

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: 87160

Project Name	Tonga Cyclone Ian Reconstruction and Climate Resilience Project (TCIRCRP)
Region	East Asia and Pacific
Country	Kingdom of Tonga
Sector	Housing Construction; General Water, Sanitation and Flood Protection
Theme	Climate Change; Urban Planning and Housing Policy; Natural Disaster Management
Lending Instrument	Investment Project Financing
Project ID	P150113
Borrower	Government of the Kingdom of Tonga
Implementing Agency	Ministry of Infrastructure
Environmental Category	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD
Date PID Prepared/Updated	April 1, 2014
Estimated Date of Appraisal Completion	8 April, 2014
Estimated Date of Board Approval	23 May 2014
Decision	Condensed procedures for Projects in situations of urgent need, fragility or capacity constraints

I. Project Context

A. Country Context

1. The Kingdom of Tonga consists of 169 islands with a total population of around 120,000. 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. The population is primarily Polynesian, with a literacy rate close to 99 per cent and a relatively low incidence of poverty. However, its small size, geographic dispersion and isolation, and limited natural resources provide a narrow economic base. Agriculture, fishing and tourism account for most export earnings and it has a high dependency on external aid (approximately 15 percent of Gross National Income, GNI). Remittances from an estimated 100,000 Tongans abroad have historically been equivalent to about 30 percent of GNI.

2. In recent years, Tonga has been hard-hit by a number of economic and natural shocks which have eroded its fiscal buffers and capacity to respond to further shocks. Tonga was negatively impacted by the Global Economic Crisis through a substantial and prolonged decline in remittances and tourism receipts, and price spikes in imported food and fuel on which households are heavily dependent.

3. As a small Pacific island state, Tonga is particularly vulnerable to the threats of climate change and natural hazards. Catastrophic risk modeling by the World Bank indicates that Tonga is expected to incur, on average, USD15.5 million per year in losses due to earthquakes and tropical cyclones and losses of up to 14% of GDP in years affected by specific disasters. In the next 50 years, Tonga has a 50 percent chance of experiencing a loss exceeding USD175 million and casualties higher than 440 people, and a 10 percent chance of experiencing a loss exceeding USD430 million and casualties higher than 1,700 people.

According to the World Risk Report 2012, globally Tonga is the second most at risk country from disasters out of 173 countries surveyed.

4. Tropical Cyclone Ian (TCI) hit the South Pacific region in January 2014 and had a devastating impact on Tonga. On January 11, 2014, it passed directly through the Ha'apai Islands Group, intensifying to a Category 5 system with winds of over 200 km per hour. It was the most powerful storm ever recorded in Tonga. One person died and 14 suffered minor injuries as a result of the cyclone. In response, the Government of Tonga (GoT) declared a state of emergency in Ha'apai and Vava'u on the day of the storm. Good preparedness and emergency response measures, reflecting GoT initiatives put in place with support from previous Bank and other donor funded projects in Tonga, facilitated a rapid response and likely prevented more fatalities and injuries to human life.

5. The GoT's National Emergency Management Office (NEMO), jointly with the Bank and in collaboration with other development partners, subsequently undertook a rapid assessment of the damages and losses in accordance with the Damage and Loss Assessment (DaLA) methodology. Of the 6,616 people (2011 census) living in Ha'apai, some 5,500 people in 18 villages across six islands in the group were affected¹. The DaLA estimated the combined physical damage and economic losses to be USD49.5 million (about 11 percent of Tonga's Gross Domestic Product, GDP). The immediate physical damage (i.e. the additional expenditure required to meet the replacement costs of all public and private sector assets), particularly on housing stock, transport infrastructure, and agriculture, was estimated at USD39.4 million. TCI is expected to cause a potential income loss for the Ha'apai Island Group of around 40 percent for 2014, and a significant increase in the poverty levels of the affected persons via the destruction of subsistence agricultural crops, inputs for handicraft production, and disruption to private sector business activity unless off setting measures are not taken to protect the vulnerable.

6. Reconstruction needs significantly exceed the capacity of the GoT to respond to the emergency. Prior to the impact of TCI, the fiscal outlook predicted modest growth of around 1.7 percent of GDP for the 2014 financial year, but a preliminary analysis by the World Bank estimates that if reconstruction activities are not carried out, TCI could shave around 2.3 percentage points off that GDP growth. The Bank estimates that the GoT could only meet approximately USD5 million of emergency recovery needs without depleting cash reserves to unreasonably low levels. This falls far short of estimated financing needs (approximately USD45 million, including USD35 million for the housing sector alone).

