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IDA/R2018-0361/1

November 6, 2018

Closing Date: Thursday, November 29, 2018 at 6:00 p.m.

FROM: Vice President and Corporate Secretary

Tonga

Tonga Climate Resilient Transport Project under the Pacific Climate Resilient Transport Program

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed grant to Tonga for a Tonga Climate Resilient Transport Project under the Pacific Climate Resilient Transport Program (IDA/R2018-0361), which is being processed on an absence-of-objection basis.

Distribution:
Executive Directors and Alternates
President
Bank Group Senior Management
Vice Presidents, Bank, IFC and MIGA
Directors and Department Heads, Bank, IFC, and MIGA

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Report No: PAD3063

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT

IN THE AMOUNT OF SDR 18.70 MILLION
(US$26.02 MILLION EQUIVALENT)

TO THE

KINGDOM OF TONGA

IN SUPPORT OF THE

PACIFIC CLIMATE RESILIENT TRANSPORT PROGRAM, SERIES OF PROJECTS

FOR A TONGA CLIMATE RESILIENT TRANSPORT PROJECT

November 6, 2018

Transport & Digital Development Global Practice
East Asia And Pacific Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective Sep 30, 2018)

Currency Unit =	Tongan Pa'anga (T$)
T$ 2.3039 =	US$1
1.39525 US$ =	SDR 1

FISCAL YEAR
July 1 – June 30

Regional Vice President:	Victoria Kwakwa
Country Director:	Michel Kerf
Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Almud Weitz
Task Team Leader(s):	Pierre Graftieaux, Sean Michaels

ABBREVIATIONS AND ACRONYMS

ALB	Airborne Laser Bathymetry
APA	Alternate Procurement Arrangements
CDS	Direct Selection
CEO	Chief Executive Officer
CERC	Contingent Emergency Response Component
CPF	Country Partnership Framework
CQS	Consultant's Qualifications Based Selection
CS	Consulting Services
CSU	Central Services Unit
CW	Civil Works
DA	Designated Account
DLI	Disbursement-Linked Indicators
EA	Executing Agency
EEZ	Exclusive Economic Zone
EIRR	Economic Internal Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FI	Financial Intermediaries
FM	Financial Management
GBV	Gender Based Violence
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HIES	Household Income and Expenditure Survey
IA	Implementing Agency
ICR	Implementation Completion and Results Report
IDA	International Development Agency
INDV	Individual Consultant Qualification
IPF	Investment Project Financing
IPSASB	International Public Sector Accounting Standards Board
IRI	International Roughness Index
LTD	Land Transport Division
M&E	Monitoring and Evaluation
MFNP	Ministry of Finance and National Planning
MOI	Ministry of Infrastructure
NIIP	National Infrastructure Investment Plan
PAD	Project Appraisal Document
PAT	Ports Authority Tonga
PBC	Performance-Based Contract

PDO	Project Development Objective
POM	Project Operations Manual
PMU	Project Management Unit
PCRTP	Pacific Climate Resilient Transport Program
PICs	Pacific Islands Countries
PPA	Programmatic Preparation Advance
PPP	Purchasing Power Parity
PPSD	Project Procurement Strategy for Development
PRNI	Pacific Regional Navigation Initiative
PST	Project Support Team
RFB	Request For Bids
RFQ	Request For Quotations
RPF	Regional Partnership Framework
SCD	Systematic Country Diagnostic
SCF	Standard Conversion Factor
SIDS	Small Island Development States
SISRI	Small Island States Resilience Initiative
SMA	Special Management Area
SOP	Series of Projects
SORT	Systematic Operations Risk-rating Tool
STEP	Systematic Tracking of Exchanges in Procurement
TAIP	Tonga Aviation Investment Project
TAL	Tonga Airports Limited
TCRTP	Tonga Climate Resilient Transport Project
TOP	Tongan Pa'anga
VAC	Violence Against Children
VOC	Vehicle Operating Cost

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Tonga	Tonga Climate Resilient Transport Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P161539	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[✓] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[✓] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
29-Nov-2018	31-Dec-2024

Bank/IFC Collaboration

No

Proposed Development Objective(s)

Improve the climate resilience of the Recipient's transport sector, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency.

Components

Component Name	Cost (US$, millions)
Component 1: Sectoral and Spatial Planning Tools	0.75
Component 2: Climate Resilient Infrastructure Solutions	24.00
Component 3: Strengthening the Enabling Environment	2.50
Component 4: Contingency Emergency Response	0.00

Organizations

Borrower:	Ministry of Finance and National Planning
Implementing Agency:	Ministry of Infrastructure

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	27.25
Total Financing	27.25
of which IBRD/IDA	26.02
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	26.02
IDA Grant	26.02

Non-World Bank Group Financing

Counterpart Funding	1.23
Borrower	1.23

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Total Amount
National PBA	0.00	26.02	26.02
Total	**0.00**	**26.02**	**26.02**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Annual	0.34	1.47	1.96	3.23	5.69	7.34	5.99
Cumulative	0.34	1.81	3.77	7.00	12.69	20.03	26.02

INSTITUTIONAL DATA

Practice Area (Lead)

Transport & Digital Development

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Substantial

3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Low
9. Other	
10. Overall	Moderate

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04	✓	
Forests OP/BP 4.36		✓
Pest Management OP 4.09		✓
Physical Cultural Resources OP/BP 4.11		✓
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12		✓
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50		✓

Projects in Disputed Areas OP/BP 7.60	✓

Legal Covenants

Sections and Description
The Recipient shall maintain, throughout the Project implementation period, its CSU within MFNP, with a mandate, composition and resources satisfactory to the Association, which shall be responsible for, inter alia: (a) supporting PST on fiduciary aspects of Project implementation, and monitoring and evaluation, on an as-needed basis, and (b) reviewing Project Reports prepared by PST and submitting such reports to the Association in accordance with the Financing Agreement. (Section I.A.1 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall maintain, throughout the Project implementation period, a PST within MOI, with a mandate, composition and resources satisfactory to the Association, which shall be responsible for, inter alia, carrying out day-to-day implementation of the Project, with support from CSU. (Section I.A.2 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall ensure that PST includes the following minimum staff and/or personnel throughout the Project implementation period, except for the safeguards specialist and the communication, monitoring and evaluation officer who shall be recruited by not later than two months after the Effective Date: (i) a Project manager; (ii) a procurement officer; (iii) a Project accountant; (iv) a contracts manager; (v) an administrative assistant; (vi) a safeguards specialist and (vii) a communication, monitoring and evaluation officer, each with terms of reference, qualifications and experience satisfactory to the Association. (Sections I.A.3(a) and (b) of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall ensure that PST receives support from, and pays due attention to the recommendations of, Tonga Airports Limited for the activities carried out under Part 1(d) and Part 2(c) of the Project, in a manner agreed by Tonga Airports Limited and described in the TAL Letter. (Section I.A.3(c) of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall, by not later than two months after the Effective Date, prepare and adopt a Project Operations Manual as accepted by the Association, and thereafter ensure that the Project is carried out in accordance with the Project Operations Manual. (Section I.C of Schedule 2 to the Financing Agreement)

Sections and Description
Under Part 2(a)(ii) of the Project, the Recipient shall enter into Performance-Based Contracts, each with a private sector contractor selected on the basis of terms of reference, qualifications and experience satisfactory to the Association, under terms and conditions acceptable to the Association. The Recipient shall carry out its obligations and exercise its rights under any Performance-Based Contract in such a manner as to protect the interests of the Recipient and the Association, and to accomplish the purposes of the Financing (Section I.B of Schedule 2 to the Financing Agreement).

Sections and Description
The Recipient shall prepare and furnish to the Association, by not later than December 1, 2018 and June 15 of each subsequent year during the implementation of the Project, for the Association's review and no-objection, an Annual Work Plan and Budget, and ensure that the Project is implemented in accordance with the Annual Work Plans and Budgets accepted by the Association for the Recipient's respective fiscal year. (Section I.D of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall carry out, jointly with the Association, not later than three years after the Effective Date, or such other period as may be agreed with the Association, a Mid-Term Review for the Project. (Section II.2 of Schedule 2 to the Financing Agreement)

Conditions

Type	Description
Disbursement	No withdrawal shall be made for Emergency Expenditures under Category (2) unless and until the Association is satisfied that all of the conditions listed in Section I.E.2 of Schedule 2 to the Financing Agreement have been met in respect of the said expenditures. (Section III.B.1(b) of Schedule 2 to the Financing Agreement)

I. STRATEGIC CONTEXT

A. Country Context

1. The Kingdom of Tonga (Tonga) consists of 169 Islands, 36 of which are inhabited, and a total population of around 107,000[1]. The country lies in the South Pacific and stretches over a distance of about 800 kilometers from north to south, covering a total land area of 748 square kilometers with an Exclusive Economic Zone (EEZ) of about 700,000 square kilometers.

2. Around three quarters of the population are based on the main island of Tongatapu, while other major islands and island groupings include 'Eua, Ha'apai, Vava'u and the Niuas[2]. Tonga's location makes it one of the most geographically remote nations from major centers of economic activity in the world.

3. Extreme poverty across Tonga is negligible, but significant numbers live in hardship. Gross Domestic Product (GDP) per capita is US$ 5,320 at 2016 Purchasing Power Parity (PPP). According to preliminary estimates from the 2015/16 Household Income and Expenditure Survey (HIES), 0.95 percent of the population live with less than US $1.90 per day, with poverty in male headed households (0.97 percent) marginally higher than in female headed households (0.89 percent). While there are very few people in abject poverty in Tonga, "hardship" or lack of cash for basic goods is typically a more widespread concern. Rural populations are more likely to live in poverty than those in urban areas.

4. The potential for high economic growth in Tonga is constrained by inherent high cost structures. Over the past two decades, per capita GDP has grown by 1.1 percent per year, compared to 2.3 percent globally. This is marginally above the average for the group of small Pacific islands, which on average grew at 0.9 percent over the same period, though lower than any other region across the globe. Small size and remoteness combine to push up the cost of economic activity in Tonga, limiting the competitiveness of its goods and services in world markets. A high dependence on imports also renders the archipelago vulnerable to external economic shocks, such as food and fuel price spikes.

5. Climate change is already impacting Tonga, with sea levels rising well above the global average, already having forced several communities to relocate and requiring regular reconstruction of local infrastructure. Since 1997 Tonga has experienced approximately 15 significant natural disasters. The most recent severe weather system to hit Tonga, Tropical Cyclone Gita (February 2018), caused widespread damage and losses across Tongatapu and 'Eua. The World Bank was instrumental in supporting the Government of Tonga (GoT) with the Post Disaster Rapid Assessment for the cyclone. The total economic value of the effects caused by Tropical Cyclone Gita was estimated to be approximately Tonga Pa'anga[3] $356 million (US$164 million), which is equivalent to 37.8 percent of the nominal gross domestic product (GDP) in Tonga[4]. Tonga's transport infrastructure and networks (land, maritime and aviation) suffered limited damage from the cyclone. Damage was concentrated in central Nuku'alofa in areas where port and airport operations are based. Damage (T$2.3m, US$1.01m) and losses (T$0.8m, US$0.35m) to the transport sector constituted 1 percent of total damage and losses from the cyclone. Notwithstanding the destroyed physical assets, the negative impact of the disaster will impact on overall economic conditions for several years to come.

[1] World Bank Open Data. 2016.
[2] See Annex 6 for map of Tonga
[3] Also written in PAD as TOP, or T$
[4] The share is calculated for the nominal 2017 GDP, which is estimated at T$941.9 million.

B. Sectoral and Institutional Context

6. With its remote location, small population size and dispersed islands, Tonga faces many geographical challenges in developing and maintaining sustainable internal, regional and international transport and communication linkages. These linkages are crucial to the economic development and social well-being of its population. In terms of climate resilience, Tonga is ranked second in the world for disaster risk using an index combining exposure and vulnerability[5]. The transport network faces a range of issues that increase vulnerability such as: (i) exposure to sea-level rise, storm surge, and wave action during cyclones and tsunamis; (ii) flooding and landslides associated with extreme rainfall events; (iii) damage from earthquakes; and, (iv) accelerated pavement deterioration due to extreme weather and rising water tables. Having a well-maintained and climate resilient transport system is vital for not only responding to these events through evacuations and getting emergency services to where they are needed, it is also important for Tonga's longer-term recovery through access to basic services and economic opportunities.

7. The recent World Bank *Climate and Disaster Resilient Transport in Small Island Development States (SIDS) Report* has shown that improved maintenance is the most efficient climate resilient transport policy and can help Tonga avoid 18 percent of well-being and asset losses due to extreme weather events, followed by more resilient construction standards[6]. The 2013 report *Challenging the Build-Neglect-Rebuild Paradigm*[7] recognized that the failure to manage and maintain infrastructure assets in Pacific Island Countries (PICs), including Tonga, has resulted in widespread premature deterioration of infrastructure to states such that it is very costly to rehabilitate. As described in the report, "every dollar of routine maintenance that is deferred will end up costing $5 in repairs, or ultimately, $25 in rehabilitation or replacement as the asset declines overtime." Accordingly, climate resilient construction and maintenance standards will be a focus of the Tonga Climate Resilient Transport Project (TCRTP).

8. Tonga has 6 domestic airports, 2 of which are both domestic and international and the other 4 serving only domestic travel, 6 interisland ferry ports and 471 km of classified roads and 409 km of community or agricultural roads across all inhabited islands. The country is faced with limited capital resources and asset deterioration, combined with financial and administrative constraints.

9. Road sub-sector. The 2008-2018 World Bank-supported Tonga Transport Sector Consolidation Project (TSCP) has made significant progress in addressing key constraints in the road transport sub-sector. Work has included a major institutional reform program which led to: (i) ongoing divestment of non-core activities, (ii) establishment of asset management capabilities (Tonga Road Maintenance System), (iii) enhanced regulatory and enforcement capabilities (maritime and aviation), (iv) the establishment of the Road Maintenance Fund, (v) a concession of the Ministry of Infrastructure (MOI) quarry to the private sector, and (vi) leasing of heavy equipment to the private sector. After many years of limited or no maintenance, the TSCP helped train and establish domestic Tongan road contractors and established a regular investment program in road maintenance. This work had yielded a number of developing contractors, who are undertaking routine and periodic maintenance of the road network with good quality and appropriate equipment. Notwithstanding this progress, there are still substantial improvements to be made on both MOI and industry sides. Currently the approach is to tender yearly contracts which can be administratively heavy and time consuming for MOI, leading to delays and backlogs. Rehabilitation/reconstruction activities are contracted separately to maintenance which limits the incentive for the rehabilitation/reconstruction contractor to do a high-

[5] World Risk Report. United Nations University, 2016.
[6] Climate and Disaster Resilient Transport in Small Island Developing States: A Call to Action. World Bank, 2017.
[7] Infrastructure Maintenance in the Pacific: Challenging the Build-Neglect-Rebuild" Paradigm. PIAC (Pacific Infrastructure Advisory Centre). 2013.

quality job as they are often not the same contractor responsible for maintenance. The GoT *2017 Transport Sector Review* suggested that the addition of multi-year contracts would encourage contractors to perform well, ensure continuity of maintenance, and avoid or minimize procurement costs and time[8]. International experience has also shown that these contracts can build contractor capacity through committed income, allowing them to purchase equipment and train staff. Noting this, and aforementioned known benefits to climate resilience that maintenance has, the project intends to introduce area-wide, multi-year, combined periodic and routine maintenance, with limited performance-based criteria.

