP scholarship program to civil servants and civil society including developing selection criteria, advertising widely in local media, receiving applications and pre-screening them (with the assistance of an independent assessor) and make award recommendations to the Scholarship Committee.
- d) Provide administrative assistance to MET and PMU for the management of awarded scholarships. The project is expected to award:
- Three undergraduate scholarships (3 years each) awarded in total,
 Six scholarships (1/2 year)
 Three Long Masters scholarships (1 year) awarded in total,
 Three Short Masters scholarships (1 year) awarded in total,
 Two PhD scholarships (3 years) awarded in total, 1 scholarship awarded in years 1 and 3, overlap in years 3.
- e) Support MET to design and implement a program to provide civil servants access to CCA and DRM courses from leading educational and research institutions in CCA and DRM. The courses can be distance course (e-learning), short technical/professional courses (limited to 3 months), or work placements (limited to 3 months).
- f) The PMU will prepare selection criteria and provide information on available courses and work placement opportunities to the JNAP-TWG (the independent assessor will provide feedback on the suitability of candidates and make recommendations to JNAP-TWG. Final decision on awarding of scholarships will be made by the PSC.)

B. PACKAGE 2: LEGAL FRAMEWORK REVIEW FOR CCA AND DRM

7. The PMU will recruit an international and a national legal expert to review the legal framework of CCA and DRM. The consultants will work under the guidance of the PMU and report to the MLECCNR and MOI.

Legal Framework

Position	Person Month
International	2.5
CCA and DRM Legal Adviser	2.5
National	2.5
CCA and DRM Legal Specialist	2.5
Total Person Month	5

8. The consultants will:

- (i) Amend Acts, Codes, guidelines and policies identified by PMU to better incorporate climate change into among other things, laws relating to water, infrastructure, the Building Code and environmental impact assessment for submission to Parliament
- (ii) Develop an overarching policy document for projects requiring an environmental impact assessment and how they should both manage their impacts of climate change and incorporate climate change into their design. This would include for example, criteria and specific calculations for climate change adaptation. This work should assess current international law, best practice with respect to legal amendment develop mechanisms that are achievable including in relation to compliance in Tonga.
- (iii) Draft and finalize the previously proposed Climate Change Trust Fund Bill on behalf of the Tongan Government that could be enacted in the future to ultimately take over from the Trust Fund developed as part of the PPTA. The current legislation is overly complex and has ambiguous fiduciary procedures.

C. PACKAGE 3: MANGROVE ASSESSMENT AND REHABILITATION CONSULTANTS

9. Mangrove Assessment and Rehabilitation consultants will possess substantial experience in the management of mangrove ecosystems, in particular in relation to climate change adaptation. They will contribute to the development of a full work plan for the subproject and contribute to the more detailed scoping out of all project activities with the project team. They will be responsible to the PMU and support the Department of Environment and Climate Change to implement the Mangrove and Rehabilitation subproject. The consultants will support the Department of ENCC in developing project work plans, annual work plans and a monitoring and evaluation framework for the project and they will coordinate and provide PMU with information required to for project reporting and monitoring.

Mangrove Assessment

Position	Person Month
International	2
Mangrove and Coastal Zone Advisor	2
National	60
Project Manager Senior Technical Officer	30
Mangrove Field Officer	30
Total Person Month	62

10. The Mangrove Assessment and Rehabilitation Consultants will:

- a) Guide the coordination of the National Mangrove Inventory and develop indicators for climate change resilience related elements to be developed as part of the process. In particular guide the process of integration and standardization of the various regional wetland inventories
- b) Produce an evaluation of the changes in the mangroves of Tonga over the last 40 years
- c) Identify priority sites for future investments in mangrove restoration in Tonga
- d) Lead 2 case studies of evaluation of the effectiveness of past planting activities and
- e) Guide the development of a report on the evaluation of past mangrove planting initiatives outlining lessons learnt
- f) Support the team to establish “best practice” guidelines for mangrove planting, monitoring and evaluation
- g) Provide advice and guidance on the most suitable approaches for mangrove grow-out
- h) Lead the coordination of the National Mangrove Inventory and develop indicators for climate change resilience related elements to be developed as part of the process. In particular guide the process of integration and standardization of the various regional wetland inventories
- i) Contribute to the identification of priority sites for future investments in mangrove restoration in Tonga and develop a monitoring systems for projects undertaking mangrove replanting in Tonga
- j) Lead and complete the case studies of evaluation of the effectiveness of past planting activities and guide the local team in the delivery of this package
- k) Guide the development of a report on the evaluation of past mangrove planting initiatives outlining lessons learnt

- l) Provide advice and guidance on the most suitable approaches for mangrove grow-out
- m) Review the technical proposals submitted to the Climate Change Trust Fund and provide comments to the Technical Advisory group
- n) Provide support and training to local communities / NGOs and other relevant agencies on mangrove planting
- o) Guide the development of a package of 4 public awareness activities
- p) Support Department of Environment and Climate Change to in mangrove grow-out activities
- q) Assist in assessing the changes in mangroves on the coastline over the last 40 years and identify reasons for the changes
- r) Evaluate the past mangrove planting activities and identify critical success factors and lessons learnt from these activities
- s) Develop a “lessons learnt document” and contribute to the development of mangrove planting guidelines with other specialist and the Department of Environment and Climate Change
- t) Develop a monitoring and evaluation process for all mangrove replanting activities including participatory quarterly evaluation of the progress and lessons learnt
- u) Develop guidelines for the evaluation of proposals to the Climate Change Trust Fund that seek to undertake mangrove planting activities
- v) Other tasks as agreed