7. In response to TCI, the government formulated a three month National TCI Response Plan, endorsed by Cabinet on January 30, 2014, outlining the immediate relief and recovery priorities. Relief items, cash grants and logistical support were provided by Non-Government Organizations (NGOs) and civil society groups. With assistance from the Governments of Australia, China, France, Japan, New Zealand and the United States of America, people were provided shelter in designated evacuation centers and were subsequently provided tents and shelter kits. The GoT has been provided with significant logistical and other support for early recovery planning and delivery activities.

8. TCI triggered an insurance payout of USD1.27 million for the GoT under the Bank-supported Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) Pilot. Additional support of some USD8-10 million is likely to be provided by Australia, New Zealand, and the Asian Development Bank (ADB) mainly for recovery efforts in the power, education, and health sectors. The Bank reallocated USD1 million of undisbursed funds from the Government of Australia through the Transport Sector Consolidation Project (TSCP) to carry out immediate recovery activities in the aviation, maritime and land transport sectors.

¹ The islands of Foa, Ha'ano, Lifuka, Lofanga, Mo'unga'one, and 'Uiha (see map in Annex 6).

B. Sectoral and Institutional Context

9. The housing sector bore the brunt of damages and losses from TCI as reflected in the National TCI Response Plan which outlined the immediate relief and recovery priorities. The plan included the need to reconstruct and rehabilitate some 800 homes, with an urgent priority to assist affected families move out of tents and evacuation centers and into safe housing with adequate water and sanitation facilities.

10. The initial DaLA included a damage assessment of residential buildings. It identified that of 923 residential buildings in Ha'apai, approximately two-thirds were either entirely destroyed or heavily damaged; one-third were moderately or slightly damaged, or undamaged. On certain islands such as Mo'unga'one, almost all housing was affected. However, the assessment did not in all cases differentiate between the main dwellings and smaller outside rooms so the numbers will almost certainly be reduced. The GoT is currently undertaking a validation exercise to confirm the types of buildings that have been damaged, the numbers and registration of households that have suffered various levels of damage to their main dwellings, and recording the socio-economic status of affected households.

11. At appraisal, housing needs were estimated to be on the order of 550 homes to be reconstructed, and a further 400 that require repairs. The balance of the housing stock—while not needing repair—needs to be assessed for climate resilience, so as to not be damaged by future extreme weather events. Many of these undamaged houses are cyclone housing constructed in the early 1980's, and with minor improvements, will be in a much stronger position to handle future events.

12. A draft detailed Housing Recovery and Reconstruction Policy was prepared by the GoT which informed the project design. Following a process of national consultations, it is expected to be adopted by Cabinet. The reconstruction policy promotes the principles of fostering climate and disaster resilience in the affected areas and building back better. It also encourages self-recovery approaches to ensure a more rapid, and community supported, program, with more equitable distribution of support funds to a larger number of affected households. It will be the foundation for addressing future extreme events.

13. In 2012, the government created the Ministry of Lands, Environment, Climate Change and Natural Resources (MLECCNR) and the Ministry of Infrastructure (MoI), which includes NEMO. Both ministries are at the forefront of climate and disaster resilience initiatives, and are important members of the Joint National Action Plan (JNAP) Technical Working Group, a new sector coordinating body drawing expertise from across ministries responsible for Climate Change Adaptation (CCA) and Disaster Risk Management (DRM). NEMO is empowered by the National Emergency Act, 2007, and the revised National Emergency Management Plan, 2010 and has been coordinating the disaster response efforts with oversight by a National Emergency Operation Committee chaired by the Deputy Prime Minister and MoI.

14. As in the case of previous disasters, the government has established a Task Force Group, chaired by the Chief Executive Officer (CEO) of the Ministry of Finance and National Planning (MoFNP), to coordinate recovery and reconstruction efforts. MoI has been tasked by Cabinet to lead the implementation of reconstruction activities. Under the MoI, a Task Force Project Management Unit (TF-PMU) has been established within the existing Bank financed TSCP Project Support Team (PST) to undertake the implementation of the reconstruction efforts for supported owner-builder and contractor implemented building infrastructure.

II. Project Development Objective

15. The project development objectives are to: (i) Restore housing, community facilities, and basic services to the affected population of Ha'apai; and, (ii) Strengthen the country's resilience to natural disasters.