10. Maritime sub-sector. Responsibility for maritime ports is split on geographical bounds, with the state-owned Ports Authority Tonga (PAT) managing and operating the Queen Salote Wharf in Nuku'alofa, Tongatapu and with the MOI managing all ports in the outer islands. The port system meets basic needs for coverage, compliance and capacity, but the condition of infrastructure has deteriorated from insufficient investment.

11. Aviation sub-sector. All airports in Tonga are operated and managed by the state-owned Tonga Airports Limited (TAL). The airports provide sufficient coverage to all island groups. The World Bank was involved in the improvement of Lupepau'u International Airport (Vava'u) and Fua'amotu International Airport (Tongatapu) through the Tonga Aviation Investment Project (TAIP). The New Zealand government funded the improvement of 'Eua Airport in 2011/12.

12. All Tongan transport sectors including maritime and aviation currently lack efficiency and climate resilience. An example of inefficiency is that households in Vava'u and Ha'apai respectively spend 8.3 and 9.6 percent of their income on supply chain costs for imports, approximately twice that of Tongatapu (4.7 percent)[9].

13. Policy Context: The Tonga Strategic Development Framework (2015-2025) provides an overarching framework for the long-term development of Tonga and identifies "more reliable, safe and affordable transport services on each island, connecting islands and connecting the Kingdom with the rest of the world by sea and air, to improve the movement of people and goods" as a key pillar for this development. On climate resilience, the *2016 Tonga Climate Change Policy* notes the importance of resilient roads to the country, listing this as its second highest priority.

[8] Transport Sector Review. 2017. Government of Tonga.
[9] Tonga Inter-Island Transport Connectivity: Country Report. PRIF. 2017.

C. Relevance to Higher Level Objectives

14. PICs want and need to act urgently to improve the climate resilience of their transport networks. According to the World Bank Pacific Possible report on Climate Disaster and Resilience, roads comprise the greatest share of PIC's combined spending on climate resilient investments, accounting for approximately 50 percent of the average costs in most PICs and over 90 percent of the average costs in the Solomon Islands and Samoa[10]. To address this challenge, the Pacific Climate Resilient Transport Project (PCRTP) Series of Projects (SOP) aims to finance activities to systematically improve the climate resilience of transport networks in PICs to natural hazards and climate change (refer to Annex 2 for details on PCRTP SOP). The program includes a first stage (Phase 1) for Samoa, Tuvalu and Tonga. A second phase (Phase 2), will include additional countries such as Vanuatu, and may include additional investments in Phase 1 countries. TCRTP will ensure connectivity within the transport sub-sectors and build resilience to external shocks, particularly climate change. Specifically, TCRTP will include efforts to address sector-wide challenges including: (i) capacity building; (ii) supporting reforms to address overlaps in agency and responsibilities relevant to climate resilient sector planning; and, (iii) mainstreaming climate resilience in Tonga's development.

15. The components of PCRTP follow the four-pillared strategic framework for enhancing transport resilience adopted by the World Bank's Transport Global Practice (GP)[11], which was subsequently incorporated into the GP's flagship report on Moving Toward Climate Resilient Transport[12] that was delivered at COP21. The *Climate and Disaster Resilient Transport in Small Island Developing States (SIDS)* report furthermore identified a framework – reflected in the design of the PCRTP SOP – for integrating climate and disaster resilient transport interventions into decision-making and implementation to help build institutional capacity and coordination[13]. The overall concept of the PCRTP SOP is also in line with the Small Island States Resilience Initiative (SISRI) that draws on the experiences from the World Bank and others in supporting climate and disaster resilience in small island states.

16. The World Bank Group's Regional Partnership Framework (RPF) (Report# 120479) for nine PICs was completed in 2016 and built on the existing engagements in Tonga. Using the Systematic Country Diagnostic (SCD), which focuses on the need for interventions that will strengthen preparedness and resilience to natural disasters and climate change, the RPF defines the following four focus areas: (i) fully exploiting the available economic opportunities; (ii) enhancing access to employment opportunities; (iii) protecting incomes and livelihoods; and, (iv) strengthening the enablers of growth and opportunities. Investments in the transport sector will help build resilience to extreme weather events and improve the reliability of the network. The investments and reforms included within TCRTP will contribute to enhancing access to employment opportunities and social services, which will help protect incomes and allow people to exploit available economic opportunities.

17. The COP22 Declaration on Accelerating Action on Transport Adaptation recognized the critical need for transport systems and services to be more resilient to climate change and committed to integrating adaptation into policies, designs, maintenance and investment decisions. TCRTP will directly contribute to a more climate resilient transport network in Tonga, contributing to its future prosperity and inclusive growth.

[10] Pacific Possible: Climate and Disaster Resilience. World Bank, 2016. (Report #119111)

[11] Enhancing Road Resilience in Pacific Island Countries, World Bank Assisting Adaptation to Climate Change. World Bank, 2015. (Report #102711)

[12] Moving Toward Climate-Resilient Transport, The World Bank's Experience from Building Adaptation into Programs. World Bank, 2015. (Report #102406)

[13] Climate and Disaster Resilient Transport in Small Island Developing States: A Call for Action. World Bank, 2017. (Report # 120998)

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

18. The Project Development Objective statement is "Improve the climate resilience of the Recipient's transport sector, and, in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency".

PDO Level Indicators

19. The PDO will be measured by the following indicators:
    a) Identified planning tools being used to improve climate resilience (number)
    b) Identified climate resilient investments constructed/rehabilitated and in use in the aviation and maritime sectors (number)
    c) Identified enabling environment solutions implemented (number)
    d) Length of roads constructed or rehabilitated with climate resilience measures (kilometers)
    e) Climate resilient routine maintenance contracts in place and being implemented (yes/no)

B. Project Components

20. TCRTP consists of the following four components that incorporate the four pillars of PCRTP SOP (see details of project components in Annex 1):

(i) **Component 1: Sectoral and Spatial Planning Tools (US$0.75 million)**. This component involves technical assistance that will improve the way that climate change is addressed in Tonga's transport sectors and allows for the financing of updates to analytical and sector planning tools to enable policymakers to make informed decisions based on the most accurate and up-to-date information available. A program of sub-components is proposed:

a. Conducting a road sector Climate Vulnerability Assessment.
b. Urban transport studies including Nuku'alofa road traffic modeling, road public transport options and investigation and design of cycleway options.
c. Upgrading the Transport Management System (TMS) information technology including conducting trainings in relation to such system. The TMS will provide important statistics for monitoring compliance with regulations and standards, especially for ferry services and possibly aviation. System would be of suitable climate resilience to ensure monitoring during severe weather events.
d. Conducting an obstacle limitation survey for Kaufana Airport, 'Eua.

(ii) **Component 2: Climate Resilient Infrastructure Solutions** (**US$24 million).** This Component involves feasibility studies, design and physical works of identified road, aviation and maritime assets to improve their resilience to climate-related hazards and/or events. The following sub-components are proposed:

a. **Road sector infrastructure rehabilitation**. This sub-component[14] will include:
   i. Rehabilitation and/or upgrading of a combination of main and community/agricultural roads across Vava'u and main island of Tongatapu as identified by the *Tonga National Roads Improvement 3-Year Plan (2015)*.
   ii. Rehabilitation and/or upgrading works including emergency works, combined with routine maintenance through innovative types of maintenance contracts (such as area-wide coverage, multi-year, combined periodic and routine maintenance all through the execution and implementation of Performance-Based Contracts). Such works will be carried out on selected roads in Western Vava'u, 'Eua and Ha'apai. The contracts will be split into:
      (1) rehabilitation and/or upgrade works (to bring these roads back to a fully maintainable standard) and emergency works if and as needed,
      (2) routine maintenance works.
      The IDA grant will finance the rehabilitation/upgrading costs, while the MOI Road Maintenance Fund will finance the routine maintenance costs.
      Contracts in sub-components (i) and (ii)(1) will also include localized upgrades to increase climate resilience of vulnerable coastal and hilly roads by improving coastal protection, drainage and slope stability.
   iii. Delivery of footpath upgrade works and other road safety investments and activities, at sites still to be determined.
   iv. Assessment, design and supervision of the above-mentioned road sector infrastructure works.

b. **Maritime sector infrastructure rehabilitation.** This sub-component will include:
   i. A variety of safety repair works at a number of outer island locations in Nafanua ('Eua), Pasivulangi (Niuatoputapu) and Futu (Niuafo'ou). The activities will be based on the recommendations of the *Assessment of Maritime Safety Conditions of Ports and Wharves (2017)* and the findings from investigation of Nafanua Port at 'Eua (October, 2017). These activities complement works that are already under procurement through the World Bank funded Tonga Transport Sector Consolidation Project (TSCP) in Taufa'ahau, Ha'apai and Halaevalu, Vava'u. Works will include repairs to sheet pile walls, breakwaters, pavements, concrete capping beams, replacement of fenders and bollards. Limited maintenance dredging at outer island ports throughout Tonga to remove sediment deposits within the basin and docking areas is also included. Activities under this sub-component will include supervision of the maritime sector infrastructure rehabilitation works, and design and preparation of the maintenance dredging works.

c. **Aviation sector infrastructure rehabilitation.** This subcomponent will include:
   i. Urgent resurfacing to the runway and apron at Salote Pilolevu Airport, Ha'apai, including reconstruction of pavement layers at localized soft spots, subsoil drainage as needed, and full line marking. Activities under this sub-component will include design and supervision of the resurfacing of the Ha'apai runway and apron.

(iii) **Component 3: Strengthening the Enabling Environment (US$2.50 million)**. This Component will provide

[14] The final selection of roads will be based on a cost estimate done during preparation, with the MOI's Road Asset Management tool used to determine priority. The methodology for final selection will be further outlined in the Project Operation Manual (POM).

funding to support institutional and regulatory reforms for transport sector asset management and maintenance, including measures to strengthen local capacity and to increase the sustainability of climate resilient investments under the project. In addition, this Component will help to strengthen coordination among relevant institutions, look at ways in which the road and maritime sector management can be improved. This sub-component will include:

a. **Project support team.** Providing technical and operational assistance to a Project Support Team to be housed in the MOI[15] on project management and implementation.
b. **Technical assistance**. Technical assistance to (i) support MOI on its institutional reform process started under TSCP, (ii) explore options for establishing a Maritime Maintenance Fund, (iii) update technical specifications applied by MOI for sealed roads, and create specifications for steep roads, and comprehensive maintenance specifications for all road types in Tonga, and (iv) strengthen the Ministry of Infrastructure's capacity to manage transport infrastructure and assets.
c. **Climate resilient material testing equipment.** Purchase of essential additional testing equipment for the MOI materials laboratory and provision of training to staff to operate.
d. **Safety related technical assistance**. Provision of training to MOI, consultants and contractors on occupational health and safety (OHS) measures, transport safety campaign activities and safety audits of Tonga's road network.
e. **Impact assessment**. Conducting beneficiary surveys, including surveys focusing on gender and people with disabilities, to assess the impact of the major works carried out under the project.
f. **Gender based violence strategy.** Development and implementation of a gender-based violence management strategy including carrying out of a needs assessment and prevention and support services.
g. **Gender-informed driver licensing pilot**. Carrying out of education and safety courses as well as outreach programs on commercial drivers' licenses for women.

(iv) **Component 4: Contingency Emergency Response (US$0.00 million).** Since PICs will remain vulnerable to climate change and severe weather events, even with the successful implementation of the first three components, supporting post-disaster recovery is an important feature of the PCRTP. This Component is designed to provide swift response in the event of an Eligible Crisis or Emergency[16], by enabling the Government to request the World Bank to re-allocate Project funds to support emergency response and reconstruction.

C. Project Beneficiaries

21. The beneficiaries of the project will be persons who utilize the transport infrastructure that will be improved by the project. Since the project has activities involving all sub-sectors, on all island groups in Tonga, it is reasonable to consider the entire population of Tonga of approximately 107,000 persons as project beneficiaries. Outside of the first order benefits of faster travel times and smoother and safer journeys, the project can be expected to provide benefits to other sectors including tourism, agriculture, general commerce, as well as provide healthcare, education and social connectivity benefits. Improved connectivity will also help connect Tongans with their families across island

[15] The roles within the Project Support Team and their responsibilities are further defined in section III (A) Implementation Arrangements.
[16] Defined as "an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters", OP/BP 8.00, *Rapid Response to Crises and Emergencies*.

groups and from the rest of the world, particularly important given the large Tongan diaspora.

22. Through strengthening the climate resilience of the transport network, activities under this project will also help to deliver indirect benefits that extend beyond the local communities. Having more climate resilient transport will enable faster evacuation routes and allow the government to more quickly respond to the high likelihood of future natural disasters. It will also support communities to recover from these events through delivery of goods and access to jobs, schools and healthcare facilities.

23. **Persons with disabilities**. Whilst the project will have in mind the needs of persons with disabilities in all of its design activities, specific attention to mobility needs will be made in the proposed studies on Nuku'alofa public transport options (Component 1) and the proposed footpath upgrade works (Component 2).

24. **Gender.** Based on the 2015 Gender Equality Index (GII)[17], the Kingdom of Tonga ranked 152 out of 188 countries on the index with a GII score of 0.659. Compared to 2012, its GII score was 0.462 with a ranking of 95th place out of 187 countries on the index. In its final Millennium Development Goals (MDGs) report, the Government of Tonga (GoT) reported that out of the eight goals, it lagged behind on Goal 3: Gender Equality[18]. Despite these challenges in meeting gender goals, Tonga has the opportunity to accelerate its gender commitments under its revised National Policy on Gender and Development (RNPGAD) 2014 and the Sustainable Development Goal 5: Gender Equality.

25. Gender-based violence. During project preparation, rates of gender-based violence (GBV) and violence against children (VAC) higher than global averages have been identified in Tonga. The Ma'a Fafine Moe Famili (MFF) national survey on domestic violence undertaken in 2009 found that 40 percent of ever-partnered women reported experiencing physical and/or sexual violence by a partner at least once in her life. The GBV risk linked to the project has been assessed as moderate risk. Key project factors which contribute to this rating include: workers and communities on Tongatapu (roads component) have good access to GBV support, health and justice resources though this is more limited for communities living in the outer islands where works will also take place (roads, aviation and port components); works are relatively minor, particularly in relation to aviation and port components; no issues around GBV or conflict with workers was raised during consultation meetings with potentially affected communities; works are unlikely to attract significant interest from international contractors and labor influx would not be significant due to the relatively low number of workers required. Consultations with the Women and Gender Division in the Ministry of Internal Affairs revealed a gap in access to support services for women in the outer islands who experience GBV. Tongatapu is currently the only island with trained GBV and VAC psychosocial counsellors or safe shelters for survivors of violence, meaning women in other island groups are limited in their options. Whilst there are police and health services in the outer islands, personnel have had limited training on GBV. A draft Gender and Gender Based Violence Action Plan (Plan) has been prepared by the project. The draft Plan provides an overview of the gaps in GBV services in the outer islands so that the TCRTP is better equipped to address these gaps to ensure women and young girls are not placed at a higher risk of harm and exposure to violence when rolling out its infrastructure projects in those areas. The Plan also includes a summary of organizations who have experience of dealing with GBV survivors and who may be able to provide training to TCRTP contractors and personnel. The outputs of this work will be used to inform any necessary updates to the ESMP and stakeholder engagement plan. Annex 5 outlines how the project has considered GBV issues in accordance with the World Bank's Draft Good Practice Note

[17] United Nations Development Program, Table 5 Gender Equality Index, 2015. Accessible at *http://hdr.undp.org/en/composite/GII* (accessed 10 September 2018)

[18] Tonga Millennium Development Goals Final Report, 2017. Accessible at *http://extwprlegs1.fao.org/docs/pdf/ton171617.pdf* (accessed 10 September 2018)

(GPN) 'Recommendations for Addressing Gender Based Violence in Investment Project Financing Involving Major Civil Works'. In addition, based on the rating and recommendations from the *GBV in PIC9 Countries* report, TCRTP will also demonstrate the commitment from the transport sector to prevent and/or mitigate GBV-related risks through implementing codes of conduct. The indicator "Instances when GBV codes of conduct are implemented on project activities" will monitor instances of mainstreaming GBV and VAC through codes of conduct.