Proposed work plan: Component 3: Sub-project – Mangroves

Mangrove Work Program	Year 1				Year 2				Year 3				Year 4				Year 5			
	Quarters																			
Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Establish a Mangrove inventory and indicators of change for Tonga																				
a. Updating the mangroves inventory of Tonga																				
b. Produce an evaluation of mangroves and tsunamis and cyclones																				
2. Identify lessons learnt to strengthen mangrove rehabilitation																				
a. Evaluation of past mangrove (re) planting activities																				
b. Building knowledge																				
3. Identify and support potential sites for further investment in mangroves planting																				
a. Evaluate proposals to the CC adaption fund																				
b. Provide technical support to communities / NGOs																				
c. On-going monitoring and evaluation of mangrove restoration and management																				
4. Trial mangrove planting to support field demonstrations																				
a. Identify species suitable for mangrove re-planting																				
b. Develop trial plantings in specific sites for grow-out																				
c. Transplant seedlings to field trial / demonstration sites																				

D. PACKAGE 4: MAAF PIU consultants

11. The MAFFF PIU Consultants will support strengthening the national system of SMA network by a) to building a national strategy for a network of SMAs that are geographically and ecologically diverse and represent local, regional, and national interests; and b) establishing an additional 6 SMAs to be added to the system to make a substantial contribution to enhancing the number SMAs in Tonga. The consultants will report to the MAFFF PIU and to the PSC. They will liaise with the PMU for advice and guidance on procurement, financial management, monitoring and reporting.

Table 3: PIU MAFFF: Special Marine Areas

Position	Person Month
International	5
Social Economic Fisheries Adviser	2.5
Coral Reef Biodiversity Adviser	2.5
National	105
Project Manager/Senior Technical Officer	35
Fisheries Adviser Va'vau	35
Fisheries Adviser Tongatapu	35
Total Person Month	110

12. The specific tasks of the consultants include:
- Ensure effective communication and adequate information flow with the relevant authorities, institution and government departments in close collaboration with the project;
 - Ensure appropriate stakeholder participation in the project implementation and coordinate the work of all stakeholders under the guidance of the head of technical division and consultation with the PMU;
 - Ensure the information is available to the PMU, stakeholders activities which impact on capacity development;
 - Prepare work plans and oversee compliance with agreed work plan and timely completion of tasks;
 - Assist in organize and coordinate the procurement of services and goods under the project;
 - Assist in coordinate, manage and monitor the implementation of the project activities/task undertaken by the various technical groups, local expert, consultants, sub-contractors, and co-operation partners;
 - Assist in overall responsibility for the proper handling of logistics related to all projects workshops and events;
 - Undertake any other actions related to the project as requested by the Fisheries and PMU;
 - Review existing governance and management arrangement of SMA system in Tonga;
 - Identify suitable indicators to act as benchmarks for measuring governance and livelihoods in SMAs in Tonga;
 - Develop a methodology for benchmarking governance arrangements though governance indicators, and develop a "scorecard" to form the basis of a monitoring and evaluation system of SMA governance in Tonga;
 - Development of a standard methodology for measuring livelihoods for communities within the SMA system and develop a "scorecard" to form the basis of a monitoring and evaluation system of SMA governance in Tonga;

- m) Design a methodology for conducting surveys to contribute to further strengthening and enhancing the governance arrangements in relation to the SMA network;
- n) Review existing coral reef survey, monitoring and evaluation methodologies for Tonga;
- o) Identify/refine suitable indicators to act as benchmarks for coral reef biodiversity and ecosystem health, together with relevant local fisheries related inductors;
- p) Develop a methodology for benchmarking biodiversity and ecosystem health incorporating climate change resilience and develop a “scorecard” to form the basis of a monitoring and evaluation system of SMA within SMAs in Tonga;
- q) In year 1, conduct surveys in the 6 new proposed SMAs in Vava’u and additional sites in Tonga (including 4 existing SMAs) to provide a broad baseline for guiding the development of a climate resilient National SMA system and provide recommendations further development of the system;
- r) Re-survey the new 6 SMAs sites and additional sites in Year 5 to measure impacts of project interventions;
- s) Conduct 2 training courses for members of the national SMA network and habitat surveys teams;

E. PACKAGE 5: MOI PIU Consultants

13. ADB will engage an international consulting firm (the Consultant) for three years under the project. The consultant will provide specialized services through a team of international and national consultants, and will be engaged in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time) using the CQBS method and full technical proposals. The consultant is expected to commence its service in March 2014 and will report to the project manager of the project Implementation Unit in the MOI as the IA for this component and to the project PMU. The estimated budget for this consultancy is \$0.95 million. Initial TORs have been drafted for those infrastructure investments that have been already identified. TORs for candidate subprojects (additional school, Ha'apai Health Center and marine landings will be developed by PMU infrastructure specialist).

14. The project is intended to:

a. Pilot a variety of coastal protection measures in Hahake (east Tongatapu) where currently erosion is threatening the coastal road and floodwater runoff is believed to be causing damage to the near shore environment and coral reefs.

b. Provision of four sections of road on the islands of Tongatapu (3) and Eua (1) which are intended to be used for evacuation of at-risk communities in the event of storm surge or tsunami events; for access to the communities following such events; and also for day-to-day use as part of the normal road network. The road alignments are within the existing road reserves except one road. LIDAR mapping of Tongatapu is available at a one metre resolution.

c. Pilot a variety of schools climate-proofing on the islands of Tongatapu, Ha'apai and Vava'u (total of up to 12 schools). The works at the schools are primarily to reduce flooding and flood risk, install water tanks and improve roofing. At Ha'apai High School the works are to install a substantial increase in rainwater harvesting. (pre-feasibility studies, costing and TORs have been developed by for 5 schools, initial costing and TORs for the additional 7 schools under the candidate subproject will be finalized before the bidding for design and supervision consulting services)

d. Relocate Lifuka Hospital, in Ha'apai to a less vulnerable area. A new structure for the hospital will be built in higher ground, close to Ha'apai High School. The hospital will have approximately 250 square meters. (initial drawings and costing have been developed by MOH with assistance of MOI but a pre-feasibility studies, review of initial costing and TORs for the design and supervision of hospital structure will be finalized before the bidding for design and supervision consulting services)

e. Rehabilitated and climate proofed up to 5 marine landings in outer islands. As part of the candidate subproject up to 5 jetties or small wharfs will be climate proofed, Site selection, pre-feasibility studies, initial costing and detailed TORs for the design and supervision of the marine landings will be finalized before the bidding for design and supervision consulting services

15. The Design and Supervision consultants will provide (a) project design and supervision of infrastructure subprojects, (b) monitoring and reporting of project progress; (c) facilitate the timely delivery of the project in compliance with standards acceptable to the

government and ADB and within the project budget (quality and cost control); (d) administer contracts awarded under the project; (e) facilitate and monitor the implementation of the EMP and the gender action plan by contractors; and (f) provide other services to the project manager and PMU as necessary to deliver the project.