III. Project Description

16. The project will facilitate the recovery of housing and key community facilities in affected areas through replacement of destroyed and damaged housing for vulnerable households, and by scaling up past experience in Tonga for supported self-recovery through owner-led replacement of destroyed houses and repairs to housing and key community facilities. Over the four year project life, households will also carry out retrofitting and climate-proofing of housing, and the national capacity for disaster risk management and climate resilience will be strengthened. The project consists of the following components:

Component A: Housing and Key Community Facilities Repair, Reconstruction and Climate Resilience (USD12.97 m including contingencies and taxes):

17. **A.1 Houses for the Vulnerable (H4Vs).** Provision of two resilient² habitable rooms/dwellings for some 200 socio-economically extremely vulnerable households or households in extremely vulnerable communities (equivalent to ~USD18,000 / TOP32,500 per household).

18. **Supported Self-Recovery (SSR).** Facilitation of SSR for eligible households³ for replacement, repairs, or retrofitting/climate resilience. As described in greater detail in Annex 2, the supported self-recovery activity is based on project funded building advice, inspection and certification to agreed standards to receive funding. The level of funding is linked to the level of damage incurred and resistance standards. Funding will be provided to households through vouchers in tranches linked to stages of construction and certified by MoI Building Inspectors:

- i. **A.2.A:** SSR funding for some 350 eligible households with **destroyed or severely damaged main dwellings** – home reconstruction funding (~USD9,000 / TOP16,500 per household⁴) in tranches, subject to compliance with an agreed resilience standard.
- ii. **A.2.B:** SSR funding for some 400 eligible households with **reparable damage to main dwellings** – small repairs and retrofitting funding (average ~USD2,750 / TOP5,000 per household) in tranches, subject to compliance with an agreed resilience standard.
- iii. **A.2.C:** SSR funding (resilience strengthening) for some 150 eligible households with **undamaged buildings** – small retrofitting funding (average ~USD750 / TOP1,400 per household) for building supplies subject to compliance with an agreed resilience standard.

19. **Reconstruction and Resilience Strengthening of Community Facilities:**

- i. **A.3:** Provision of supported self-recovery funding for up to 18 eligible communities for **repairs and climate resilience of community-run public facilities** – materials funding for repairs and retrofitting (average ~USD6,000 / TOP11,000 per community) in tranches, subject to compliance with an agreed resilience standard.
- ii. **A.4:** Reconstruction and **resilience strengthening of key large public facilities** such as the Lifuka market (~USD100,000/ TOP180,000 total amount).

² For 70m/s wind speeds and appropriate seismic loading. See Annex 3 for further details.

³ An eligible household is one whose main dwelling and/or associated water and sanitation facilities were damaged by TCI. The exact number of households qualifying for the different levels of SSR funding will be confirmed once the damage census is completed by the GoT, which is anticipated well before project effectiveness.

⁴ Households have the option to choose owner-led or central contractor-led building.

20. **Proper disposal of building debris and demolition rubble:**

- i. **A5A:** Provision of funding to 1,100 households (~USD150/ TOP 180) to sort and assemble for collection non-hazardous building debris.
- ii. **A5B: Removal of debris** – The safe collection of construction and demolition waste and hazardous waste, and transport and disposal to a registered, managed landfill site on the main island of Tongatapu.

21. **A.6 Household supplementary potable water and sanitation facilities.** Address critical basic services at household level and selected community buildings to improve potable water supplies and provide appropriately constructed, on-site sanitation disposal (average ~USD1,800 / TOP3,300 per household).

22. **A.7 Logistical support for materials supply** (USD0.23m) – purchase of a barge for MoI to transport reconstruction advisory and inspectorate personnel and building materials to supplement limited private sector carriers to the remote islands.

Component B: Technical Assistance and Training for Enhanced Disaster and Climate Resilience (USD1.58 m including contingencies and taxes)

23. **B.1 Resilience strengthening for safer homes and communities:**

- i. **B1.A: Mobilization and Building Advice for households (USD1.04m).** Provision of technical assistance for repairs and retrofitting of homes and community facilities as part of the SSR (Component A). This will include: (i) the establishment of an on-site one-stop-shop ‘Recovery Center’ where participants can receive training, obtain building, tenure, hazard and financial advice and support; (ii) preparation of pre-approved building plans and home repairs and retrofitting toolkits; (iii) preparation and implementation of a communications strategy (including grievance procedures); (iv) develop and put in place in the MoI PST a simple but comprehensive database of beneficiary households⁵; and, (v) deployment (through a contracted firm) of four mobile units (one per District) comprising ‘Community Liaison Officers’ (CLO) and ‘Building Liaison Officers’ (BLO)⁶.
- ii. **B1.B: Climate Resilience Training.** Knowledge and practical training of tradespeople, supervisors, MoI Building Inspectors, community leaders, and local design and supervision consultants for climate resilient buildings and infrastructure. It is envisaged that this would take the form of both formal classroom training and on-the-ground mentoring and oversight.
- iii. **B1.C: Improve Building Code Application.** Strengthening and updating of the Building Code, and design and implementation of public awareness and practices campaigns for

⁵ The database will provide an accurate, common information platform on pre-approved designs (either for reconstruction or retrofitting), competitive unit prices of materials, progress of works, timeliness of advisory assistance, timeliness of inspectorate services, disbursement of household funding, and identify at risk households requiring additional support.