26. Gender gap in commercial driver licensing. Commercial licensing has been identified as a gender gap issue within the transport sector in Tonga. Roughly 85 percent of commercial license holders are men while only 15 percent are women[19]. Such a gender gap can have economic and social implications as it can mean that women have comparatively less access than men to economic opportunities. Addressing the gender gap in commercial drivers licensing ownership has the potential to provide opportunities for employment and may benefit women in Tonga through improved access to jobs and economic activities. This is aligned with the *World Bank Gender Gap Strategy 2: Removing Constraints for More and Better Jobs*. Women account for 39 percent of the Tongan non-agricultural labor force and there is a significant salary and income gap under which Tongan women earn on average only 47 percent of what men earn (UN Women).

27. Women that do not hold a commercial driver's license will be excluded from consideration for certain jobs (e.g. the trucking industry and the operation of commercial vehicles such as buses or taxis). The project's Gender and Gender Based Violence Action Plan includes an analysis of the reasons why women do not apply for commercial driver licenses through a short survey of 100 women and makes specific recommendations of how women can be encouraged to apply for commercial licenses. The survey found that 89 percent of respondents would undertake driving lessons for another class or classes of driver licenses (in addition to a private license) and 91 percent believed that learning to drive 'other' types of vehicles would enhance their economic opportunities. In another survey of female commercial license holders (15 people interviewed), 51 percent of respondents noted that because of their license they were able to find more economic and/or job opportunities as a result.

28. The project will invest in a beneficiary survey, including baseline and follow-up data, under Component 3 and will include a specific module that will seek to identify the barriers that lead to lower rates of commercial driving licenses owned by women. Moreover several actions are anticipated to be included within the Project as part of the licensing pilot based on the outcome of the findings regarding commercial driver licensing: (i) a commercial driver's education/safety course and outreach program on licensing will be organized for women; (ii) for the first round of participants, support will be provided to women who are seeking to become first time license holders and who have completed the education/safety course (for example, a reduced fee to obtain the license. As part of the Results Framework, an indicator will track changes in new commercial driver's license registration by men and women to show an increase in the number of women who have acquired a commercial license relative to men and compared to previous years, thereby demonstrating a reduction in the identified gender gap.

[19] Land Transport Division, Ministry of Infrastructure, Kingdom of Tonga (provided August 2018)

D. Results Chain

29. To develop the results chain for TCRTP a Theory of Change approach was adopted and is illustrated in Figure 1 below.

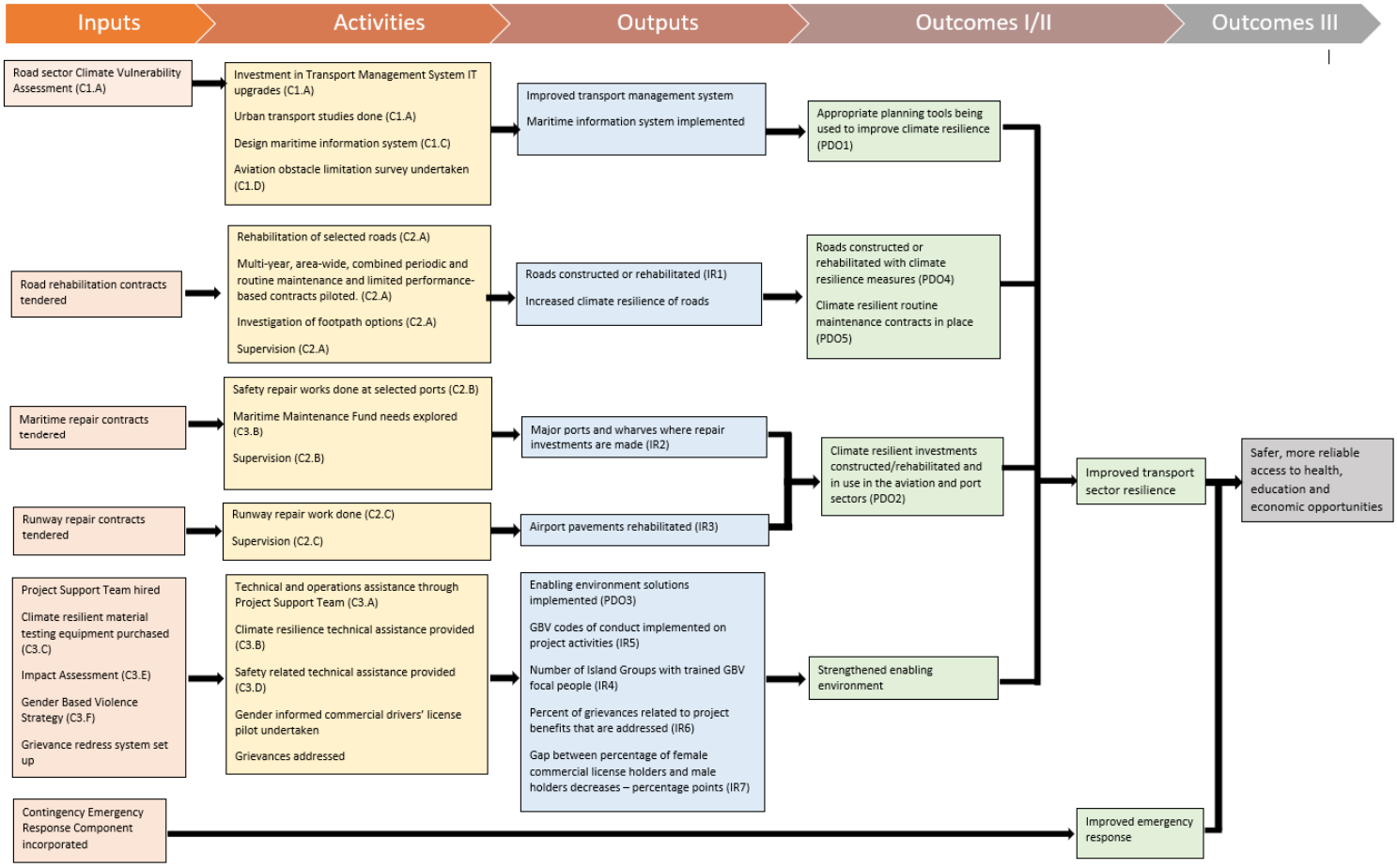

Figure 1 TCRTP Results Chain

E. Rationale for Bank Involvement and Role of Partners

30. The proposed project will build on the World Bank's intimate prior experience in the modernization of the transport sector in Tonga through the Tonga Transport Sector Consolidation Project (TSCP). The World Bank has financed many similar transport projects in the Pacific Islands in the last 10 years and has deep knowledge of the considerations required to effectively implement. In recent times, the World Bank has made a concerted effort to be a leader in assisting climate change adaptation globally and has amassed strong institutional knowledge on good practices to improve climate resilience of transport sub-sectors. TCRTP will benefit from being a part of the PCRTP SOP, where projects in the region will fluidly share lessons learnt and insights throughout project implementation. The technical value offering of the World Bank is strengthened further by the fact that the World Bank has extensive global experience in the introduction of performance-based road maintenance contracts (Component 2), which will be a critical contribution to improving quality of maintenance and requires care to establish.

31. Public sector financing is the appropriate vehicle for this project. All transport assets considered in this project are either managed by Ministry of Infrastructure (roads, outer island maritime ports) or state-owned companies (Salote Pilolevu Airport, Ha'apai) and there is no government interest in privatizing these assets nor would there likely be interest from private sector as the dispersed nature of the network and low traffic volumes would likely make profitability unachievable.

32. The public sector financing through the World Bank will provide opportunities for private sector consultants and contractors. The area-wide, multi-year routine maintenance contracts intend to provide long term employment opportunities for local contractors on the islands to ensure local industry capacity is maintained. In this way, the project is maximizing finance for development by enabling sustainable private sector solutions that will continue on past the closing date of the project.

33. There is dialogue and coordination between the World Bank, GoT, Asian Development Bank (ADB), Japan International Cooperation Agency (JICA) and other development partners to ensure department partner funded projects are complementary and this dialogue will continue during project implementation. The ADB has an active multi-sector project to mainstream climate resilience into development planning including technical, human, financial and legislative capacity development.

F. Lessons Learned and Reflected in the Project Design

34. The project draws on lessons learnt from similar World Bank projects in the Pacific Islands, as well as recent experience on World Bank projects in Tonga.

35. Successful transport projects in the Pacific Islands are dependent on: (i) committed client ownership of the project and strong project preparation; (ii) well defined project design and scope; (iii) awareness and accountability to World Bank social, environmental, financial management and procurement rules and requirements; (iv) completion of environmental and social management plans in advance of construction works; and (v) continuity of client and World Bank project related staff.

36. In 2017, a comprehensive independent review of the TSCP was conducted and made a series of recommendations on how GoT should continue to improve the performance of the national transport sector. The vast majority of these recommendations, including the (i) introduction of multi-year contracts, (ii) area-wide contracts, (ii) increasing the scope of maintenance, and (iv) upgrading of the test laboratory, are acted upon in this new project.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

37. The Executing Agency (EA) for TCRTP will be the Ministry of Finance and National Planning (MFNP). MOI will be the Implementing Agency (IA) for the TCRTP, as it is responsible for regulatory oversight of aviation, regulation and operation of outer island marine and ports infrastructure, and all land transport. TAL and PAT were discussed as possible entities to manage the works for the aviation and maritime sub-components respectively, but it was decided that internal management would be more streamlined and efficient if there was only one IA. TAL will be relied on for technical advice on matters regarding Sub-Component 1(d) (Kaufana Airport, 'Eua obstacle limitation survey) and Sub-Component 2(c) (Salote Pilolevu Airport, Ha'apai runway and apron rehabilitation). For any contracts related to these sub-components, TAL will have a representative to review terms of reference, deliverables and sit on any evaluation committees that are called. MOI has been delegated lead contract management responsibility; however, TAL will be consulted prior to all decisions made regarding the components. TAL has also provided a letter to MOI on September 12, 2018, confirming its agreement for MOI to carry out project activities in Salote Pilolevu Airport, Ha'apai, which is operated and managed by TAL, and detailing the support it agreed to provide to MOI in carrying out such activities.

38. TCRTP is being prepared by the TSCP PST and will be implemented by a TCRTP project support team (PST), which will reside within MOI. The current PST is the TSCP PST, whose contracts have been extended until the 28th of February 2019. All existing positions (Project Manager, Contracts Manager, Project Accountant, Procurement Officer, and Administrative Assistant) will be re-advertised in November 2018 to make sure all are filled again when the existing contracts close. TCRTP PST will consist of national consultants including the five above mentioned positions. a Safeguards Specialist, and a Communication and Monitoring and Evaluation (M&E) Officer. The Safeguards Specialist and the Communication and M&E Officer will be hired by not later than 2 months after the project effectiveness. The TCRTP Project Manager will be the individual focal point for the World Bank. The TCRTP PST will report to the MOI Chief Executive Officer (CEO). A Project Operations Manual (POM) has been developed by the PST to guide the day-to-day operations of the team and the roles and responsibilities for project implementation. This will be finalized no later than two months after project effectiveness. A separate CERC POM has been drafted and will be finalized as further detailed in Annex 4.

39. The Government of Tonga has established a Central Services Unit (CSU) based in the MFNP. Once it becomes operational, the CSU will provide services related to: (i) project preparation and implementation, and (ii) capacity building. The CSU will have overall oversight of all World Bank financed projects, helping MFNP keep track of implementation status and dealing with cross-cutting issues. TCRTP is large enough to require, and fund, its own PST, and will use the services of the CSU as needed. Implementation of the project will be primarily managed by the TCRTP PST, who will draw on the CSU experts for advice on procurement, financial management (FM), safeguards, monitoring and evaluation (M&E) and contract management when the PST encounters complex cases.

40. A Programmatic Preparation Advance (PPA) has been approved for the GoT which includes US$ 1.02 million equivalent allocation for the TCRTP. This funding will allow the project to start key activities prior to Board approval, so as to minimize any delays and allow a smooth transition between the currently active TSCP and the new TCRTP. With the PPA, the key preparatory studies such as the design of the runway and road works will have commenced about three months before Board presentation, which will allow for quick disbursements against these works relatively quickly after project effectiveness.

B. Results Monitoring and Evaluation Arrangements

41. The project's M&E arrangements are in Section VI. The Results Chain for the project is provided in Figure 1 below. The PST will report on M&E to MOI on a monthly basis and to the CSU on a quarterly basis. The CSU will provide support, and clear the quarterly M&E reports and then make them available to the World Bank within 45 days from the end of the reporting period. These reports will track progress in terms of distribution of inputs, disbursement of funds, achievement of targeted indicators as outlined in the Results Framework and lessons learnt from the reporting period. The key instrument for evaluating TCRTP are the indicators identified within the Results Framework that tracks several key resilience metrics, as well as indicators to capture the gender dimension and citizen engagement.

42. An annual work plan and budget will be submitted to the World Bank on February 15 of each year of the project life and quarterly reports will be provided no later than 45 days after each calendar quarter. A mid-term review will be undertaken three years after project effectiveness to review the implementation progress and decide on any action, as needed.

C. Sustainability

43. TCRTP will support the transport sector through strengthening resilience to climate change and bolstering the Government's institutional capacity. This will help ensure that all sub-sectors of the transport network are performing well now and into the future, which is vital for economic and social well-being and is one of the most important considerations for improving sustainability.

44. All TCRTP components are geared to improve the sustainability of the transport sector. Improved planning (Component 1), rehabilitation of assets to maintainable condition (Component 2), best practice maintenance contracts (Component 2), domestic private sector skill development (Component 2), institutional strengthening and financial planning (Component 3) and update of technical standards to more climate resilient specifications (Component 3) are some of the key ways that the TCRTP will improve sustainability.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (if applicable)

(i) **Technical**

45. The proposed project reflects the substantial volume of analytical work that the government of Tonga has done in the transport sector in recent years through the TSCP. It is aligned with the priorities of the National Infrastructure Investment Plan 2013-2023 (NIIP) that lists the following priorities for the transport sector: (i) Control Tower at Fua'amotu International Airport (currently funded under the World Bank supported Tonga Aviation Investment Project (TAIP)); (ii) resurfacing of the Ha'apai runway, taxiway and apron; (iii) Maritime safety and resilience; and (iv) outer islands road upgrading program. The last three items are included in the proposed project.