16. PIU will provide the Consultant with suitable office space, office furniture lighting, electricity, air conditioning, counterpart staff and access to phone lines. The Consultant will cover costs for phone lines and internet access, while PIU will cover electricity costs. PIU will also provide the consultant with free access to relevant information, studies, reports, and data as applicable. PIU will make available their key staff as required during the course of the project.

F. STAFFING

17. The estimated personnel requirement for the scope of works is outlined in Table 1, which is indicative for meeting the required outputs. As it is an output-based contract, the Consultant may propose changes/reallocation in the indicative staffing requirement in order to meet the required outputs if deemed necessary with appropriate justifications. The team leader shall be responsible for overall management and delivery of required outputs, and consolidation and submission of all reports and deliverables under the contract. The team leader will also ensure that the planning and deployment of manpower is arranged such that the person-months allocations are adequate to ensure highest quality of required outputs within the agreed timeframe.

18. The CVs for the key staff listed in Table 1 need to be provided with the consultants' bid and will be used for the bid evaluation.

Table 1. PIU Civil Engineering Division – MOI

Table 1. Design and Supervision of Infrastructure Subprojects

International	26
Coastal Civil Engineer/ team leader	7.5
Coastal Monitoring & Processes Specialist	5.5
Coastal Civil Engineer/ team leader	7.5
Quality Assurance Engineer	5.5
National	221.5
Civil Engineer/Coastal	35.5
Roads Engineer	35.5
Architect	24
Civil Engineer/Marine Landings	35.5
Drainage Engineer	2
Surveyor (3 positions)	54
CAD Technician (2 positions)	20
Procurement expert	8
Drainage Engineer	7
Total Person Month	247.5

(i) **Coastal Civil Engineer, International. (International, person month)** Graduate degree in civil engineering or equivalent. He/she must have at least 15 years experience in the engineering design, construction, maintenance and inspection of coastal and marine works with experience in coastal protection structures. Experience in the capacity of team leader, of sea defense works would be advantageous.

- (ii) **Coastal Monitoring & Processes Specialist, (International, Person month)** Graduate (post graduate preferred) in engineering or other appropriate discipline with at least 10 years of experience in coastal modeling and design of sea defense works.
- (iii) **Civil Engineer (National Person month).** Graduate degree in engineering or equivalent. He/she must have at least 10 years experience in the engineering design, construction, and monitoring of engineering works and a minimum of five years experience in sea defense works.
- (iv) **Architect (National Person month).** Graduate degree in architecture or equivalent. He/she must have at least 10 years experience in the design and construction of building works, drainage and landscaping.
- (v) **Roads Engineer (National Person month)** Graduate degree in engineering or equivalent. He/she must have at least 10 years experience in the engineering design, construction, and monitoring of road engineering works.
- (vi) **Assistant Engineer (National person month)** Graduate degree or diploma in engineering or equivalent. He/she must have at least 8 years' experience in the engineering design, construction, and monitoring of engineering works and a minimum of three years experience in highway engineering works.
- (vii) **Drainage Engineer (National Person month).** Graduate in engineering or other appropriate discipline with at least 10 years of experience in design and construction of drainage systems.
- (viii) **Surveyor (National Person month).** Diploma in surveying with at least 10 years experience in survey works.
- (ix) **CAD Technician (National Person month).** Diploma in computing or other appropriate discipline with at least 5 years experience in CAD, GIS and other relevant software.
- (x) **Procurement expert (National Person month).** Graduate (post graduate preferred) with at least 10 years experience in procurement process under national and multi-lateral funding and familiar with ADB procedures with regards to procurement on the basis of international bidding, national bidding and shopping procedures.

19. For all experts experience of externally funded projects (ADB or World Bank) would be advantageous.

The Design and Supervision Consultants will:

- a) Assist the MOI PIU in formulating quality criteria for design and construct of subprojects works, equipment, materials and services and the selection of appropriate design standards.
- b) Identify information required and organize for surveys and capture of all data necessary for the preparation of subproject procurement bidding documents.
- c) Prepare and complete technical designs, including bills of quantities, provision of detailed cost estimates and scopes of work for subprojects.
- d) Assist the PMU prepare specifications for the purchase of equipment and materials.
- e) Prepare bidding documents for subprojects following ADB's procurement procedures and using standard bidding documents and guidelines.
- f) Evaluate bids and prepare bid evaluation reports including recommendations for contract awards.
- g) Prepare the necessary documentation for contract signing, mobilization, and withdrawal applications.
- h) Prepare construction schedules, and provide overall supervision of construction and quality control on works.
- i) Assist in observation and testing of materials and equipment.
- j) Assist in staff training and environmental compliance during project implementation.