⁶ The CLO will provide advice and assistance to households regarding proof of eligibility for funding including tenure arrangements, location of house, assembling own-resources and project funding. The BLO will provide advice and assistance to households regarding selecting pre-approved building plans or building improvements, realistic pricing of materials and labor, readiness to request MoI’s inspection for progress certification and payment.

self-enforcement. Taking into account previous updates of the Code, the activity will strengthen the sections relating to cyclone resilient standards, extract key messages for influencing building practices, and focus on measures that practically can be attained by low income groups.

- iv. **B1.D: Hazard Mapping.** Assessment and mapping of coastal hazards and risks to further inform reconstruction planning and resilience building within the Ha’apai affected areas. The mapping will update mid-scenarios relating to sea-level rise with storm surge to provide the basis for informed ‘acceptable risk’ decision-making as part of the reconstruction.⁷

24. B.2 Disaster Recovery and Reconstruction Framework

- i. **Operationalize and institutionalize recovery and reconstruction.** Activities include: (i) review and documentation of lessons learnt from Bank-supported reconstruction and recovery of past major disasters in Tonga and other regions; (ii) review and update of relevant legislation and institutional arrangements, such as the Emergency Management Act 2007 and the National Emergency Management Plan 2010; (iii) development of an operations manual detailing implementation and planning arrangements for disaster recovery and reconstruction, including standard assessment templates and procedures (leading out of the draft National Housing Recovery and Reconstruction Policy); and, (iv) conduct of a roadshow and broad community consultations on the draft Recovery and Reconstruction Policy prior to its adoption by Cabinet.
- ii. **Improved post-disaster mapping capacity and damage assessments** based on experiences to date in Tonga (including the project) to support future efficient disaster response and recovery.

Component C: Project Support (USD1.34 m including contingencies and taxes)

- i. Technical support for construction activities including the mobilization of MoI Building Inspectors responsible for phased inspection and certification of all works. The Building Inspectors will be closely supervised and mentored in the first six months by a project-funded Senior Contracts Manager and then progressively absorbed into MoI’s staff establishment.
- ii. Project support for procurement, financial management, contract and project management.
- iii. Social and environmental safeguards oversight, monitoring and evaluation.

⁷ Australian Aid has already undertaken some hazard modelling for Ha’apai. The project will use this work, in conjunction with other work by the South Pacific Commission and the PCRAFI ground shaking and cyclone wind hazard assessments to prepare more complete hazard mapping.

IV. Financing (in US\$ million)

Source:	Amount
Borrower/Recipient	2.09
GFDRR	1.80
IDA Grant	6.00
IDA Credit	6.00
Total:	15.89

V. Implementation

25. As in the case of previous disasters, the government has established a Task Force Group, chaired by the Chief Executive Officer (CEO) of the Ministry of Finance and National Planning (MoFNP), to coordinate recovery and reconstruction efforts. MoI has been tasked by Cabinet to lead the implementation of reconstruction activities. Under the MoI, a Task Force Project Management Unit (TF-PMU) has been established within the existing Bank financed TSCP Project Support Team (PST) to undertake the implementation of the reconstruction efforts for supported owner-builder and contractor implemented building infrastructure.

VI. Safeguard Policies (including public consultations)

26. A Resettlement Policy Framework (RPF) which complies with the requirements of Bank OP 4.12 was prepared and disclosed locally and in the InfoShop on April 14, 2014. The GoT is actively working with affected households to confirm their security of occupancy to remain on the allotment and undertake replacement housing, repairs and retrofitting and basic services where needed. Some 80 percent of lands now have clear land title in favor of project beneficiaries. For the remaining approximately 20 percent of project beneficiaries, the MLECCNR is working to identify the formal title holders and to confirm that beneficiaries have consent to remain on the allotment and construct a replacement house and/or water and sanitation facilities. In cases of informal arrangements that are disputed by the registered title holder and where consent is not granted to reconstruct on the land, the GoT will consider other measures to provide security of occupancy to the beneficiary in accordance with the process defined by the RPF.

