**Tonga: Cyclone Gita Recovery Project**

**Project Name**
Cyclone Gita Recovery Project

**Project Number**
52129-001

**Country**
Tonga

**Project Status**
Active

**Project Type / Modality of Assistance**
Grant

**Source of Funding / Amount**
Grant 0575-TON: Cyclone Gita Recovery Project

- concessional ordinary capital resources lending / Asian Development Fund
- US$ 6.80 million

**Strategic Agendas**
Environmentally sustainable growth
Inclusive economic growth

**Drivers of Change**
Governance and capacity development
Knowledge solutions

**Sector / Subsector**
Energy - Electricity transmission and distribution

**Gender Equity and Mainstreaming**
Some gender elements

**Description**
The project will support the efforts of the Government of Tonga to reconstruct and climate- and disaster-proof the Nuku'alofa electricity network that was damaged by Tropical Cyclone Gita in February 2018.

**Project Rationale and Linkage to Country/Regional Strategy**
Based on its exposure, susceptibility, and coping and adaptive capacities, Tonga has been ranked second only to Vanuatu among the countries in the world most at risk of disasters caused by natural hazards. In any given year, it is likely that Tonga is either hit by a major natural disaster or is recovering from a previous one. The country is already experiencing the effects of climate change. Increasing variability in rainfall patterns is causing flooding and droughts in some locations. Increasing ocean temperature has led to coral bleaching and destruction of natural coastal barriers, and sea level rise is contributing to coastal erosion. These changes have heightened Tonga’s exposure to disasters brought about by tropical cyclones and storm surges, which have inflicted significant losses on the economy. For example, a cyclone in 2002 resulted in losses of $60 million, and losses from another one in 2010 reached $22 million. Tropical Cyclone Ian in 2014 resulted in total damage and losses of about $50 million. Tonga is also located within the Pacific “ring of fire,” which is associated with extreme seismic activity.

Tonga is expected to incur, on average, $15.5 million per year in losses from earthquakes and tropical cyclones. In the next 50 years, Tonga has a 50% chance of experiencing a loss exceeding $175 million and casualties higher than 440 people, and a 10% chance of experiencing a loss exceeding $430 million and casualties higher than 1,700 people. These figures could increase if the impacts of climate change are considered.

Tropical Cyclone Gita hit Tonga on 12 and 13 February 2018. It caused widespread destruction on Tongatapu, including Nuku'alofa, and the neighboring island of Eua. With average wind speeds of 130 kilometers per hour, and gusts of up to 195 kilometers per hour, it was the strongest cyclone to directly hit Tongatapu and Eua since severe Cyclone Isaac in March 1982. An accompanying storm surge reached 1 meter above normal high-tide levels, and 200 millimeters of rain fell within 24 hours, resulting in localized flooding. It is estimated that more than 80,000 people (or about 80% of the population of Tonga) were directly affected. The destructive winds, storm surges, and flooding brought down power lines; damaged and destroyed schools, resulting in closures; destroyed crops and fruit trees; and damaged public buildings, including the domestic airport, the Parliament building, and Tonga meteorological services. Nearly 5,000 houses were either destroyed or damaged. The government declared a state of emergency for the whole of Tonga on 12 February 2018. The government led a post-disaster rapid assessment (PDRA) with assistance from development partners, including the Asian Development Bank (ADB). The PDRA estimated the total value of effects caused by the cyclone to be about $164.3 million, equivalent to nearly 38% of the nominal 2017 gross domestic product in Tonga. The estimation of recovery needs incorporated the principle of building back better. The total recovery and reconstruction cost is estimated at $148.7 million, of which $45.9 million is for the energy sector, including the cost of reconstruction of the power grid infrastructure assets on Tongatapu to a higher standard of disaster resilience.