- k) Ensure that subproject-specific environmental and social mitigation measures are incorporated into contract documents.
- l) Provide orientation for MOI personnel on safeguard measures, including implementation of the EMP and RPs.
- m) Provide training for MOI staff responsible for designing and implementing safeguard measures.
- n) Undertake initial environmental and social screening of candidate subprojects as needed.
- o) Prepare IEEs and RPs for candidate subprojects in accordance with the provisions of the project's EARF and the RF.
- p) Supervise and evaluate the implementation of environmental mitigation and monitoring measures as specified in the EMP. This includes undertaking the environmental monitoring audits as prescribed.
- q) Update the EMP as necessary, including carrying out supplemental environmental assessments for additional subprojects appraised after grant approval.
- r) Monitor and supervise resettlement and other social impact mitigation activities, as defined in the RPs and RF.
- s) Update RPs in accordance with the provisions of the project RF.
- t) Assist with subproject staff training to ensure that environmental and social measures are well understood and implemented effectively.
- u) Administer subproject contracts including processing of progress certificates, review of extension of time claims, preparation of change orders and non-conformance notices, subproject implementation progress monitoring, and subproject cost monitoring.
- v) Provide effective and regular supervision of the works. Supervise quality control tests to ensure that the works are executed in accordance with established standards, criteria, specifications, procedures, and approved design and environmental aspects in compliance with the environmental management and monitoring plan and the construction schedule.
- w) Review the design and construct contractor's drawings and calculations to check arrangements for optimized operation and maintenance and verify compliance with contract specifications.
- x) Review the equipment manufacturers' drawings and calculations to check arrangements for optimized operation and maintenance and verify compliance with contract specifications.
- y) Review the procurement and delivery program for each supply contract financed under the project to ensure compatibility and timely coordination with other contracts and civil works.
- z) Develop and implement applicable procedures required to ensure adequate control of manufacturing, factory tests, delivery, and acceptance of materials and equipment. Assist with the unpacking and checking of the materials and equipment, follow up on the delivery of delayed components, and make claims.
- aa) Help review proposals for equipment commissioning tests and trial operation plans.

G. SCOPE OF WORKS

Hahake Coastal Protection

Background

20. The project is intended to pilot a variety of coastal protection measures in Hahake (East Tongatapu) where currently erosion is threatening the coastal road and floodwater runoff is believed to be causing damage to the nearshore environment and coral reefs.

21. A study of the coast was undertaken by CTL in 2012 and measures including seawall, groynes and beach replenishment and mangrove planting were proposed in five locations totaling 2750m. A review under the PPTA proposed replacing one section of gabion seawall with a rock armour seawall. A study being undertaken for SPC in May/June 2013 is expected to make further recommendations for protection of a limited length of the coast, to be funded by SPC.

22. LIDAR (Laser Imaging, Detection and Ranging) mapping of the land and nearshore areas is available at a one meter resolution.

CONSULTANTS OUTPUTS FOR SUBPROJECT 1

Output 1: Design Review

23. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Review existing reports and recommendations
- ii) Identify pilot-stage solutions to trial, in conjunction with any planned activities under the project.
- iii) Prepare Design Review Report.
- iv) Obtain stakeholder agreement to the proposed designs.

Output 2: Purchase of Equipment

24. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- (i) Recommend appropriate monitoring equipment, in liaison with MET.
- (ii) Prepare procurement documents.
- (iii) Supervise installation and commissioning.
- (iv) Set up data management procedures with MET.

25. ADB's standard bidding documents for plant (SBD Plant) must be used for the procurement of plant through international competitive bidding (<http://adb.org/site/business-opportunities/operational-procurement/goods-services/documents>).

Output 3: Monitoring

26. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

Undertake baseline monitoring including beach profiling, water quality sampling, reef state inspection.

Prepare a long-term monitoring plan for the relevant sections of coast to include monthly beach profiling, monthly water quality sampling and testing, quarterly reef state inspections.

- i) Undertake long-term monitoring until completion of the project.
- ii) Prepare quarterly and final reports summarizing the monitoring data.

- iii) Set up, or continue existing, community-based monitoring of the coast to consist of a daily diary for each 100m length, or other suitable length, to be set up in agreement with local schools and to include provision of notebooks and other suitable equipment, to be purchased under the Equipment Provisional Sum.
- iv) Set up a mathematical model of the coastline based on the LIDAR bathymetry and the available meteorological data, and calibrate the model during the monitoring period with the monitoring data.

Output 4: Detailed Designs

27. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare detailed designs and drawings for each of the final pilot stage coastal protection measures.

Output 5: Bid Documents and Tender

28. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare bid documents for the construction of the pilot stage coast protection measures including contract documents, general and particular specifications, and bills of quantities.
- ii) Assist the procurement division of MOI PIU in the technical evaluation of tenders.

Output 6: Construction Supervision

29. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare and implement a quality assurance plan.
- ii) Supervise the construction of the pilot-stage coast protection measures.
- iii) Check Contractor's measurements and invoices, and certify for payment.
- iv) Prepare as-constructed drawings.

Output 7: Manual Preparation

30. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare a manual on coastal protection for Tonga, appropriate to the coast and coastal protection measures in the project, using lessons learned from the design, construction and monitoring, and for use in design and management of other coastal areas.
- ii) Identify the lessons learned from the mathematical model and make recommendations for the scope of further modeling for the coast of Tonga.