46. Also addressed are the findings of reports in the maritime, aviation and road sectors, notably the following: (i) the

2017 *Assessment of Maritime Safety Conditions of Ports and Wharves*[20] that covered the outer island ports and identified approximately US$6.8m of works to remediate the assets; (ii) the 2015 *Tonga National Roads Improvement Three (3) Year Plan* prepared by the MOI Land Transport Division (LTD), and (iii) the 2017 *Review of Tonga's Governance Structure of Road Maintenance Activities*. This final report stated that "*There is a backlog of periodic maintenance and minor rehabilitation works not sufficiently funded. Failure to execute a continuous program of periodic maintenance will lead to significant deterioration of the road network that will then require major rehabilitation or reconstruction at much higher cost to both government and to road users*". The project is also fully consistent with the World Bank's 2016 "*Systematic Country Diagnostic for the Eight Small Pacific Island Countries: Priorities for Ending Poverty and Boosting Shared Prosperity*" which identifies land transport infrastructure on larger outer islands and outer-island shipping as bottlenecks to be addressed.

(ii) **Economic Analysis**

47. TCRTP will have a range of quantifiable economic, financial and social benefits. The economic evaluation of this project focuses on *Component 2: Climate Resilient Infrastructure Solution ($22.77 million)* and considers each of the three sub-components concerning: (1) road, (2) maritime, and (3) aviation sectors. Key economic benefits for the road sector are from improved road conditions, which lead to lower vehicle operating cost (VOC) and reduced accidents. Maritime investment is expected to improve safety and efficiency of operation, leading to cost savings for passengers and cargos. The benefits for aviation investment are expected to come from avoided disruption of flights (due to eventual runway resurfacing needs if there is no project), which would impact both passengers and cargo. Specific assumptions for each of the sectors are as follows:

48. **Road.** The economic analysis focuses on road rehabilitation in Tongatapu, Vava'u, 'Eua, and Ha'apai. Key characteristics of the traffic are shown in the table below. It is expected that the project will improve road conditions (from IRI=8 to IRI=4) and assumed to reduce accidents by 5 percent.

Table 1 Road economic analysis for each island group

	Tongatapu	Vava'u	'Eua	Ha'apai
Total road length (km)	31.7	65.7	22.4	35.2
2018 Annual Average Daily Traffic (vehicles/day)	7,612	100	50	50
AADT Growth (% per year)	1.5%	1.5%	1.5%	1.5%
Average trip length (km)	15	10	5	5

NB: traffic values for Vava'u, 'Eua and Ha'apai are averaged across the network of these islands, where area-wide contracts will be used. Traffic value for Tongatapu is based on actual traffic counts in Tongatapu on the sections to be rehabilitated.

[20] Assessment of Maritime Safety Conditions of Ports and Wharves. Advisian, 2017.

49. **Maritime.** Traffic in 2017 is estimated at 62,010 passengers and 100,578 tons of cargo, and the economic analysis assumed a traffic growth rate of 1.5 percent per year for both passengers and freight. The total value of cargo is approximately US$50 million (or about US$497/ton). The cost saving for passengers is assumed to be about US$10 per person-trip, which is based on the value of time lost due to an accident and/or delay. Cargo handling efficiency is assumed to improve by 2 percent (i.e. cost saving in percentage of cargo's value). The project is also expected to save user costs and reduce accidents by 5 percent.

50. **Aviation.** Based on Salote Pilolevu Airport passenger and cargo statistics below, it is estimated that there would be 23,367 passengers and 42,300 tons of cargo in 2018 with annual growth rates of 5.8 percent and 10.3 percent for passenger and cargo volumes, respectively. Based on the transport costs, it is estimated that the opportunity cost (or value) of passenger-trip is US$150 per passenger, and the value of cargo is estimated to be about US$500 per ton. For the situation without the project, it is assumed that a quick repair is done with an approximate cost of US$300,000 to extend the runway condition by about 5 years. Therefore, it is assumed that the unavoidable repairs may occur around 2025 and will disrupt 10 percent of passenger and cargo services for 2 years.

Table 2 Aviation economic analysis

	2015	2016	2017	2018
Passenger (persons)	16,770	19,688	20,921	23,367
Cargo (tons)	24,100	26,794	35,067	42,300

51. The economic analysis covers a period of 10 years (2019-2028) with Standard Conversion Factor (SCF) of 0.90 and a discount rate of 3.2 percent. This discount rate was informed by the World Bank internal guidance note *Discounting Costs and Benefits in Economic Analysis of World Bank Projects* (May, 2018). With the assumptions above, the Economic Internal Rate of Return (EIRR) and Net Present Value (NPV) of the project for each sector are calculated and shown in the table below.

Table 3 EIRR and NPV for total project and sub-sectors

	Total Project	Road	Maritime	Aviation
EIRR	21.4%	15.1%	25.5%	41.3%
NPV	23.76	8.41	7.59	7.75

52. **Sensitivity Analysis.** The sensitivity of EIRR and NPV was also tested against cost and sector-specific variations, which has confirmed the robustness of economic returns. The results of the sensitivity analysis are illustrated in the table below.

Table 4 Sensitivity Analysis

		EIRR	NPV (US$ million)
Road	*Base case*	*15.1%*	*8.41*
	Investment cost increases by 20%	10.6%	5.92
	Benefits decrease by 20%	9.6%	4.24
Maritime	*Base case*	*25.5%*	*7.59*
	Investment cost increases by 20%	19.7%	6.43
	Benefits decrease by 20%	18.4%	4.91
Aviation	Base case	41.3%	7.75
	Investment cost increases by 20%	35.8%	7.37
	Benefits decrease by 20%	34.7%	5.82
	Year of disruption is 2028, 3 years later than base case	17.7%	3.08
Total Project	*Base case*	*21.4%*	*23.76*
	All investment cost increases by 20%	16.6%	19.72
	All benefits decrease by 20%	15.5%	14.96

53. **Greenhouse gas emissions**. An analysis of greenhouse gas emissions (GHG) was undertaken for the road component based on fuel consumption rates at different speeds under with-project and without-project scenarios. Without the project, the road's deteriorated condition limits vehicle speed and leads to higher fuel consumption per vehicle-km compared to the with-project scenario. With the project, improved road condition leads to better fuel efficiency. Gross GHG Emission under the with-project scenario is estimated to be 324,962 tCO2e. Total Net GHG Emission is estimated to be -60,996 tCO2e – a net reduction over the evaluation period (20 years). The Annual Average Net GHG Emissions is -2,905 tCO2e/year. The social benefit from GHG reduction is estimated to be US$4.59 million, based on World Bank's guidance note on shadow price of carbon in economic analysis. For the purpose of this analysis, it was assumed that the rehabilitation works in the maritime and aviation sectors had no significant impacts in terms of GHG emissions.

(iii) Financial Analysis

54. The lending instrument is Investment Project Financing (IPF). The total project cost is US $27.25 million equivalent for a period of five years. This will be financed by an International Development Agency (IDA) grant to the Tonga Government of SDR18.70 million and counterpart funds of USD1.23 million. The table below summarizes the project costs and financing arrangements.

Table 5 Project Costs and Financing[21]

Project Components	Project cost (US$ million)	IDA Financing (US$ million)	Counterpart Funds (US$ million)
1. Sectoral and Spatial Planning Tools	0.75	0.75	0.00
2. Climate Resilient Infrastructure Solutions	24.00	22.77	1.23
3. Strengthening the Enabling Environment	2.50	2.50	0.00
4. Contingency Emergency Response	0.00	0.00	0.00
Total Costs	27.25	26.02	1.23
Total Financing Required	27.25		

B. Fiduciary

(i) Financial Management

55. The financial management (FM) assessment was carried out in accordance with the "Principles Based Financial Management Practice Manual" issued by the World Bank Board on March 1, 2010, which states with respect to projects financed by the World Bank, the grantee is required to maintain appropriate implementation arrangements which include – accounting, financial reporting, and auditing systems -- adequate to ensure they can provide the World Bank with accurate and timely information regarding the project resources and expenditures. Overall, the FM arrangements satisfy the financial management requirements of the Investment Project Financing Bank Policy. The assessed financial management risk of the project is considered moderate as the current TSCP PST financial management arrangements are working well and no new mitigating measures are recommended at this point.

56. **Accounting and Staffing Arrangements.** The project will use the current FM resources from the current TSCP project through the preparation phase of the TCRTP. The contracts of the FM resources are set to expire in February 2019. Currently, those personnel resources include a qualified Project Accountant and an Administration Assistant who provides some additional support. Both staff have an excellent knowledge of World Bank's FM requirements and a proven record of high performance in the TSCP project and hence while the existing staff remain no substantial FM issues are envisaged. The biggest initial risk would be the departure of these staff. To mitigate this risk, the selection of the PST staff that will operate as of March 1, 2019, will be initiated soon enough to make possible an overlap between the outgoing staff and the new staff, in case some of the PST members will be replaced. Project accounts will be maintained on Quick Books accounting software and the Project Accountant has experience in the use of this system. The role of the Project Accountant in the proposed TCRTP PST will be similar to their role in the TSCP project and will include maintaining the project accounts, preparing Withdrawal Applications, preparing the project annual financial statements, providing support to the auditors for the annual project audit and assisting in the preparation and monitoring of the project budget.

57. The CSU based in the MFNP is unlikely to be fully operational at the commencement of the TCRTP, however during the implementation period the CSU role will be providing implementation services as required by the TCRTP including support and advice on cross-cutting issues, e.g., taxation, ensuring consistency across projects on remuneration benefits, reporting requirements and other issues that arise. The CSU will also take over the FM responsibilities in closing the project when the PST is dissolved on the project closing date.

[21] Component costs (Components 1, 2 and 3) are inclusive of the amounts for refinancing the PPA.

58. **Budget Arrangements.** TCRTP PST will prepare a workplan of activities which will flow through to the project budget. Tonga Airports Limited may provide some input to the breakdown of activities for sub-components 1(d) and 2(c). The budget should in broad terms cover the total expenditure over the life of the project but also a more detailed budget should be projected for each financial year and used to compare to actual expenditure. While the actual budget may be prepared by the TCRTP PST it should be at the direction from MOI. The budget should be reviewed at least every 6 months and the procurement plan, which relates to expenditures which are procurable, will be consistent with the approved budget.

59. **Internal Controls.** Where possible internal control procedures will be consistent with the GoT which complies with the Public Finance Management Act 2002 and accompanying Public Finance Administration Regulations, which are generally sound. Internal controls should guarantee adequate monitoring of contracts to ensure, there are no payments inconsistent with the contract payment schedule and that there is adequate technical input to assess the progress of contracts is consistent with the amounts charged by the contractor. There should be adequate segregation of duties of non-compatible responsibilities.

60. **Flow of Funds.** The advance funds for the project are held in the Programmatic Project Advance Designated Account (DA) held with Treasury. Funds flow from the PPA to an operational account held at a commercial bank in Tongan Pa'anga by the project through MOI. The project remits evidence of the expenditure to the Treasury who replenish the operational account and submit the Withdrawal Application to the World Bank to document the expenditure and request a further advance for the PPA. When the CSU becomes operational, the CSU will replace the role of Treasury in these arrangements. When the project commences, all documentation for expenditures not yet claimed relating to the advance will be submitted to the CSU for documentation and any funds remaining in the operational account will be refunded to the PPA DA. A new account (Project DA) will be opened by the project team and funds will flow directly from the World Bank to the Project DA.

61. **Financial Reporting Arrangements.** The recipient will prepare interim unaudited quarterly financial reports (IFRs) required to be submitted to the World Bank within 45 days of the end of the reporting period. These reports should be consistent with International Public Sector Accounting Standards Board (IPSASB) cash and should also disclose project progress on a component and sub component basis with adequate description, explanation and analysis of variances. In addition, commitments (contractual amounts not yet paid but where a legal obligation exists) will be disclosed in the reports.

62. **External Audit Arrangements.** An annual audit will be required of the project accounts. The annual financial statements should be IPSAS (International Public Sector Accounting Standards) cash compliant and the audited report must be received by the World Bank within six months of the end of the fiscal year for which the reports have been audited. The Tongan Audit Office is the auditor for other World Bank financed projects and it is anticipated they will audit this project. The auditors will be required to provide a detailed management letter containing their assessment of the internal controls, accounting system, and compliance with financial covenants in the Legal Agreement.

63. **Supervision Plan.** An FM implementation review field mission will be conducted at least once a year with additional missions early in implementation to ensure that all World Bank's FM requirements are met. In addition, the FM team will conduct a desk review of the quarterly IFRs and review the annual audit reports and management letters and follow- up on material accountability issues by engaging with the Task Team Leader(s), Clients, and/or auditors.

64. **Disbursement.** The disbursement arrangements will allow the program to use the following methods: (a) advances into and replenishment of DA; (b) direct payment from the grant account; (c) reimbursement and (d) special commitment. The DA will be operated on an advance basis and the initial advance will be made through the completion of a Withdrawal Application. It is recommended the DA is in local currency Tongan Pa'anga.

65. The subsequent replenishments will be made through submission of withdrawal applications providing details on the use of funds previously advanced, based on Statements of Expenditures. It is expected that direct payments will only be used for payment on large contracts requiring payment in foreign currency – i.e. international technical and financial advisors.

66. All direct payment applications would be paid based on documentation provided which would include evidence that the good or service had been satisfactorily completed, evidence that the goods or service are part of the work plan and included in the in budget and a copy of the invoice provided by the supplier.

67. There will be disbursement categories for this project and the provisional table is shown below.

Table 6 Project Disbursement Category Allocations

Category	Amount of the Financing Allocated (Expressed in SDR)	Amount of the Financing Allocated (Expressed in US$ equivalent)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Good, Works, Non-consulting Services, Consulting Services, Operating Costs, Training and Workshops for Component 1, 2 and 3 of the project, except works under Component (2)(a)(ii)(2).	17,950,000	25,000,000	100%
(2) Emergency Expenditures under Component 4	0	0	100%
(3) Refund of Preparation Advance	750,000	1,020,000	Amount payable pursuant to Section 2.07 (a) of the General Conditions
TOTAL AMOUNT	**18,700,000**	**26,020,000**	

(ii) Procurement

68. Procurement under this project will follow the procedures specified in the World Bank Procurement Regulations for IPF Borrowers (August 2018) and the provisions stipulated in the Financing Agreement entered by the Bank and the Recipient. The project implementation agency is the MOI. MOI prepared a Project Procurement Strategy for Development (PPSD) and the key conclusions of which are:
    (i) There will be a total of about US$23.1 million worth of procurable activities.
    (ii) The market analysis indicates that the national contracting and consulting industries have structural limitations and that the interest of foreign companies may be restricted to certain activities. As such, MOI will take a proactive approach to promote business opportunities for the private sector.
    (iii) Procurement of civil works (roadworks, port works and runway works) represents about 82 percent of all procurement to be done by MOI, with 85 percent of this amount (about US$16 million) to be done via open tendering at national level.
        i. For the roadworks, MOI will task an engineering firm with analyzing the local contractors' capacity[22] and proposing suitable procurement arrangements (e.g. "slice and package" arrangements will need to account for the capability of the local contractors.);
        ii. In relation to the port works (US$4 million), the PPSD indicates that that no more than 6 local companies are likely to be interested. Remoteness is the main reason for this, therefore the works in the outer islands of the Niuas (two sites) will be packaged as one to increase its attractiveness;
        iii. Given its specialized nature, the runway works will be carried via open tendering at international level.
    (iv) Procurement of consulting services represents about 16 percent of the total amount, with the hiring of consulting firms representing 11 percent. Given the country's small consulting industry, most of these services will be procured via open tendering at international level.
    (v) MOI will utilize the existing TSCP PST, which includes a Procurement Officer, to implement the project. The PST's role will be reinforced by the CSU, to be established in the MFNP before the end of 2018. The CSU will include a Procurement Specialist and a Procurement Officer.