27. The Constitution of Tonga Clause 109 *Beach Frontage* includes a 17 meter (50 feet) foreshore building line from the high-water mark to establish a foreshore protection area. A small number of buildings damaged by TCI are located within this foreshore protection area. Where suitable land is available on the same allotment, the replacement houses will be located on that part of the allotment setback from the foreshore building line and outside of the foreshore protection area. In the event that land outside the foreshore protection area is not available on the allotment, the GoT will consider other measures in accordance with the RPF to identify land and to provide a security of occupancy to the beneficiary in the same manner as would be used in case a beneficiary is not provided consent to build the house on the land by the form land owner, or if the land owner cannot be found.

28. The project is rated environmental Category B and triggers OP/BP 4.01, Environmental Assessment. An EMP was prepared and disclosed locally and in the InfoShop on April 14, 2014. The project's adverse environmental impacts are expected to be minor. All works, whether constructed through SSR or contractor led, will be to approved resilience and building standards. Even with the involvement of other donors and private and government initiatives, the overall construction effort does not involve medium or heavy civil works for the reconstruction activities, such as major concrete or earth works. There is therefore ample groundwater supply and storage available to meet the construction water

demand and the overall cumulative impacts are minimal. Beach mining of sand, which would exacerbate coastal erosion, will not be permitted on the project.

29. Asbestos has been identified in a number of existing structures. An asbestos removal plan is being finalized using an international firm to New Zealand standards, which meet the World Bank Group's 2009 Guidance Note on Asbestos Management and the World Bank's EHS Guidelines (which form part of the EMP). The asbestos will be barged to the Tapuhia Solid Waste Management Facility in Nuku'alofa for final disposal (see Annex 3).

30. Substantial reuse and recycling of existing Construction Demolition Waste (CDW) materials is expected in much of the reconstruction effort. Reusable and recyclable CDW not wanted by the household will be transported to a quarry site on Lifuka Island, where concrete rubble, bricks, asphalt and other such material will be crushed for reuse in either reconstruction or stockpiled for future use. The remnants of CDW that are unable to be reused in the Ha'apai Island group will be transported to Tapuhia Landfill on Tongatapu for disposal. A firm specializing in solid waste management and landfill design and construction will be hired by MoI to prepare a solid waste management plan for the project and to assist with transport and eventual disposal.

31. Whilst available data suggests a pattern of gender differentiation at all levels of the disaster process⁸, gender differences are often most telling in the immediate aftermath of a disaster and during the recovery effort. In Tonga, strong gender roles often result in women carrying a disproportionate burden of the household responsibilities after a disaster, including the collection of food and water, and the caring of children and the elderly. As women in rural areas dominate in the informal economy, any increase in time spent on household responsibilities is likely to have a negative impact on household incomes. Furthermore, women and girls are also likely to face an increased risk to adverse health effects from reduced sanitation and an increased vulnerability to violence. Female-headed households in Tonga are further vulnerable due to reduced access to land and finance. Women in Tonga are under-represented in government decision-making bodies, and strong gender roles and increased daily responsibilities mean women are also potentially under-represented in community consultations.

32. By recognizing that men and women may have different needs, the response to individuals, families and communities needs to be targeted and to be most effective. Previous World Bank disaster response initiatives in Pacific Island Countries have highlighted the need to have a local champion who is aware of gender issues available to facilitate information and knowledge dissemination, particularly in regards to training workshops. Additionally, the monitoring of gender impacts during project implementation is crucial, as is flexibility to amend training or benefit models as required throughout the life of the project. As such, the project will work closely with the GoT, NGOs and other stakeholders to ensure an inclusive approach to the recovery and reconstruction effort is taken. In particular, the project will aim to ensure adequate sanitation facilities for women and girls, an open and transparent consultation process and, inequality in land availability and access. The project will also monitor the number of female beneficiaries throughout the project to ensure equality in access to services and resources.

VII. Contacts

World Bank

Contact: Christopher R. Bennett
Title: Sr. Infrastructure Specialist
Tel: (612) 9223 7773
Email: cbennett2@worldbank.org

⁸ WHO Gender and Health in Disasters 2005

Borrower/Client/Recipient

Contact: Tatafu Moeaki
Title: Chief Executive Officer – Ministry of Finance and National Planning
Tel: +676 23-066
Email: secretary@mctl.gov.to

Implementing Agency

Contact: Ringo Fa'oliu
Title: Chief Executive Officer – Ministry of Infrastructure
Tel: +676 23-100
Email: rfaoliu@infrastructure.gov.to

VIII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: <http://www.worldbank.org/infoshop>