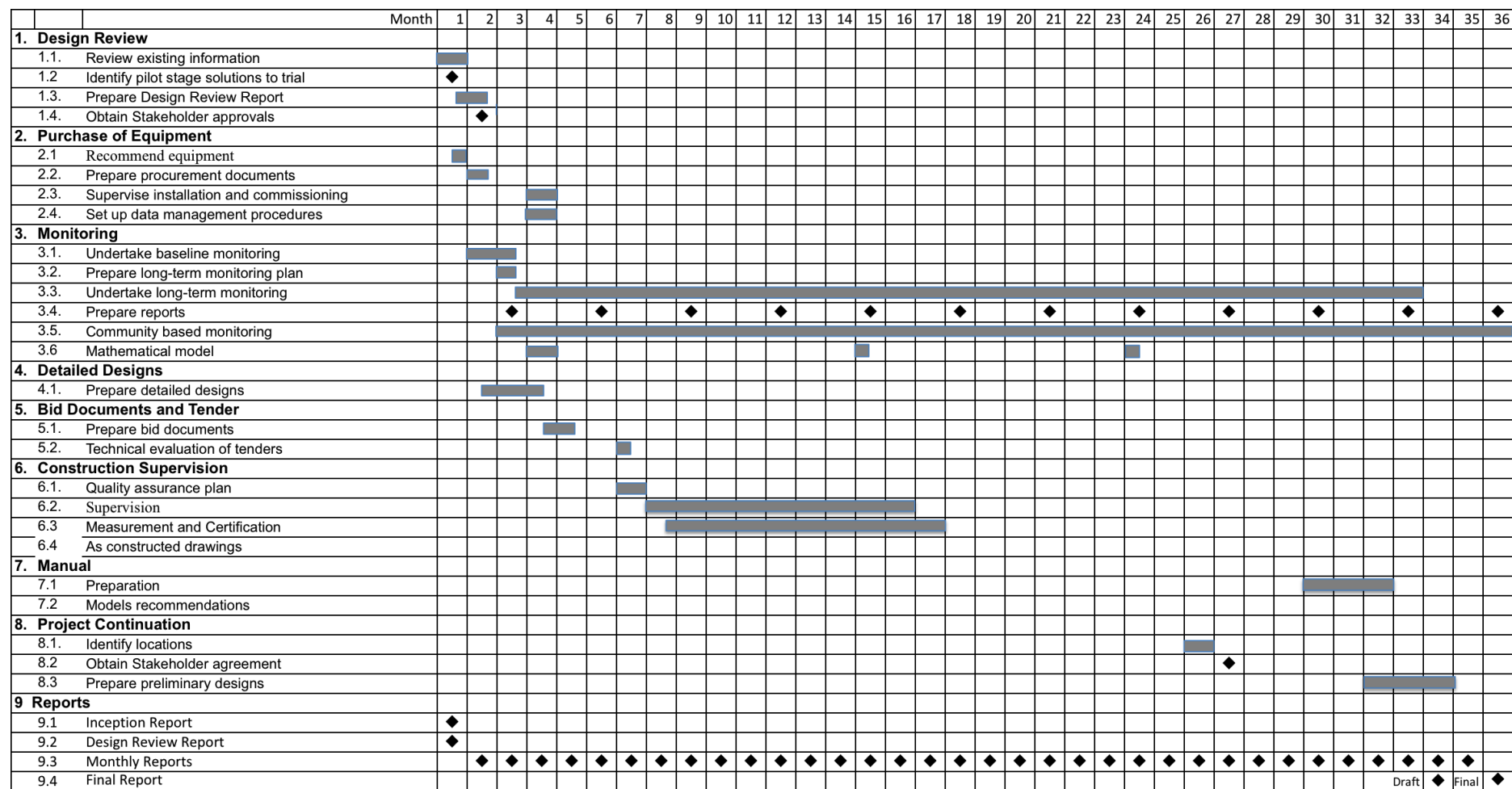
Output 8: Project Continuation

31. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Identify a minimum of three similar at-risk sections of Tonga's coastline.

- ii) Obtain Stakeholder agreement to the three locations.
- iii) Prepare preliminary designs for mitigation measures and costing.

PRELIMINARY PROGRAM



PRELIMINARY STAFFING SCHEDULE

[illegible]

Niuafo'ou Water Supply

BACKGROUND

32. The project is intended to pilot the investigation of water source options, with particular reference to rainwater harvesting, on the island of Niuafo'ou and to develop a guide manual on rainwater harvesting for use by Government and NGOs.

33. The island is remote, but a fortnightly air service is expected to be resumed during 2013. A ferry service operates approximately every two months.

34. The inhabitants of the island are reported to suffer water shortages during the dry season. The existing rainwater harvesting was surveyed by MOLDI (Mainstreaming of Rural Development Innovation Tonga Trust) in 2012, and some repairs to existing concrete rainwater tanks were then undertaken. MOLDI reported potential for increase in rainwater harvesting and are planning to do a post-repairs survey in June 2013. An alternative proposal, to obtain water from a fresh-water lake in the volcano crater, has been made by the community and a review of this option will form part of the study.

35. Daily rainfall data from 1990 are available for the island from TMS.

CONSULTANTS OUTPUTS FOR SUBPROJECT 2

Output 1: Surveys

36. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- a) Develop survey methodology for household existing usage and demand.
- b) Survey of households, of buildings and existing rainwater harvesting systems, including their susceptibility to earthquake damage.
- c) Sampling and testing of water in freshwater lake.
- d) Topographic survey to identify requirement for pumping or other means of delivery of lakewater to households
- e) Topographic survey to household locations to identify extent of possible piped-water requirements.

Output 2: Design of Water Supply System

- a) Analysis of historical rainfall records and future predictions taking account of climate change.
- b) Development of a demand model for water for the inhabitants of the island.
- c) Assessment of lakewater quality and alternative option of use of seawater for the supply, as greywater.
- d) Recommendations on measures needed to provide a sustainable water supply for Niuafo'ou during drought conditions and taking account of climate change, to include rainwater harvesting upgrading and earthquake proofing.
- e) Preparation of cost assessment and procurement documents to undertake the recommended work.

Output 3: Preparation of a Water Harvesting Manual

37. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:












- a) Review existing reports and recommendations.
- b) Document the household, building and existing household rainwater harvesting survey procedures.
- c) Prepare and document a rainwater harvesting spreadsheet to calculate annual demand for specific rainfall profiles and demands.
- d) Document design procedures for rainwater harvesting systems.
- e) Prepare specification for rainwater harvesting installations including appropriate drawings.
- f) Combine recommendations, drawings, design documents into a web-based form for adoption by Government, and for use on CD.
- g) Prepare 100 copies of the final CD.




Output 4: Launch of Water Harvesting Manual

38. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- a) Organise and present workshops on the Water Harvesting Manual in Tongatapu, Ha'apai and Vava'u.