69. The main risks and mitigation measures have been discussed between the World Bank and MOI, and are summarized as follows:

[22] The key recommendations for strengthening contractor capacity were that MOI should continue to provide sufficient budget for road maintenance to provide visibility in terms of business opportunities to contractors which may then be more willing to invest in heavy equipment and training, clarify its policy on outsourcing, and that MOI should strengthen its human and technical resources to be able to manage and direct contractors appropriately.

Table 7 Risk and mitigation measures

Risk Description	Description of Mitigation
Limited interest or capability of the private sector can prevent achievement of the PDOs.	Proactive approach in relation to promoting business opportunities, which will include MOI/PST setting up database of contractors, firms, suppliers and individual consultants; MOI/PST hosting business opportunities seminar for local and regional companies early on implementation (February 2019). For works contracts the "slice and package" arrangements will account for the capability of the local contractors.
Limited human resources can negatively impact project implementation, including procurement.	PST within MOI will be maintained. Support will also be provided to the PST by the CSU/MFNP.
Delays in procurement processing and contract execution can negatively impact overall implementation.	Detailed planning of key steps including time bound procurement plan. The project quarterly report will include "efficiency indicator", based on data from STEP, showing the number of "on time" procurement activities.
Ineffective contract management can negatively impact on the achievement of the PDO.	Administration of civil works contracts will be carried out by engineering firms, who will act as the "Project Manager/Engineer". To increase MOI's leverage in managing such assignments, a contractual provision allowing for "retention" of 3% payments will be incorporated. MOI/PST will create a dedicated website for TCRTP, which will, among other things, disclose the status of all contracts (with photographic evidence). An example of this can be seen at tvaip.com). An "efficiency indicator" will show the number of contracts with "on time" execution.

70. **Procurement Plan**. MOI has prepared a procurement plan covering the first 18 months of implementation. It has about 18 individual procurement activities amounting to US$7.8 million. The plan covers primarily the port and runway works (US$6.6 million). It is anticipated that during the first 12 months of implementation the plan will be substantially updated to incorporate the road works. The procurement plan, and all its updates will be published on the World Bank's external website through STEP. The summary procurement plan is as follows:

Table 8 Procurement Plan

Description (Value cannot exceed 250 Characters)	Reference No. (Value cannot exceed 40 Characters)	Procurement Category	Procurement Method	Estimated Amount (Must be greater than zero, and a positive number; no points or commas)	Bank Financed % (Can not be greater than 100%)	Review Type
Supervision of Port works in the outer islands of 'Eua	MOI-CS-FIRM-1	CS	CDS or APA	100000	100	Post Review
Supervision of Port works in the outer islands of the Niuas	MOI-CS-FIRM-2	CS	CDS or APA	100000	100	Post Review
Training and Capacity Building	MOI-CS-FIRM-3	CS	CDS	50000	100	Post Review
Obstacle Limitation Study – Eua Airport	MOI-CS-FIRM-4	CS	CQS	120000	100	Post Review
Vulnerability Assessment of Road Networks in Outer Islands	MOI-CS-FIRM-5	CS	CQS	300000	100	Post Review
Road Safety Audit Training and Monitoring and Attachment	MOI-CS-FIRM-6	CS	CDS	60000	100	Post Review
Detailed Design for Road Safety Works	MOI-CS-FIRM-7	CS	CQS	40000	100	Post Review
Active Transportation Opportunities Study	MOI-CS-FIRM-8	CS	CQS	40000	100	Post Review
Project Manager	MOI-CS-INDV-1	CS	CDS	80000	100	Post Review
Contracts Manager	MOI-CS-INDV-2	CS	INDV	40000	100	Post Review
Procurement Officer	MOI-CS-INDV-3	CS	INDV	35000	100	Post Review
Accountant	MOI-CS-INDV-4	CS	INDV	30000	100	Post Review
Administrative Assistant	MOI-CS-INDV-5	CS	INDV	15000	100	Post Review
Communications/M&E Officer	MOI-CS-INDV-6	CS	INDV	30000	100	Post Review
Resurfacing works on the Ha'apai Airport Runway	MOI-WK-1	CW	RFB	2500000	100	Prior Review
Port works in the outer islands: Lot 1 - Eua; Lot 2: Niuas	MOI-WK-2	CW	RFB	4100000	100	Prior Review
Transport Sector Safety Campaign	MOI-WK-3	GD	RFQ	50000	100	Post Review
Laboratory Testing Capacity Building	MOI-WK-4	GD	RFQ	200000	100	Post Review

71. **Procurement Supervision.** In addition to prior review of procurement transactions (see threshold below), at least one procurement mission will be fielded annually to support implementation. Procurement post reviews will be conducted annually as needed.

Table 9 Procurement Transaction thresholds

Type of Procurement	Prior Review Threshold
Works	>= USD 2 million
Goods	>= USD 0.5 million
Consultants: firms	>= USD 0.5 million
Consultants: individuals	>= USD 0.5 million

C. Safeguards

(i) Environmental Safeguards

72. Based on the nature and complexity of the planned interventions, the proposed environmental assessment category for the project is Category B. From an environmental safeguards perspective, the following policies were found to be applicable: OP4.01 Environmental Assessment, 4.04 Natural Habitats.

73. An Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) have been prepared in compliance with **World Bank Policy 4.01 Environmental Assessment** and disclosed on the Bank's external website on September 14, 2018, and in country on MoI's website on Sept 11, 2018. The Integrated Safeguards Datasheet was disclosed on September 21, 2018. The ESIA and ESMP cover the road, maritime and aviation infrastructure rehabilitation and upgrade activities. For the Emergency component of the project, an ESMF has been prepared.

74. **Road.** The ESIA for the road infrastructure component concluded that all potentially significant adverse impacts can be readily mitigated through adopting a range of measures including:
    (i) Design of roads to minimize ponding water and provision of drainage to discharge stormwater.
    (ii) Traffic Management Plans developed by the Contractor that outline measures to minimize potential impacts on pedestrians and other road users, identify alternative traffic routes, etc., and these are communicated to key stakeholders/villagers.
    (iii) In villages, strict adherence to work hours and regular maintenance of all machinery to minimize disturbance due to noise and vibration and use of water cart to suppress dust.
    (iv) Generally, the areas adjacent to the roads are dominated by built environments and farmland so impacts are likely to be limited due to the absence of sensitive receiving environments. Where these are identified (such as adjacent to some roads in Vava'u and 'Eua) measures to control runoff shall be adopted.

75. In many cases, such as in all villages, works are to be undertaken on existing carriageway only, minimizing impacts to stockpiled material and loss of personal assets. Considerate site selection for material stockpiles can mitigate these concerns adequately. If clearance outside the carriageway is required (mostly on rural roads) the Contractor must ensure that impacts are minimized by avoiding private assets (including crops) where possible, allowing crops to be harvested ahead of works, assisting with relocation of crops and fences, and leaving accessways clear of stockpiled material at all times.

76. The ESIA also determined that contractor laydown yards can be located at MOI facilities, with equipment and materials required on a daily basis to be mobilized to the active working areas only. This is a major mitigating factor.

77. In addition, the ESIA provides guidance on climate resilient design for the road upgrades, particularly for those sections located in low-lying coastal areas or in steep terrain, which are subject to frequent flooding, ponding and erosion.

78. **Maritime.** The ESIA for the maintenance dredging works identified a number of key issues that need to be resolved in the Project design phase including:
    (i) The requirement to undertake a survey to confirm location, type and volume of materials to be dredged at all sites. The New Zealand Aid program Pacific Regional Navigation Initiative (PRNI) includes hydrographic surveys in Tonga and airborne laser bathymetry (ALB). The ALB collects data to about 20-30m water depth using vessel mounted echo sounders. All the data will be delivered in March 2019 and will provide the necessary level of detail to ascertain the dredging needs at the outer island ports.
    (ii) Identify dredged material stockpile locations to ensure they are located in GoT land.
    (iii) Undertake a quantitative survey of adjacent coral reef communities and baseline water quality surveys for monitoring purposes adjacent to all ports and channel dredging sites particularly in relation to the 'Utulei Special Management Area (SMA) and the oyster farms in Neiafu harbor, Vava'u.

79. A range of potential impacts of the Project were identified including the following:
    (i) Disturbance of undersea cable in entrance to Neiafu Harbor, Vava'u.
    (ii) Noise disturbance generated from dredging operations at Ports in 'Eua, Ha'apai and Vava'u.
    (iii) Potential impact on movement of subsistence fishers, recreational boating and commercial shipping due to dredging operations.
    (iv) Potential impact on coastal resource users where access is restricted to port facilities during safety improvement works.

80. These impacts are all readily mitigated using best practice dredging and standard marine notification procedures. As a best practice environmental mitigation measure, it is recommended to undertake a pre-dredging coral survey for those areas identified in the ESIA that may contain healthy coral colonies that would be directly impacted by the dredging activities. As at this stage, the exact dredging footprints have not been identified, the survey can only be undertaken once this information is available. If the coral survey indicates it would be worthwhile to relocate corals prior to dredging, this will be added to the procurement plan as a separate activity, or alternatively as a contractor-executed activity.

81. With regards to OP/BP 4.04 Natural Habitats, the field surveys undertaken at all project sites concluded that none of the transport infrastructure assets to be upgraded/rehabilitated are located in or nearby sensitive or valuable ecosystems, with most assets located within built up or agricultural areas. The only exception is the 'Utulei SMA, comprising 73.65 Ha, designated in July 2017, located directly to the south of the proposed channel deepening area at Galloway to provide better access to the harbor of Vava'u. SMAs are legislated under the Fisheries Management Act 2002 for the purposes of community-based fisheries management in their adjacent coastal areas. SMAs were set up mainly due to concern by local communities of the declining coastal fisheries resources which they rely on for food and income. The 'Utulei SMA is characterized by sandy slopes which are generally covered in a high percentage of live corals (10 to 50 percent). However, 'Utulei's reefs generally exhibit high incidences of coral stress.

82. The channel dredging will not actually encroach into the reef. Moreover, as the dredging works in this area will be restricted in time (maximum 10 days), potential impacts on the adjacent benthic habitats are deemed to be negligible.

83. **Aviation**. As the scope of the proposed Salote Pilolevu airport upgrade works is contained to the runway and immediate surrounding environment, the ESIA concluded that the potential negative impacts of this project component are limited to the following:
    (i) Dust, noise and vibration impacts arising during works in Koulo Village, Ha'apai.
    (ii) Lack of locally available aggregate for chip sealing requiring material to be imported from Tongatapu.

84. Again, these impacts are easily mitigated through good practice construction procedures, including that the technical specifications for the works will include provisions to ensure that contractors only use materials sourced from quarries that meet the applicable safeguard requirements.

85. **Climate and Disaster Risk Screening**. A screening of TCRTP for short and long-term climate change and disaster risks was undertaken using the World Bank Climate and Disaster Risk Screening Tool. The hazards identified that pose a risk to the physical components and service delivery of the Project include sea-level rise, storm surges, and landslides. A holistic view of improving resilience will help to ensure that sector-wide challenges are addressed. In understanding the vulnerability of assets and the development context, the Project will directly improve the climate resilience of the network through policy, long-term strategic planning, resilient infrastructure designs, and through the incorporation of emergency protocols (e.g. CERC).

(ii) Social Safeguards

86. An assessment of the applicability of OP/BP 4.10 to the PICs was undertaken during the preparation of the Environmental and Social Safeguard Instruments for the Pacific Island Countries.[23] Country-level social analysis undertaken as part of preparation of the World Bank Environmental and Social Safeguard Procedures and Instruments for Pacific Island Countries, determined that OP/BP 4.10 is not typically triggered in Tonga.[24] However, a precautionary approach has been applied for TCRTP by employing culturally appropriate communication processes to ensure that traditional community structures are respected.

87. No land will be acquired for any project component. The ESIA confirms that all works will be undertaken on GoT land. If the need to use any private land is identified for any component, appropriate lease arrangements will be agreed with the land owner who will have the opportunity to refuse access if a suitable arrangement is unable to be reached. OP4.12 is therefore not triggered.

88. On the roads component, all works will be contained within the existing road reservation but local land owners have been using this space informally to plant crops. Clearance of road reserves may therefore cause impacts to private assets such as crops and fences. The ESIA describes the impacts of this as minor due to the limited proportion of crops affected and the ability of crop owners to harvest prior to the start of construction (stakeholder engagement activities are planned which highlight impacts and how these can be minimized by planting outside the road reserve). To address possible impacts, the design consultant and road construction contractor will be required to identify opportunities to minimize impacts wherever possible. Where this is not possible, the ESMP requires the implementation of a crop clearance process which has been prepared in line with the requirements of OP 4.12. This process includes identification of all affected assets; consultation with all affected asset owners; relocation of affected crops or fences; and clear documentation of all activities and agreements.

89. Extensive public consultations were undertaken as part of project preparation with a total of 458 (308 men and 150 women) people attending 30 public meetings. These were held on each island where works will be undertaken including Tongatapu, Va'vau, Ha'apai, 'Eua and Niuas. Information on the project was provided and stakeholders were invited to share their views. There is strong public support for the project, particularly in relation to the roads component. No significant issues were raised, though suggestions were provided on mitigation measures particularly in relation to local flooding and road safety.

(iii) Grievance Redress Mechanisms

90. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns.

[23] Environmental and Social Safeguard Instruments for the Pacific Island Countries. World Bank, 2015.

[24] According to the Environmental and Social Safeguard Procedures and Instruments for Pacific Island Countries (PICs) developed by the World Bank's East Asia and Pacific Regional Safeguard Secretariat (RSS), OP/BP 4.10 is not typically triggered in the generally homogeneous island nations of Federated States of Micronesia, Kiribati, Marshall Islands, Palau, Samoa, Tonga and Tuvalu. Depending on the specific project context, persons meeting the four defining characteristics of OP/BP 4.10 are likely to be found in Fiji, PNG, the Solomon Islands, Timor-Leste and may be found in Vanuatu.

Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org

V. KEY RISKS

91. The key risks for the project have been identified and have been rated in the Systematic Operations Risk-Rating Tool. The overall project risk rating is assessed to be **Moderate**. The project is classified as Moderate risk because sector agencies have suitable previous experience and capacity to do this type of project work, and the works are largely rehabilitating existing assets so new substantial environmental and social risks are unlikely.

92. *Political and Governance*. The political and governance risk has been rated as **Substantial**. The project will involve several government ministries and thus strong leadership and well-defined procedures will be required by MOI in order to keep the project to schedule and budget. Past experience has shown that key positions, such as the MOI CEO, can remain vacant a long time, which may slow down some procedures critical for efficient project implementation.

93. *Macroeconomic risk.* The macroeconomic risk is rated as **Substantial**. Macroeconomic shocks occur with relative frequency in Tonga, and have the potential to shift government priorities relatively quickly. The potential shocks are varied, but include natural disasters, a deterioration of economic conditions in larger countries around the Pacific Rim, commodity price shocks or a reduction in external assistance. Macroeconomic stability is highly dependent on steady remittance flows, continued development assistance from donors and stable imported commodity prices.

94. *Sector Strategies and Policies*. The sector strategies and policies risk is rated as **Moderate**. The project activities are wholly based on a substantial number of analytical reports done by the government that outlined the activities as high priorities to the country.