The cyclone disrupted the power supply on the islands of Eua and Tongatapu, disconnecting all Tonga Power Limited (TPL) customers. However, the service lines that had already been upgraded under the ongoing Outer Islands Renewable Energy Project (TVNUP) in Tongatapu funded by the New Zealand Ministry of Foreign Affairs and Trade (MFAT), experienced significantly less damage than the grids that had not yet been upgraded. On Tongatapu, TVNUP had already upgraded 54% of TPL’s grid prior to the landfall of the cyclone. Of the grids that had not yet been upgraded, 45.9% were damaged, compared with a damage of only 4.7% to the upgraded grids. The experience from OIREP and the TVNUP clearly demonstrates the resilience benefits of improving inefficient and aging power network infrastructure and building back better.

Over the first 6 weeks, during which businesses and schools were closed, TPL reconected the 17,782 customers in Tongatapu through temporary emergency repairs, awaiting the final reconstruction and disaster-proofing. However, in the current condition, the network would not be able to withstand another storm. The old service lines are now connected with several joints, making them more susceptible to faults.

The final reconstruction and upgrade should be done as soon as possible, to minimize secondary impacts on the economy and to restore reliable power supply in priority areas and for essential services.

On 15 February 2018, the government requested to withdraw $6.0 million in disaster contingent financing (a $3.1 million loan and $2.9 million grant) under ADB’s Pacific Disaster Resilience Program, which was established in December 2017 to help strengthen the disaster resilience of Samoa, Tonga, and Tuvalu. ADB released the $6 million budget support within 24 hours from the request. On 22 February, ADB provided an additional $1 million under the Asia Pacific Disaster Response Fund for humanitarian relief efforts. These funds were deposited in the government’s emergency fund and were an essential part of its immediate response and early recovery efforts.

On 12 April 2018, the government requested further ADB support to access $8.8 million under the Asian Development Fund 12 Disaster Response Facility for the (i) reconstruction and upgrade of electricity network infrastructure damaged by the cyclone ($6.8 million), noting ADB’s comparative advantage and ongoing projects in the sector that would allow rapid implementation of the project; and (ii) setup of a new disaster contingent financing facility ($2.0 million) to replace previous disaster contingent financing under ADB’s Pacific Disaster Resilience Program, which was drawn down in full in response to Cyclone Gita.

In response to the government’s request, ADB’s emergency assistance will finance the reconstruction and building back better of priority areas of the Nuku'alofa electricity network, identified as the most affected by the cyclone. The project will restore access to reliable electricity supply, reduce losses, and upgrade the network to a higher standard of disaster resilience.

**Impact**
More reliable and safe energy services (Tonga Strategic Development Framework 2015-2025)

More reliable and safe buildings and structures to improve services and maintenance, save on energy usage, and increase resilience to disasters.
Project Outcome

Description of Outcome
Reliable electricity supply in Nuku'alofa priority areas restored

Progress Toward Outcome

Implementation Progress

Description of Project Outputs
Priority sections of Nuku'alofa electricity network rehabilitated and upgraded

Status of Implementation Progress (Outputs, Activities, and Issues)

Geographical Location
Nation-wide

Safeguard Categories

Environment
B

Involuntary Resettlement
C

Indigenous Peoples
C

Summary of Environmental and Social Aspects

Environmental Aspects

Involuntary Resettlement

Indigenous Peoples

Stakeholder Communication, Participation, and Consultation

During Project Design

During Project Implementation

Business Opportunities

Procurement
All procurement will be undertaken in accordance with the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). TPL will use their own labor force for works to restore access to and build back better the electrical supply network. Force Account will be used for the incremental labor cost associated with carrying out civil works required on the project.

Responsible ADB Officer
Uusimaa, Hanna K.

Responsible ADB Department
Pacific Department

Responsible ADB Division
PAEN

Executing Agencies
Ministry of Finance
Vuna Road
Nuku'alofa
Kingdom of Tonga

Timetable

Concept Clearance
-

Fact Finding
23 Apr 2018 to 27 Apr 2018

MRM
11 May 2018

Approval
15 Jun 2018

Last Review Mission
-

Last PDS Update
29 Sep 2018

Grant 0575-TON

Milestones

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