Preliminary Program & Staff Schedule

	Month	1	2	3	4
1. Surveys					
1.1.	Develop survey methodology				
1.2.	Household and Building Survey				
1.3.	Sampling and Testing of Water Sources				
1.4.	Topographic survey				
2. Design of Water Supply System					
2.1	Analaysis of historical rainfall records				
2.2.	Develop demand model				
2.3.	Assess lakewater quality				
2.4.	Develop recommended design for water supply				
2.5	Prepare costs and procurement documents				
3. Water Harvesting Manual					
3.1.	Review existing reports				
3.2.	Prepare manual				
3.3.	Obtain stakeholder approvals			◆	
4. Launch Water Harvesting Manual					
4.1.	Workshops				
5 Reports					
9.1	Inception Report	◆			
9.2	Design Review Report	◆			
9.3	Monthly Reports		◆	◆	◆
9.4	Final Report				◆

Staff					
	<u>International</u>				
	Water Engineer/Team Leader				
	<u>National</u>				
	Water Engineer				

Evacuation and Post Disaster Access Roads

BACKGROUND

39. The project is for the provision of five sections of road on the islands of Tongatapu (4) and Eua (1) which are intended to be used for evacuation of at-risk communities in the event of storm surge or tsunami events; for access to the communities following such events; and also for day-to-day use as part of the normal road network.

40. The road alignments are within the existing road reserves. LIDAR mapping of Tongatapu is available at a one metre resolution.

CONSULTANTS OUTPUTS FOR SUBPROJECT 3

Output 1: Detailed Designs

41. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Undertake topographic surveys sufficient to supplement existing data and allow the designs to be completed.
- ii) Prepare detailed designs and drawings for each of the roads, to include longitudinal and cross sections, drainage calculations and drawings of the drainage system, pavement cross section, signage including evacuation signs.

Output 2: Bid Documents and Tender

42. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare bid documents for the construction of the roads including contract documents, general and particular specifications, and bills of quantities. The contract packages will be: Contract 1: Tongatapu Roads; Contract 2: Eua Road.
- ii) Assist the procurement division of MOI PIU in the technical evaluation of tenders.

Output 3: Construction Supervision

43. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare and implement a quality assurance plan.
- ii) Supervise the construction of the roads.
- iii) Check Contractor's measurements and invoices, and certify for payment.
- iv) Prepare as-constructed drawings

44. PIU will provide the Consultant with suitable office space, office furniture lighting, electricity, air conditioning, counterpart staff and access to phone lines. The Consultant will cover costs for phone lines and internet access, while PIU will cover electricity costs. PIU will also provide the consultant with free access to relevant information, studies, reports, and data as applicable. PIU will make available their key staff as required during the course of the project

Preliminary Program & Staffing Schedule

[illegible]

Staff																													
	National																												
	Civil Engineer																												
	Assistant Engineer																												
	Drainage Engineer																												
	Surveyor																												
	CAD Technician																												
	Procurement Specialist																												

Schools Climate Proofing

Background

45. The project is intended to pilot a variety of schools climate-proofing. Schools have been identified on the islands of Tongatapu (3 schools) Ha'apai (one school) and Vava'u (one school). Seven additional schools to be identified and included in the scope of works. The works at four of the schools are primarily to reduce flooding and flood risk. At Ha'apai High School the works are to install a substantial increase in rainwater harvesting.

46. The works that have been identified as required are:

GPS Kolomotu'a

- i) Raising of the compound and installing positive drainage soakaways at low points.
- ii) Minor maintenance to roof to stop leaking (the roof is generally in good condition)
- iii) Paved access from the road, and identification of a vehicle parking area at the front of the school.
- iv) Vehicle management to stop parking within the compound and mixed vehicle and children activities.
- v) Replacement of approximately 10% of the windows in the school, which are not stormproof as a result of deterioration.
- vi) Planting of appropriate trees along the front of the school to assist in mitigating wind effects on the buildings.
- vii) Fencing the abandoned 3.5m deep water tank located at the front of the building to improve safety.

Lavengamalie Side School

- i) Providing a raised access between the higher ground in the road access to link with the school during periods of flooding.
- ii) Implementing the planned tree planting at the rear of the building, which will provide some barrier against high winds

GPS FANGA

- i) Raising of the compound and installing positive drainage soakaways at low points.
- ii) Paved access from the road, and identification of a vehicle parking area at the front of the school.
- iii) Vehicle management to stop parking within the compound and mixed vehicle and children activities.

47. However subsequent to the inspection and development of the proposals it was identified during the presentation workshop that flooding in this area is more widespread, with the Tupou High School on the other side of the road also flooding. Therefore the detailed design stage will require to review the flooding of the area, and ensure that measures adopted for GPS FANGA do not make the situation worse for other land areas in the vicinity.

Ha'apai High School

- i) Installation of 1.5m litres rainwater harvesting tanks and associated infrastructure.
- ii) Renovation of classrooms in school hall and installation of kitchen and toilet facilities.

Liviela Primary School, Va'vau

- i) a concrete channel for 180m along the landward frontage of the school to collect floodwater.
- ii) four catchpits to collect water from the channel.
- iii) pipes through the compound from the catchpits, discharging through the seawall onto the beach.
- iv) Paving of the earth road in front of the school.

CONSULTANTS OUTPUTS FOR SUBPROJECT 4

Output 1: Survey

48. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Undertake topographic surveys of the sites, or update existing surveys where available, sufficient for the proposed scope of works.

Output 2: Detailed Designs

49. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare detailed designs and drawings for each of the school climate-proofing measures.

Output 3: Bid Documents and Tender

50. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare bid documents for the construction of the school climate-proofing measures including contract documents, general and particular specifications, and bills of quantities. The contract packages will be: Contract 1: Tongatapu Schools; Contract 2: Va'vau School; Contract 3: Ha'apai School
- ii) Assist the procurement division of MOI PIU in the technical evaluation of tenders.

Output 4: Construction Supervision

51. In order to deliver the expected outputs, the Consultant's scope of work will include, but not be limited to, the following:

- i) Prepare and implement a quality assurance plan.
- ii) Supervise the construction of the school climate-proofing measures.
- iii) Check Contractor's measurements and invoices, and certify for payment.
- iv) Prepare as-constructed drawings.

52. PIU will provide the Consultant with suitable office space, office furniture lighting, electricity, air conditioning, counterpart staff and access to phone lines. The Consultant will cover costs for phone lines and internet access, while PIU will cover electricity costs. PIU will also provide the consultant with free access to relevant information, studies, reports, and data as applicable. PIU will make available their key staff as required during the course of the project.