95. *Technical Design*. The *Technical Design* is rated as **Low**. The design solutions proposed in this project are similar to approaches already taken in the recent World Bank supported TSCP and TAIP and thus MOI as well as regional consultants and contractors have existing relevant experience. Possible complexities in implementation may arise due to the fact that project works are spread over a wide geography of the country. A new design solution included in the project are innovative maintenance contracts (area-wide, multi-year, performance based), and whilst MOI has no experience with these contracts in the past, the World Bank can provide sufficient support from its extensive accumulated experience on other projects around the world.

96. *Institutional Capacity for Implementation and Sustainability.* The institutional capacity risk is rated as **Moderate**. The MOI has valuable recent relevant experience gained managing from TSCP and is thus well placed to be able to implement this project.

97. *Fiduciary*. The fiduciary risk is rated as **Substantial**. The MOI-based PST must ensure that key fiduciary principles are adhered to, procurement is effective and that contracts are managed appropriately. To mitigate fiduciary risks when the individual contracts of PST staff expire by early 2019, MOI will carry out competitive selection (and the incumbents will be eligible to compete) to ensure that they will abide by these expectations. The PST has prepared a detailed project procurement strategy for development (PPSD), and will manage ongoing procurement through STEP.

98. *Environmental and Social.* The environmental and social risk is rated as **Moderate**. The risks associated with the project are site specific and able to be identified. Appropriate mitigation measures have been identified and will be implemented throughout the life of the Project. The project support team currently preparing the project have suitable experience of implementing similar project in Tonga and will be supported by the CSU soon to be established by GoT.

99. *Stakeholders.* The stakeholder risks are regarded as **Low**. The project is largely rehabilitating existing assets so even though it is expected that whilst many community stakeholders will be engaged, there will be no friction about the project activities. Community consultation through the ESIA found that communities are highly positive about the project activities.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Tonga

Tonga Climate Resilient Transport Project

Project Development Objectives(s)

Improve the climate resilience of the Recipient's transport sector, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Improve resilience of transport sector, provide immediate response to Eligible Crisis or Emergency								
Identified planning tools being used to improve climate resilience (Number)		0.00	0.00	0.00	1.00	1.00	1.00	1.00
Identified climate resilient investments constructed/rehabilitated and in use in the aviation and maritime sectors (Number)		0.00	0.00	0.00	1.00	4.00	4.00	4.00
Identified enabling environment solutions implemented (Number)		0.00	0.00	1.00	1.00	2.00	3.00	3.00
Roads constructed or rehabilitated with climate		0.00	0.00	0.00	10.00	20.00	40.00	45.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
resilience measures (Kilometers)								
Climate resilient routine maintenance contracts in place and being implemented (Yes/No)		No	No	No	Yes	Yes	Yes	Yes

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Component 2: Climate Resilient Infrastructure Solutions								
Roads constructed or rehabilitated (Kilometers)		0.00	0.00	20.00	40.00	80.00	100.00	100.00
Major ports and wharves where repair investments are made (Number)		0.00	0.00	1.00	3.00	3.00		3.00
Airport pavements rehabilitated (Number)		0.00	0.00	0.00	1.00	1.00	1.00	1.00
Component 3: Strengthening the Enabling Environment								
Number of Island Groups with trained GBV focal people (Number)		1.00	0.00	0.00	1.00	2.00	3.00	3.00
Instances when GBV codes of conduct are implemented on project activities (Number)		0.00	0.00	0.00	3.00	3.00	3.00	3.00
Grievances registered related to delivery of		0.00	85.00	90.00	90.00	95.00	100.00	100.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
project that are addressed (Percentage)								
Gap between percentage of female commercial license holders and male holders decreases - percentage points (Percentage)		70.00	70.00	69.00	69.00	67.00	66.00	65.00
Number of trainings delivered (Number)		0.00	0.00	0.00	2.00	4.00	5.00	5.00
Component 4: Contingency Emergency Response								
CERC POM approved (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Identified planning tools being used to improve climate resilience	A cumulative measure of the uptake of technical assistance (i.e. analytical and sector planning tools) that improves the way that climate change is addressed in Tonga's transport sectors. An example of an identified planning tool would be the road sector Climate	Semi-annual	MOI progress reports	Reviewing reports	PST

	Vulnerability Assessment.				
Identified climate resilient investments constructed/rehabilitated and in use in the aviation and maritime sectors	A cumulative measure that tracks progress of making the transport network more climate resilient through targeted investments. An example of a investment would be a marine port or airport that is rehabilitated to be more resilient.	Semi-annual	MOI progress reports	Reviewing reports	PST
Identified enabling environment solutions implemented	A cumulative measure that tracks progress implementing institutional and regulatory reforms for transport sector asset management and maintenance, including measures to strengthen local capacity and to increase the sustainability of sector investments. Examples of enabling environment solutions include assessment of options to establish a Maritime Maintenance Fund, update of MOI technical specifications for sealed roads and/or steep roads, creation of comprehensive maintenance specifications	Semi-annual	MOI progress reports	Reviewing reports	PST

	for all road types in Tonga, purchase of climate resilient material testing equipment, etc...				
Roads constructed or rehabilitated with climate resilience measures	A cumulative measure of the kilometers of road constructed or rehabilitated with climate resilience measures such as through improved design (e.g., raised road, improved drainage).	Semi-annual	MOI progress reports	Reviewing reports	PST
Climate resilient routine maintenance contracts in place and being implemented	An example of a climate resilient routine maintenance contractor would be an area-wide, multiyear or performance based contract.	Semi-annual	MOI progress reports	Reviewing reports	PST

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Roads constructed or rehabilitated	Contractors completing works will report to PST on monthly basis and this data will be conveyed to World Bank through MOI progress reports.	Semi-annual	MOI progress reports	Reviewing reports	PST
Major ports and wharves where repair investments are made	Contractors completing works will report to PST on monthly basis and this data	Semi-annual	MOI progress reports	Reviewing reports	PST

	will be conveyed to World Bank through MOI progress reports.				
Airport pavements rehabilitated	Contractors completing works will report to PST on monthly basis and this data will be conveyed to World Bank through MOI progress reports.	Semi-annual	MOI progress reports	Reviewing reports	PST
Number of Island Groups with trained GBV focal people	Contractors training focal points in GBV awareness and management strategies will report to PST on monthly basis and this data will be conveyed to World Bank through PST progress reports.	Semi-annual	MOI progress reports	Reviewing reports	PST
Instances when GBV codes of conduct are implemented on project activities	A cumulative measure of the number of occasions when the GBV code of conduct is incorporated into project activities.	Semi-annual	MOI progress reports	Reviewing reports	PST
Grievances registered related to delivery of project that are addressed	Grievance logging system has been implemented on multiple World Bank projects across Pacific Islands with good success.	Semi-annual	MOI progress reports	Project will implement grievance logging system and PST will record in MOI progress reports.	PST
Gap between percentage of female commercial license holders and male holders decreases - percentage points	Gap between female commercial license holders (15% of the total) and male holders (85%) is reduced.	Annual	MOI progress reports	Reviewing reports	PST

Number of trainings delivered	This indicator will track trainings of MOI staff and private contractors that occur related to activities within Component 3. Occupational Health and Safety training sessions for contractors qualify as one activity.	Annual	MOI progress reports	Viewing reports	PST
CERC POM approved	CERC manual to be available in the event of an Eligible Crisis or Emergency	Annual	MOI progress reports	Reviewing reports	PST

ANNEX 1: DETAILED PROJECT DESCRIPTION

COUNTRY: Tonga
Tonga Climate Resilient Transport Project

1. TCRTP consists of the following four components that incorporate the four pillars of PCRTP SOP:
   (i) **Component 1: Sectoral and Spatial Planning Tools (US$0.75 million)**. This component involves technical assistance that will improve the way that climate change is addressed in Tonga's transport sector and allows for the financing of updates to analytical and sector planning tools to enable policymakers to make informed decisions based on the most accurate and up-to-date information available. A program of sub-components is proposed:
      a. **Conducting a road sector Climate Vulnerability Assessment.** The focus will be in Vava'u and 'Eua, the islands with the hillier terrain, where the risks of erosion during storm events is much greater. Existing roads show extensive signs of vulnerability with scouring of unpaved roads, and erosion of side-drains. This Climate Vulnerability Assessment will formalize identification of at risk sites, providing a means to prioritize investments to mitigate the risks – both within TCRTP and beyond.
      b. **Urban transport studies including Nuku'alofa road traffic modelling, road public transport options and investigation and design of cycleway options.** Downtown Nuku'alofa has significant issues with traffic congestion as a result of a significant increase in car ownership in recent years. The MOI has explored options such as making some roads one-way during morning peaks, through to a proposal to build a large bridge across the estuary to provide an alternative entrance to the capital. To enable for a fact-based assessment of options to occur, including the integration of public transport routes (and bus terminal location) and cycling routes, a calibrated traffic model is required.
      c. **Upgrading the Transport Management System (TMS) information technology including conducting of trainings in relation to such system.** Within TSCP the TMS was implemented within the land transport sector to provide a modern means of tracking details such as vehicle registrations, driver licensing, vehicle crashes, bus routes etc. There is now an identified need to expand this capability to cover the maritime (and potentially the aviation) sectors, to capture information around vessel and seafarer certification, passenger numbers and the like. System would be of suitable climate resilience to ensure monitoring during severe weather events.
      d. **Technical assistance through an obstacle limitation survey for Kaufana Airport, 'Eua.** Kaufana Airport has limited clearance outside the airport boundaries, with tall coconut trees impacting on operating conditions under which planes may take-off or land. This technical assistance task will identify obstacles that require removal to enable the airport to be operated under a greater range of weather conditions, such that TAL can then set about reaching agreement to remove such obstacles with the relevant land owners.

   (ii) **Component 2: Climate Resilient Infrastructure Solutions** (**US$24 million).** This Component involves feasibility studies, design and construction of identified road, aviation and maritime assets to improve their resilience to climate-related hazards and/or events. The following sub-components are proposed:

a. **Road sector infrastructure rehabilitation**. This sub-component[25] will include:
   i. **Rehabilitation and/or upgrading of a combination of main and community/agricultural roads across Vava'u, and main island of Tongatapu as identified by the Tonga National Roads Improvement 3-Year Plan (2015).** On the main island of Tongatapu several sites have been identified for rehabilitation to address the missing links in what would otherwise be viable alternative paved routes running east-west across the island. Several of the proposed sites also align with the primary tourism route on the island. On Vava'u the works are focused on providing access into the rural areas.
   ii. **Rehabilitation and/or upgrading works including emergency works, combined with routine maintenance through innovative types of maintenance contracts (such as area-wide coverage, multi-year, combined periodic and routine maintenance all through the execution and implementation of Performance-Based Contracts) on selected roads in Western Vava'u, 'Eua and Ha'apai.** The contracts will be split into (1) upgrading, rehabilitation works (to bring these roads back to a fully maintainable standard), including emergency works as and when they are needed, and routine maintenance works of all roads within a geographic region (whether upgraded under the contract or not). The IDA grant will finance the rehabilitation/upgrading costs, while the Road Fund will finance the routine maintenance costs, estimated at USD1.225 million for 3 years, including a 10 percent contingency (invoices will be itemized to make a clear distinction between routine maintenance costs and other costs). Under TSCP the road maintenance industry was built from scratch and now operate under a combination of output and performance-based outcome contracts. The move to pilot new contract models follows the recommendations made by the independent reviewer of the Tongan road sector completed under TSCP.
   Contracts under sub-components (i) and (ii)(1) will include localized upgrades to increase climate resilience of vulnerable coastal and hilly roads by improving coastal protection, drainage and slope stability. On 'Eua and Vava'u, there is evidence that sediments eroded from the roads (either the surface of unpaved roads, or road side drainage) is finding its way into the ocean, causing damage to the sensitive receiving marine environment. This task is therefore about both improving the resilience of the road environment, as well as increasing protection of the maritime environment.
   iii. **Delivery of footpath upgrade works and other road safety investments and activities, at sites still to be determined.** While the overall accident rate on Tonga is not significantly out of keeping with many other nations (including New Zealand and Australia), the pedestrian accident rate is many times the rate observed in countries where there are pedestrian facilities. Under TSCP a safety program was implemented across all schools in Tonga to encourage pedestrian safety in getting to/from school, however it is clear that in many situations the lack of infrastructure is a major part of the safety risk – including footpaths terminating in the midst of busy intersections. This component permits the addressing of pedestrian infrastructure deficiencies.
   iv. Assessment, design and supervision of the above-mentioned road sector infrastructure works.

b. **Maritime sector infrastructure rehabilitation.** This sub-component will undertake a variety of safety

[25] The final selection of roads will be based on a cost estimate done during preparation, with the MoI's Road Asset Management tool used to determine priority. The methodology for final selection will be further outlined in the Project operation Manual (POM).

repair works at a number of outer island locations in Nafanua ('Eua), Pasivulangi (Niuatoputapu) and Futu (Niuafo'ou). The activities will be based on the recommendations of the Assessment of Maritime Safety Conditions of Ports and Wharves (2017) and the findings from investigation of Nafanua Port at 'Eua (October, 2017). These activities complement works that are already under procurement through the World Bank funded TSCP in Taufa'ahau, Ha'apai and Halaevalu, Vava'u. Works will include emergency repairs to sheet pile walls, breakwaters, pavements, concrete capping beams, replacement of fenders and bollards. Limited maintenance dredging at outer island ports to remove sediment deposits within the basin and docking areas is also included. Upon completion of the works, all outer island ports will be free of known maintenance backlogs. Activities under this sub-component will also include supervision of the maritime sector infrastructure rehabilitation works, and design and preparation of the maintenance dredging works.

c. **Aviation sector infrastructure rehabilitation.** This subcomponent would include urgent resurfacing to the runway and apron at Salote Pilolevu Airport, Ha'apai, including reconstruction on pavement layers at localized soft spots, subsoil drainage as needed, and full line marking. While the overall runway is structurally sound with only isolated weak spots where subgrade moisture is apparent, the surfacing layer is very oxidized resulting in excessive loss of surfacing material (chip seal), with associated risk of flights not continuing to fly to Ha'apai. The tasks include provision of subsoil drainage to sites showing moisture damage; removal of damaged pavement materials and reinstatement with new; and resealing (double bituminous surface treatment) the entire paved surface. Activities under this sub-component will also include design and supervision of the resurfacing of the Ha'apai runway and apron.