Preliminary Program & Staffing Schedule

[illegible][illegible]

H. PACKAGE 6: 1. CONSULTING SERVICES TO SUPPORT NATURAL RESOURCES DIVISION PIU TO IMPLEMENT ACTIVITY 1.5
(This TORs are indicative and need to be revised by the PMU)

53. The consultants will sit under the Natural Resources Division (NRD) PIU and will report to MLECCNR CEO, the PMU and the PSC. They will support NRD PIU to implement activity 1.5 and 1.6. The estimated budget for this package is \$0.39 million and will be procured using QCBS.

54. The objective of this consultancy is support the NRD to improve the following areas: (i) Hydrological monitoring; (ii) Water resource inventorying; and (iii) planning for Integrated Water Resource Management and Integrated Coastal Monitoring.

PIU - Natural Resources: IWRM and Hydro Advisors

Position	Person Month
International	14
Hydrology Adviser Senior	3
Hydrology Technicians	2
IWRM Advisor	3
IWRM Officer	4
Water Supply Engineer	2
National	43
IWRM Knowledge Management	20
Water Supply Specialist National	3
Hydrology /Natural Resources Specialist	20
Total Person Month	57

The consultants will provide support to NRD to:

Hydrological Monitoring

- a. Identify equipment required to enable national monitoring
- b. Prepare bidding documents for procurement and installation of the equipment
- c. Improve inter-agency (Natural Resources, TWB, TMS, MOH) coordination in outer islands
- d. Expand monitoring locations in all island groups
- e. Train NR staff on drought forecasting and management, flood run-off forecasting and management
- f. Identify educational institution or work placements suitable for advanced training on water resources management

Water Resources Inventory

- a. Identify equipment and vehicles to be provided to Natural Resources to update and expand water inventory of Tongatapu
- b. Develop water resources (inter-agency) inventories of outer island groups
- c. Provide training and procure equipment to undertake abstraction assessments
- d. Support implementation of the National Water Resources Bill with assistance of PMU and legal advisers to the project

- e. Improve coordination between agencies and sectors using/monitoring wells
- f. Train NRD to improve data handling and enable water resources assessments on each island

Planning for Integrated Water Resource Management and Integrated Coastal Zone Management

- a. Capture lessons of IWRM Vava'u demonstration project
- b. Create an IWRM Unit and knowledge centre within NRD
- c. Train NRD staff and other relevant stakeholders in development of IWRM community plans
- d. Provide technical support to build IWRM Plan development capacity
- e. Develop 4 to 6 community IWRM plans, selected from existing vulnerability and adaptation assessments
- f. Support the implementation of at least 4 of these plans IWRM Plan using CCTF financing
- g. Monitoring and evaluation to support future replication

I. PACKAGE 7: TONGA METEOROLOGICAL SERVICE MONITORING NETWORK (This TORs are indicative and need to be revised by the PMU Meteorology Adviser)

55. The consultants will sit under meteorology division (MET) in MOI PIU and will report to MOI CEO, the PMU and the PSC. They will support MOI PIU to implement activity 1.4. The estimated budget for this package is \$1.33 million and will be procured using Limited International Bidding.

56. The objective of this consultancy is to establish meteorology and a rainfall monitoring network system that will:

- a. Improve meteorological data records throughout the country to support sector development in all sectors (Health, Agriculture, Water Resources, DRM, Fisheries, etc)
- b. Improve aviation safety through better observations
- c. Improve daily forecasting and warning services through direct access to quality weather observations
- d. Improved Climate Services with complete spatial dataset
- e. Rainfall climatology for agriculture and water resource management purposes
- f. Monthly rainfall predictions and flood prediction and warning services
- g. Relay of meteorological observations from the outer islands into MET headquarters which would in turn improve forecasting
- h. Improve information dissemination including warning information between meteorological stations
- i. Ensure Tonga Met Service has the in house capacity to train its own observers for continuity purposes and to ensure quality of observations in the future
- j. Ensure timely collation of information, timely analysis and distribution of observations and warnings to many users, through many modes in a short period of time

57. The consultants will design, procure, install a meteorology monitoring system and will train MOI MET staff to operate, maintaining and analyze the data to provide services to agencies that require this data. The consultants design and procurement plan will be revised by the MET with assistance of PMU meteorology specialist.

The monitoring system to be design by the consultants will:

- a. Upgrade existing MET Observing stations to meet WMO requirements as stipulated in WMO Doc No 8 (Guide to Meteorological Instruments and Methods of Observation).
- b. Establish a real-time rainfall monitoring network (establish automatic rain gauges) in accordance with WMO guidelines.
- c. Upgrade communication of Meteorological Observations to/from outer island station through the installation of Chatty beetles (satellite short burst short messaging) at all manned meteorological stations
- d. Assist automated collation of observation, analysis and quality control of observations and automation of dissemination of observations and forecasts
- e. Be cost effective. A cost analysis to be done as automatic weather stations vs rain gauge network as AWS's will give more complete dataset. This will include AWSs on some of the remote volcanoes to the west if practical to detect weather systems coming from the west. 80% of Tonga's weather comes from the west.
- f. Ensure communications between MET stations when power and communications are down
- g. Be technically sound but adequate to the financial and human resources available to MET and Tonga
- h. Design a system according to the budget allocated for the equipment

58. The consultants will procure and install all the equipment required for the system and will provide assistance for a period of 2 years after the systems is operational. The system should have a guarantee of at least 2 years after its commissioning. The consultants will train MET personnel in the operation, maintenance and use of the system by:

- a. Involve MET staff in design, procurement and installation of the system
- a. Training of Meteorological personnel involved Meteorological Observations
- b. Providing a refresher training for all Meteorological Observers of the Tonga Meteorological Service to WMO and ICAO standards
- c. Train technicians and provide work placements in regional Met offices in US, NZ or Australia

Station No	Station	Action Required
1	Fua'amotu	Restore station monitoring equipment to Aeronautical Meteorological Station requirements
2	Ha'apai	Restore station monitoring equipment to Aeronautical Meteorological Station requirements
3	Vava'u	Restore station monitoring equipment to Aeronautical Meteorological Station requirements
4	Eua (New station)	Establish station monitoring equipment to Aeronautical Meteorological Station requirements
5	Niuaatoputapu	Restore station monitoring equipment to SYNOPTIC Station requirements
6	Niuafo'ou	Restore station monitoring equipment to SYNOPTIC Station requirements
7	Nuku'alofa	Restore station monitoring equipment to CLIMATE Station requirements

J. PACKAGE 8: TONGA COASTAL MONITORING NETWORK
(These TORs are indicative and need to be revised by the PMU Meteorology Adviser)

59. The consultants will sit under meteorology division (MET) in MOI PIU and will report to MOI CEO, the PMU and the PSC. They will support MOI PIU to implement activity 1.4. The estimated budget for this package is \$0.72 million and will be procured using Limited International Bidding.

60. The objective of this consultancy is to establish a sea level monitoring network that will improve:

- a. Sea level monitoring for coastal zone management purposes
- b. Tidal predictions
- c. Improve coastal sea flooding monitoring from storm surge and long waves
- d. Improved tsunami monitoring

Suggested sea level gauges include for the system include:

Eua	1 gauge (1 at warf and 1 on eastern side)
Tongatapu	3 gauge (1 at Niutoua, 1 at Ha'atafu and 1 at sopu)
Ha'apai	1 gauges (1 at Lifuka, 1 at Uiha or Ha'afeva and 1 at Nomuka)
Vava'u	2 gauges (1 at Eastern District and 1 at Kapa island)
Niuaatoputapu	1 gauge at Hihifo (Airport side)
Niuafo'ou	1 gauge at Futu
Central watch station –	1 at Fua'amotu Forecasting centre

61. The monitoring system to be design by the consultants will:

- a. Integrate with the meteorology system
- b. Establish real-time a sea level monitoring system,
- c. Assist automated collation of observation, analysis and quality control of observations and automation of dissemination of observations and forecasts
- d. Be cost effective.
- e. Ensure communications between sea level gauges and MET systems, including when power and communications are down
- f. Be technically sound but adequate to the financial and human resources available to MET and Tonga

62. The consultants will procure and install all the equipment required for the system and will provide assistance for a period of 2 years after the systems is operational. The system should have a guarantee of at least 2 years after its commissioning.

The consultants will train MET personnel in the operation, maintenance and use of the system by:

- a. Involve MET staff in design, procurement and installation of the system
- b. Training of Meteorological personnel involved Meteorological Observations
- c. Train technicians and provide work placements in regional Met offices in US, NZ or Australia

Special Management Area (SMA) Site Selection and Border Definition

The boundary and area designated as a SMA must be established to be consistent with the fisheries coastal community (general) regulations 2005;

1. The boundary of any SMA declared under section 13(1) of the Act shall:
 - (a) be measured seaward from the high–water mark of a coastal community; and
 - (b) not exceed a distance of 2500 metres from the high–water mark or a depth of 50 metres
2. Where the application of sub–regulation (1) means that the boundaries of any two coastal communities will overlap, the boundary shall be the equidistance between such communities.
3. The minister may, in consultation with the coastal community management committee and the fisheries management advisory committee, alter the application of the boundary under sub–regulation (1) or sub–regulation (2) for the purposes of ensuring habitat, conservation, management, sustainable utilization and development of fisheries resources.
4. Such alteration of the boundary under sub–regulation (3) shall occur only:
 - (a) in special circumstances; and
 - (b) as the minister deems appropriate or upon request from a coastal community that is to be allocated a SMA under section 14(1) of the Act.
5. Such special circumstances in sub–regulation (4) include where the application of sub–regulation (1) would mean delimitation through a reef that is adjacent to the coastal community.
6. The boundary of a SMA shall be clearly defined and demarcated in accordance with the guidelines established by the ministry of fisheries.
7. Legal issues relating to the definition and enforcement of a SMA border should be considered.
8. Logistical issues relating to demarcating the border must be considered in the short and long term;
 - (a) Effectiveness of border
 - (b) Visibility of any markers
 - (c) Deployment of markers (cost and effort)
 - (d) Upkeep of any markers (cost and effort)

A. Site Selection of a Fish Habitat Reserve (Special Management Areas)

Marine protected areas/fish habitat reserves are one of the effective options available to communities to allow them to manage their fishery sustainably. A coastal community may designate a fish habitat reserve (no fishing or collecting for anyone) within a designated SMA. This will allow the habitat to be undisturbed and allow for the replenishment of marine organisms in the area, and in some cases ‘spill over’ of organisms to areas outside of the fish

habitat reserve. Fish habitat reserves have proved to be an effective management tool in many countries in the Asia–Pacific region.

The following effective characteristics should be considered when selecting a fish habitat reserve site;

- (a) establish a number of habitat types and depth ranges (shallow area through to deep area or drop-off)
- (b) where possible, designate an area known as a nursery/ juvenile area. This typically would be a seagrass or seaweed habitat, or a highly complex silty inshore reef area, normally would have a low current
- (c) be an area of reasonable health
- (d) include an area with some level of protection from weather and strong currents
- (e) be visible from the village (or the village can enforce/ protect the area)
- (f) be an area receiving moderate fishing pressure
- (g) can include an area with potential for clam restocking
- (h) include an area of high complexity
- (i) include aggregation sites for groupers, fusiliers, and some other reef fish are typically areas which have a coral reef of high complexity with low current areas on a reasonably steep drop-off area which drops down to sand at a depth of 20–30 metres. Coral reefs with high complexity are those where there are small bays, chasms, caves, or canyons in the reef, these provide places to hide and live.
- (j) not be a regular or highly used anchorage, unless there is somewhere else which can be used
- (k) not be a regular or highly used vessel passage/transit area
- (l) represent approximately 10% (by area) of the total SMA
- (m) community driven - must be an area which the community is willing to protect and stop fishing to allow the fish habitat reserve to work and increase fish stocks