(iii) **Component 3: Strengthening the Enabling Environment (US$2.50 million)**. This Component will provide funding to support institutional and regulatory reforms for road sector asset management and maintenance, including measures to strengthen local capacity and to increase the sustainability of climate resilient investments under the project. In addition, this Component will help to strengthen coordination among relevant institutions, look at ways in which the road and maritime sector management can be improved. This sub-component will include:

a. **Project support team.** Providing technical and operational assistance to a Project Support Team to be housed in the MOI on project management and implementation. This is the same structure as has been used successfully for the TSCP project.

b. **Technical assistance**. Technical assistance to include (i) assisting MOI with completing the institutional reform process started under TSCP (in particular the remaining items are reliant on the passing of legislative reforms including the critical Roads Act and the Traffic Act), (ii) explore options for establishing a Maritime Maintenance Fund starting with forecasting of operational revenue and expenses of outer island ports, (iii) updating MOI technical specifications to make sealed roads more climate resilient (in particular focusing on pre-seal repairs and shoulder/drainage issues), creation of specifications for steep roads, and creation of comprehensive performance-based maintenance specifications for all road types in Tonga, and (iv) strengthen the Ministry of Infrastructure's capacity to manage transport infrastructure and assets. For example, a need for TA may emerge as a result of some of the technical studies already listed above, or to support MoI's engineering team to handle emergency works, carry out feasibility studies, etc. The scope of such emerging priority TA is contingent

upon critical issues that may arise impacting the Government's ability to manage transport infrastructure and assets in Tonga.

c. **Climate resilient material testing equipment.** Purchase of essential additional testing equipment for the MOI materials laboratory and provision of training to staff to operate. The current MOI laboratory has limited equipment to test the strength and mechanical characteristics of the materials used in road construction, which in turn limits the treatments that can be applied to address climate vulnerability
d. **Safety related technical assistance**. Provision of training to MOI, consultants and contractors on occupational health and safety (OHS) measures, transport safety campaign activities and safety audits of Tonga's road network. Under TSCP, whenever international trainers were brought in to deliver training to MOI on road construction or similar courses, consultants and contractors were invited to participate as part of the overall process of creating a capable industry.
e. **Impact assessment**. Conducting beneficiary surveys, including surveys focusing on gender and people with disabilities, to assess the impact of the major works carried out under the project.
f. **Gender based violence strategy.** Development and implementation of gender-based violence management strategy which include a needs assessment as well as prevention and support services.
g. **Gender-informed driver licensing pilot.** Carrying out of education and safety courses as well as outreach programs on commercial drivers' licenses for women.

(iv) **Component 4: Contingency Emergency Response (US$0.00 million).** Since PICs will remain vulnerable to climate change and severe weather events, even with the successful implementation of the first three components, supporting post-disaster recovery is an important feature of the PCRTP. This Component is designed to provide swift response in the event of an Eligible Crisis or Emergency[26], by enabling the Government to request the Bank to re-allocate Project funds to support emergency response and reconstruction. Within Tonga, Tropical Cyclone Ian struck the island group of Ha'apai in 2014 and caused significant damage to public infrastructure, housing and crops; while Tropical Cyclone Gita (the most intense cyclone to hit Tonga since records commenced) struck Tongatapu and 'Eua islands in February 2018 causing human deaths, demolishing houses, flattening parliament buildings and other infrastructure. Additionally, Tonga has been struck by 22 tsunamis since 1837, averaging one every 8 years resulting in both loss of human life and infrastructure.

[26] Defined as "an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters", OP/BP 8.00, *Rapid Response to Crises and Emergencies*.

ANNEX 2: IMPLEMENTATION SUPPORT PLAN

COUNTRY: Tonga
Tonga Climate Resilient Transport Project

Strategy and Approach for Implementation Support

1. The implementation support plan is based on previous experience and lessons learned from other road sector projects in Tonga as well as the Project's risk profile. The approach is to provide ongoing and regular implementation support.

2. Ministry of Infrastructure (MOI), has had recent experience with World Bank projects, including the Transport Sector Consolidation Project (TSCP) which laid the foundation that the TCRTP seeks to build upon. As such, it is familiar with Bank procedures and requirements, which reduces implementation risk. Tonga Airports Limited (TAL), which will provide advice and support to MOI in relation to the activities in the aviation sector under the project, has experience with World Bank procedures and requirements through its extensive involvement with the Pacific Aviation Investment Program (PAIP).

3. The Ministry of Finance and National Planning (MFNP), in consultation with MOI and TAL, will determine the appropriate timing of semi-annual reviews, taking into consideration the availability of participants. The World Bank implementation review will cover non-technical aspects of the support including: (i) financial management; (ii) procurement; (iii) implementation arrangements; and, (iv) environmental and social safeguards. In addition, field visits will also be undertaken to project sites. To the greatest extent possible, the World Bank team will accommodate any written request for 'as-needed' support for the Project, including technical and fiduciary aspects.

4. Each implementation review mission will result in the production of an Aide-Memoire that will be discussed at a wrap-up meeting to be chaired by MFNP. It is envisaged that the Aide-Memoire will provide an overall view of the current situation relating to project implementation, including findings and observations from the World Bank. Representatives from the relevant GoT agencies will be invited to attend the kick-off, wrap-up as well as technical meetings. Furthermore, any adjustment requiring more frequent reviews will be discussed, agreed upon, and documented in the Aide-Memoire.

5. A mid-term review mission will be held not later than three years after the effective date of the Project, or such other period as may be agreed with the Bank. It is envisaged that the mid-term review will be conducted at either the halfway point of the Project period or when the funds are 50 percent disbursed and provides an opportunity to review the Project and take stock of implementation progress. Following the mid-term review, adjustments to project support may be required, including a project restructuring and/or possible additional financing from any other sources based on the implementation experience. The World Bank task team will work with MFNP, MOI and TAL to clarify the requirements necessary to effect any changes. Any changes to the Project that require amendments to the Financing Agreement will require a formal request from the Government's signatory to the Financing Agreement.

6. Six months prior to the closing date of the Project, the Government will commence the preparation of its Implementation Completion and Results Report (ICR). The World Bank ICR author will participate in the final implementation review and will gather the necessary information to help prepare the ICR.

Implementation Support Plan and Resource Requirements

7. Missions to support implementation for TCRTP will be carried out every 3–6 months. At least once per year the missions will include technical, fiduciary and safeguards team members, who will provide input into infrastructure design and construction, carry out post reviews on contract management, review safeguards compliance, and provide formal training where required. The implementation support plan will be reviewed annually to ensure that it meets the support needs of the Project. The estimated level of annual support needed to implement TCRTP is identified in the table below.

Table 10 Implementation Support Plan

Time	Focus	Skills Needed
First twelve months	Project launch and start up	Task Team Leader Operations Officer Transport Analyst Technical Procurement Financial Environment Social Administrative Support Gender Specialist
12-60 months	Project implementation	Task Team Leader Operations Officer Transport Analyst Technical Procurement Financial Environment Social Administrative Support Gender Specialist
Skills Needed	**Number of Staff Weeks**	**Number of Trips**
Task Team Leader	8 per year	3 per year
Transport Analyst	8 per year	3 per year
Technical	4 per year	2 per year
Procurement Specialist	3 per year	2 per year
FM Specialist	3 per year	2 per year
Environment Specialist	3 per year	2 per year
Social Specialist	3 per year	2 per year
Gender Specialist	3 per year	1 per year
Administrative Support	3 per year	0 per year

ANNEX 3: SERIES OF PROJECTS

COUNTRY : Tonga
Climate Resilient Transport Project

1. The PCRTP SOP includes a series of independent projects to multiple Recipients who are facing a common set of development issues. The SOPs share a common design to finance activities to systematically improve the resilience of PIC's transport networks to natural hazards and climate change. The program includes activities and investments at the country-level (Project), with each of the country projects self-standing.

2. At this stage, the Program will include a first phase (Phase 1), which will include a series of projects for Samoa, Tuvalu and Tonga. TCRTP will be the second project in the programmatic approach applied under the SOP. A second phase (Phase 2), will include additional countries including Vanuatu, and may include additional investments in Phase 1 countries.

3. A key characteristic of this SOP approach is that each project in the series is self-standing once the template has been designed. This means that each project design in the series follows the program template, but may be adapted to support the specific requirements from each individual country according to local realities and to move forward at its own pace (each country follows its own path based on its readiness). Most importantly, each of the projects is justified on its own merits even if the other projects under the program do not materialize.

4. **Development objectives.** The goal of the series is to: (i) support the Recipients in improving the resilience of their transport sector; and, (ii) in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency. The programmatic series will focus on the road, maritime and aviation sectors, which have been identified as vulnerable in PICs. Each project in the SOP will have a PDO that feeds into the overarching development objective of the program.

5. **Rationale for Bank involvement.** The World Bank is already supporting numerous climate resilient investments in the transport sector in the Pacific; however, the approaches taken are often distinct on a country-by-country comparison. This series, rather than distinct country-specific projects will help to provide consistency and to systematically address the way that challenges are addressed in the transport sector by the World Bank, its clients, and participating donor partners by providing a project template (framework) approach to address specific issues that are commonly shared by different countries in the Pacific. Specifically, PICs' populations are among the most vulnerable to disasters and the impacts of climate change, and experience high social impacts. Transport is among the most vulnerable sectors throughout the region, as it not only constitutes a large share of public assets and Government budgets, but many transport sector assets (primary roads, airports and ports) are located within the coastal zone and there is often limited redundancy in the network because of lacking space, small populations and limited financial resources. Within the transport sector, a significant share of Government and international aid finances construction or rehabilitation of road networks, with an increasing emphasis to make roads more resilient to natural disasters and climate change.

6. Transport programs that employ a multi-pronged approach to climate resilience by improving sectoral and spatial planning, utilizing climate resilient infrastructure solutions, strengthening the enabling environment

and supporting post-disaster recovery can help reduce future asset loss and improve well-being, and reduce service disruptions. For example, upgrading construction standards can reduce the impacts from more intense and frequent events, infrastructure maintenance can reduce damage and reduce the costs of repair or reconstruction, and asset management systems help to save resources (financial, human) associated with rehabilitation.

7. The SOP will support Recipients through considering risks in a holistic manner, through the integration of resilient transport interventions into decision-making and implementation. The SIDS report outlines an infrastructure lifecycle that includes four key aspects for institutional Capacity and Coordination: (i) systems planning; (ii) engineering and design; (iii) operations and maintenance; and, (iv) contingency programming (Figure 2).

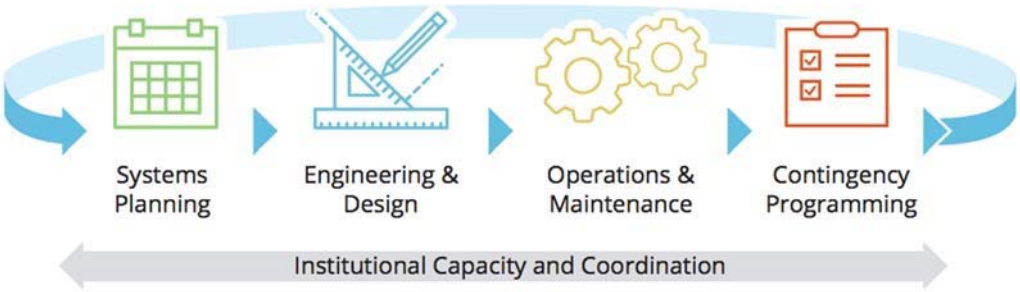

Figure 2 Transport Infrastructure Lifecycle[27]

8. The SOP will include actions that are in line with the infrastructure lifecycle, and will include building institutional capacity and coordination to integrate climate and disaster risk considerations in transport infrastructure lifecycle management. Examples of activities are included below (Table 11).

Table 11 Examples of Transport Infrastructure Interventions under the SOP

Component	Intervention	Examples
1	Systems Planning	Analyzing transport systems at a network level to identify critical infrastructure and redundancy; Designing transport infrastructure for connectivity and disaster risk management purposes.
2	Engineering & Design	Improving design standards; Undertaking vulnerability assessments (hazard, infrastructure, network level); Using innovative materials that enhance climate resilience.

[27] Climate and Disaster Resilient Transport in Small Island Developing States: A Call for Action. World Bank, 2017.

3	Operations & Maintenance	Mapping and inventorying transport assets; Improving arrangements for maintenance (institutional, financial, contractual); Mobilizing local communities in operations and maintenance of road assets.
4	Contingency Programming	Planning and developing sector strategies; Investing in emergency preparedness.
3	Institutional Capacity and Cooperation	Integrated government-wide objectives; Training.

9. **Program components.** The PCRTP SOP includes four pillars to help achieve the overarching development objectives:

(a) **Pillar 1: Spatial and Sector Planning Tools:** This Component involves TA that will directly support countries by bringing about transformative change in the way that climate change is addressed in the transport sector. New tools are now readily available to PICs and have the potential to work well in low capacity environments. For instance, all governments can mitigate the impact of climate change and extreme weather events by assessing the level of hazard frequency and severity and map this against major points of vulnerability along their transport network. Examples of potential technical assistance that countries may consider include: (i) tools that enable stakeholders to identify vulnerabilities and design and evaluate appropriate interventions to make ports, airports, and roads more resilient; and, (ii) climate resilient transport strategies that identify measures to enhance resilience and prioritize investments to balance vulnerability reduction against cost implication. This will involve using best available climate change and natural hazard risk information to identify key hazard types and risk levels, such as sea-level rise, tropical cyclones, extreme rainfall and temperature events, tsunamis, etc., and then assessing the likely severity and timing of risk impacts for all major links of the transport network.

(b) **Pillar 2: Climate Resilient Infrastructure Solutions:** Complex design solutions are often not fit-for-purpose in PICs due to their limited resources (human, fiscal and material). In most countries even vital, basic drainage is largely absent due to limited capital. Limited material resources create cost and environmental challenges when repairing, rehabilitating or building infrastructure. For example, some PICs need to import aggregate from other domestic islands while others import from other countries, over a thousand kilometers away. In addition, some PICs rely upon desalination facilities for water. Considering their resource constraints, for the road sector, short- to medium-term design efforts will center on installing drainage and raising low-lying coastal roads. Longer-term solutions may also involve moving vulnerable coastal roads inland, with due consideration to land issues and of course limited capital. The Component will also finance designs that consider more innovative and resilient civil engineering solutions, for example geosynthetics such as the use of geocells for low-volume roads[28]. Finally, coastal infrastructure may also be strengthened to help protect ports, and adjacent airports and roads. A menu of hard and soft options for coastal protection will be available to PICs. Traditional engineering approaches may focus on construction of seawalls, breakwaters and

[28] Geocell pavements are an intermediate technology between interlocking paving stones and surface dressing used to construct durable concrete pavements which can have a lower cost than conventional alternatives.

groins. Greener options to replace or complement hard coastal infrastructure may also be financed such as living shorelines and recovery of coastal habitats for mangrove replanting. A PICs choice between hard and soft options ultimately depends on availability of capital and the relative balance of technological and labor resources. All these examples are fit-for-purpose in the Pacific because the designs can be readily implemented in low capacity environments and they are generally more affordable than complex resilience solutions more appropriate for larger countries with greater capacity and resources.

(c) **Pillar 3: Strengthening the Enabling Environment:** Measures to strengthen the enabling environment include capacity building, and legal and regulatory reform. Investment in capacity building is essential because a consequence of PICs' small populations is that few ministries have even one member of staff focusing on climate resilience and many working in infrastructure are not fully informed of the risks climate change and severe weather events pose to transport infrastructure. Therefore, project management support within key implementing entities will be a core component of delivery for all resilience projects. Support may include the provision of Climate Resilient Transport Advisers/Consultants to Ministries of Infrastructure or road authorities and resilience-related training and/or workshop(s) for relevant ministries and civil society organizations that deliver climate change related services for the transport sector. Key skills targeted for capacity building include: coastal engineering, GIS and database analysis, hydrodynamic modeling, geo-morphology, project management, and monitoring and evaluation. The enabling environment will also be strengthened through new and amended legal frameworks that enable PIC Governments to appropriate funding and create programs to strengthen resilience. On the regulatory side, reform will focus on updating design and planning standards and maintenance procedures, considering expected climate change. Creating incentives to support resilience-focused maintenance and fostering stakeholder engagement in the design of regulations are crucial for success. Possible measures include: fit-for-purpose obligations[29], performance-based standards, technical standards, and codes of practice.

(d) **Pillar 4: Post-disaster recovery (i.e. Contingency Emergency Response):** Since PICs will remain vulnerable to climate change and severe weather events even with the successful implementation of the first three pillars, supporting post-disaster recovery will remain essential. This pillar is designed to provide swift response in the event of an eligible crisis or emergency, defined as "an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters"[30].

10. It is important to note that each project within the SOP will be aligned with the overall program's objectives, but should be adapted to support the specific requirements from each individual country. For example, if a preparatory gap analysis suggests that a country already has robust spatial and sector planning tools (i.e. Pillar 1) in place, then that project may require very limited or no investments in that area, but may instead focus more heavily on activities the fall under the other pillars. Similarly, alongside investments in climate resilience, a project under this SOP may also focus on other sector priorities best addressed through that project (e.g. improving safety of transport assets or improving access) based on the countries' respective

[29] An obligation that binds a counterparty to ensure works are designed and constructed for their intended purpose. A consultant or contractor then would be liable to the client (i.e. country) in a situation where it has not met the obligation (e.g. ensuring a road has been constructed to handle current and future climate change and severe weather events).
[30] As defined in OP 8.00, "Rapid Response to Crises and Emergencies"

needs.

11. **Program financing.** The proposed lending instrument is IPF, supporting a SOP. Each of the self-standing country Projects will finance a different group of eligible beneficiaries, and each is expected to last approximately five or six years. Other phases (i.e., Phase II), could potentially follow in the future, and may overlap with Phase I.

12. To implement the shared objective and approach, the projects in the series will finance activities that will be implemented nationally in each participating country. The projects include physical investments and technical and operational assistance.

13. The following projects are initially proposed to be included within the PCRTP SOP. Samoa Climate Resilient Transport Project (SCRTP will be the first project in the series, with the Tuvalu Maritime Investment in Climate Resilient Operations (MICRO) Project and Tonga Climate Resilient Transport Project (TCRTP) to follow. The total cost of PCRTP is estimated to amount to US$81.97 million equivalent over five years including US$81.77 million in IDA grants and US$200,000 in a Global Facility for Disaster Reduction and Recovery (GFDRR) grant (Table 12).

Table 12 Proposed Projects

	Project	Project Number	Project cost (US$ million equivalent)	IDA Financing (US$ million equivalent)	Other sources of Financing	Approval
1	Samoa Climate Resilient Transport Project (SCRTP)	P165782	35.75	35.75	N/A	FY19
2	Maritime Investment in Climate Resilient Operations (MICRO)	P161540	20.20	20.00	0.20 (GFDRR Grant)	FY19
3	Tonga Climate Resilient Transport Project (TCRTP)	P161539	27.25	26.02	1.23 (Road Fund)	FY19
		Total	83.20	81.77	1.43	

14. **Lessons learned and reflected in program design.** The design of the PCRTP pillars has taken into consideration the lessons learned from other World Bank projects within the region. For example, the program includes measures to strengthen the existing implementation and institutional agencies recognizing the capacity constraints in participating countries. In addition, given the vulnerabilities of the transport sector to extreme weather and climate change impacts, lessons learned from other climate resilience projects and disaster risk management have been used to inform the design of the program components.

15. **Implementation.** The implementation period for each of the three countries in Phase I is planned to take up to five years. For Tonga, World Bank Board approval is scheduled Q2 FY19. It is proposed that all projects within the series would be approved by Q2 and Q3 FY19. The implementation of the projects will occur at the national level via relevant IAs. Each country is responsible for implementing its respective Project.

16. **Results monitoring and evaluation.** Responsibility for overall M&E progress for each project towards the country project objectives and outcomes is the responsibility of the IAs in each country. Where feasible,

indicators will be harmonized across projects participating in the series in alignment with the four-pillared approach, but the results framework may be adapted to support the specific requirements from each individual country. For example, a country not in need of Pillar 1 activities or that focuses more on other activities aligned with other pillars would not have indicators related to Pillar 1. In addition, a project that has an objective other than just climate resilience may incorporate additional indicators to monitor and evaluate progress related to that objective.

17. It is proposed that each project will have standalone PDO and intermediate indicators; however, program-level indicators will be included to highlight the contribution of each project towards the overall program through measuring instances where activities have been undertaken in each project that are aligned with the pillar approach. The program-level indicators proposed are:

    (a) Identified planning tools being used to improve climate resilience of roads.

    (b) Identified climate resilient investments constructed and in use.

    (c) Identified enabling environment solutions implemented.

18. Given the conditions of the fourth pillar, an intermediate indicator may be added in the event of an eligible crisis or emergency, for example: Time taken to initiate fund disbursement, as requested by Government, for an eligible crisis or emergency (target of four weeks).

19. If the design of a project in the series, such as TCRTP, comprehensively aligns with the pillars of the program, then that project may consider using these program-level indicators as project PDO-level indicators. However, other PDO-level indicators may need to be utilized if they better track the objectives of that specific operation.

20. **Sustainability.** PCRTP includes a strong focus in strengthening capacity and building resilience within the transport sector. The Program components will help to pave the way for a resilient and sustainable transport network and management systems.

21. **Key risks and mitigation measures.** The overall risks associated with the program are assessed as “Moderate”. Below are the key risks to the Program and the mitigation measures:

    (a) **Sector strategies and policies.** The risks associated with the sectoral strategies and policies are moderate, with climate and disaster resilience recognized as a key development challenge in PICs. Some countries (e.g. Samoa) are already mitigating this risk through the design and implementation of sector planning tools such as road network vulnerability assessments and climate resilient road strategies. However, an ongoing challenge will be to balance the range of investment priorities and ensure there is political support. The projects aim to address this by streamlining climate resilience into ongoing sector activities.

    (b) **Institutional capacity for implementation and sustainability**. The risks related to institutional capacity for implementation and sustainability are substantial. There is relatively weak implementation capacity for the Phase I countries. The program includes provisions to build capacity and support implementation agencies by strengthening the enabling environment. In addition,

regular and intensive implementation support missions will help to further provide support in the implementation of country projects. Previous experience in implementing World Bank projects in the Phase I countries has also helped to identify what works well, and where further improvements can be made, with each project incorporating these lessons learned.

(c) **Fiduciary.** The primary fiduciary functions will be performed by each IA. There is however, relatively weak fiduciary capacity associated with the IAs. Mitigation measures informed by the FM and procurement assessments will be implemented and technical assistance provided. The overall environmental and social impacts of the Program are expected to be positive, with no significant risks or irreversible adverse impacts envisaged. Each project will ensure that the World Bank Safeguard Policies are adhered to.

(d) **Other.** The Pacific is vulnerable to disaster events that prove a challenge to ensuring long-term resilience. The Program includes not only a focus on building resilience in infrastructure and institutions to advance the resilience agenda, but also includes a CERC to help alleviate disaster response and recovery needs. The CERC component provides flexibility to the countries and will help to minimize disruptions to the achieving the outcomes of the Program in the event of a disaster.

ANNEX 4: CONTINGENT EMERGENCY RESPONSE COMPONENT

COUNTRY : Tonga
Climate Resilient Transport Project

1. The CERC is a contingent financing mechanism available to gain rapid access to financing to respond to a crisis or emergency, and provides for immediate rehabilitation or reconstruction needs without needing to first restructure the original project thus facilitating rapid implementation. The CERC minimizes time and effort needed to make available uncommitted funds from an IPF to finance urgent needs. Following an eligible crisis or emergency, the Recipient may request the Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted grant resources under the Project from other project components to cover emergency response. Consistent with OP 8.00 the CERC does not finance humanitarian assistance or relief.

2. Tonga is susceptible to crisis events and has been impacted in the past by geophysical and weather-related extreme events. Having the CERC contributes to a robust and meaningful rapid response capacity and overall helps to build a holistic disaster risk management strategy. The inclusion of the CERC in an investment operation provides advantages in that it establishes an *ex-ante* mechanism through which Tonga can rapidly fund its post-disaster needs and reduce the need for a project restructuring to use allocated financing to respond to post-disaster priorities.

3. The reallocation of funds in an emergency would not cause serious disruption to the Project as Tonga has had previous experience in dealing with crisis or emergency events. In addition, the sector is frequently called upon to handle aspects of emergency response following extreme events. The inclusion of the CERC in the Project will help to support the road sector, which is susceptible to crisis events.

4. Key principles relevant to CERCs include: (i) focus on activities that can readily be implemented on the ground considering the circumstances; (ii) favor smaller-scale, local activities that generate buy-in and goodwill; (iii) keep the scope simple and realistic, especially where local conditions do not allow much situational analysis and, (iv) take advantage of working with and completing the activities of development partners to maximize impacts.

5. **Activation criteria.** The project-specific CERC will be funded under the TCRTP budget. Following an eligible crisis or emergency, the CERC would be implemented in accordance with the rapid response procedures governed by the World Bank under OP/BP 8.0 *Rapid Response to Crises and Emergencies.* In addition, the provisions of the IPF Policy, paragraphs 12-14, regarding “Projects in Situations of Urgent Need of Assistance or Capacity Constraints” apply to CERCs when they are triggered. The funding provision for the CERC is SDR0.00 million, however can be increased by drawing down against uncommitted IDA funds under other components if necessary. Disbursement conditions would define the circumstances under which the CERC funds would become available.

6. Upon the “Declaration of Disaster”, the Recipient will undertake the necessary steps to complete a rapid initial impact assessment with the objective of identifying a list of potential activities for inclusion. Upon compilation of the list of potential activities, the government of Tonga will review and select those for financing under the CERC based upon:
   (i) eligibility and safeguard criteria outlined in the Financing Agreement, and, (ii) national priorities.

7. The request to trigger the CERC and seek approval of activities to be eligible expenditures for financing under Disbursement Category 2 (refer Table 6) will be communicated to the World Bank's Pacific Country Director by Tonga's Minister of Finance and National Planning, or her/his delegate, in a letter. The letter should include information pertaining to: (i) the nature of the emergency, its impacts and confirmation of causal relationship (as supported by the "Declaration of Disaster") between the event and the need to access the financing allocated to Disbursement Category 2; (ii) the nature of emergency activities (brief description); and, (iii) the CERC action plan of activities.

8. The Financing Agreement stipulates the establishment of adequate implementation arrangements, satisfactory to the Bank, including staff and resources for implementation of activities under Component 4: Contingency Emergency Response, to the Bank for its review and approval. A CERC POM for the Project will detail: (i) the process for triggering the CERC; (ii) the proposed emergency activities to be financed by the proceeds of the CERC; and, (iii) the coordination and implementation arrangements related to the execution of the activities.

ANNEX 5: GENDER BASED VIOLENCE

1. As noted in the main text, the project was screened and the GBV risk associated was classified as Moderate.
2. Based on the potential project risks, the project will undertake specific activities to address GBV, including the potentially induced impacts from the project. This will be done by implementing the key recommendations of the 2018 Good Practice Note (GPN) 'Recommendations for Addressing Gender Based Violence in Investment Project Financing Involving Major Civil Works'. Table 12 below shows how the GPN's recommendations for actions have and will continue to be addressed.

Table 13 Actions Taken to Implement GBV GPN Recommended Activities During Preparation

Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management	Actions Taken During Preparation/Appraisal
Sensitize the IA as to the importance of addressing GBV on the project, and the mechanisms that will be implemented.	• Preparation- effectiveness • Ongoing during Implementation.	Task Team.	• Task team to monitor and provide additional guidance as necessary.	• The ESIA will be revised to include a summary of GBV issues in Tonga, and the outcomes from the work being undertaken by the Gender consultant (which will be available end of September). • Key stakeholders including MOI and Ministry of Internal Affairs have been informed of the Bank's interest in this area and have shown their initial support. Further discussions are planned once additional information is available from the Gender consultant.
The project's social assessment to include assessment of the underlying GBV risks and social situation, using the GBV risk assessment tool.	• Preparation- effectiveness. • Implementation (before civil works commence).	IA for social assessment and ESMP. Contractor for C-ESMP. Task team for GBV Risk assessment tool	• Ongoing review during implementation support missions. • Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes.	• Risk assessment tool has been used to assess risk, which is Moderate. • A GBV specialist has been engaged to undertake an assessment of GBV services and facilities in the outer islands. Outputs are expected to be available end September 2018 and will form the basis of the GBV action plan. The ESMP will also be updated as necessary.
Map out GBV prevention and response actors in project area of influence. This should incorporate an assessment of the capabilities of the service providers to provide quality survivor centered services.	• Preparation- effectiveness • Implementation	IA	• Update mapping as appropriate	• Underway. A GBV specialist has been engaged to undertake an assessment of GBV services and facilities in the outer islands. Outputs are expected to be available end September 2018 and will form the basis of the GBV action plan. The ESMP will also be updated as necessary.
Have GBV risks adequately reflected in all safeguards instruments (i.e., Project ESMP, C-ESMP)—particularly as part of the assessment in the ESIA. Include the GBV mapping in these instruments.	• Preparation - effectiveness • Implementation (before civil works commence).	IA for social assessment and ESMP. Contractor for C-ESMP.	• Ongoing review during implementation support missions. Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes.	• Underway. A GBV specialist has been engaged to undertake an assessment of GBV services and facilities in the outer islands. Outputs are expected to be available end September 2018 and will form the basis of the GBV action plan. The ESMP will also be updated as necessary. • The requirements will be clearly defined in the bid documents, and the Contractor's ESMPs will be reviewed to ensure that they are properly addressed before being accepted for implementation.
Develop a GBV Action plan including the Accountability and Response Framework as part of the ESMP. The contractor/consultant's response to these requirements will be required to be reflected in their C-ESMP.	• Preparation- effectiveness • Implementation (before civil works commence)	IA	• Ongoing review during implementation	• Underway. A GBV specialist has been engaged to undertake an assessment of GBV services and facilities in the outer islands. Outputs are expected to be available end September 2018 and will form the basis of the GBV action plan. The ESMP will also be updated as necessary.

Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management	Actions Taken During Preparation/Appraisal
Review the IA's capacity to prevent and respond to GBV as part of Safeguard Preparation.	• Preparation-effectiveness • Implementation.	Task Team	• Ongoing review during implementation support missions. Update project ESMP if risk situation changes.	• Underway. A GBV specialist has been engaged to undertake an assessment of GBV services and facilities in the outer islands. Outputs are expected to be available end September 2018 and will form the basis of the GBV action plan. The ESMP will also be updated as necessary.
As part of the project's stakeholder consultations, those affected by the project should be properly informed of GBV risks and project activities to get their feedback on project design and safeguard issues.	• Continuous throughout the project cycle	IA.	• Monitoring of implementation of Stakeholder Engagement Plan. • Ongoing consultations, particularly when C-ESMP is updated.	• Consultation was undertaken in preparation of the ESIA and no GBV issues were raised by the potentially affected community. • Stakeholder Engagement Plan will be updated to include consideration of GBV issues during ongoing consultation activities.
The Stakeholder Engagement Plan of the project, which will be implemented over the life of the project to keep the local communities and other stakeholders informed about the project's activities, to specifically address GBV related issues.	• Continuous throughout the project cycle	IA.	• Monitoring of implementation of Stakeholder Engagement Plan. • Ongoing consultations, particularly when C-ESMP is updated.	• Stakeholder Engagement Plan will be updated to include consideration of GBV issues during ongoing consultation activities.
Make certain the availability of an effective grievance redress mechanism (GRM) with multiple channels to initiate a complaint.	Prior to contractor mobilizing.	IA, but discussed and agreed upon with the Task Team.	Ongoing monitoring and reporting on GRM to verify it is working as intended.	• GRM procedure included in SEP and implementation required by ESMP.

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ANNEX 6: MAP OF PROJECT ACTIVITIES