



# DISASTER RECOVERY FRAMEWORK FOR TROPICAL CYCLONE GITA

KINGDOM OF TONGA // OCTOBER 2018







Photo: Malani Wolfgramm/World Bank. Rubble from Parliament Building, Nuku'alofa.  
Front-View Image: Malani Wolfgramm/World Bank. Aerial view of damaged building in Tongatapu



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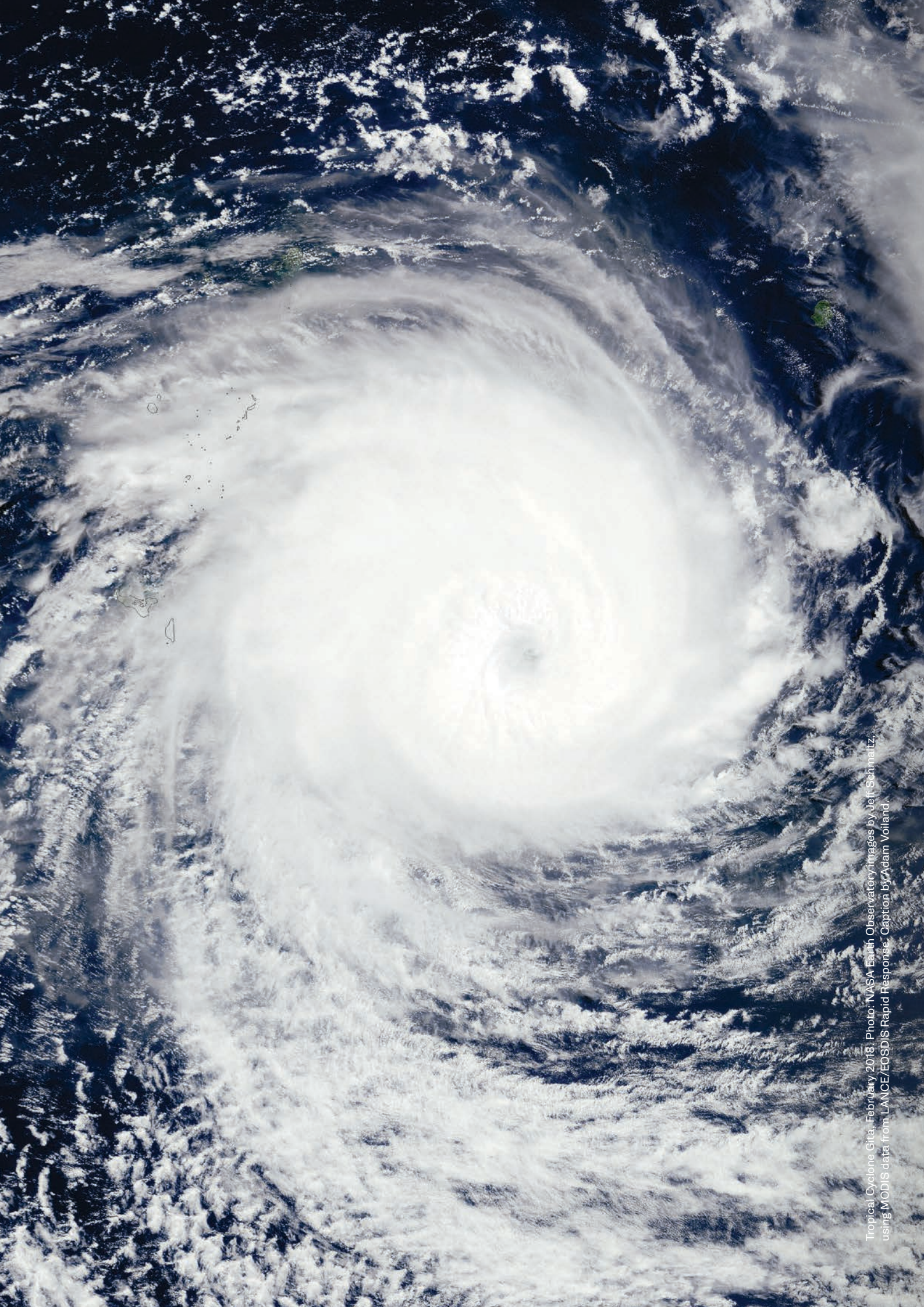


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Tropical Cyclone Gita, February 2018. Photo: NASA Earth Observatory images by Jeff Schmaltz, using MODIS data from LANCE/EOSDIS Rapid Response. Caption by Adam Voiland.



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Photo: Malani Wolfigramm/World Bank. Repairing damaged power lines, Tongatapu.





Photo: Masami Watanabe/World Bank. Undertaking home repairs in Haveli, Tongatapu.



# FOREWORD

The recovery of Tonga from Tropical Cyclone Gita provides both challenges and opportunities of a scale and complexity unprecedented in our history. Meeting the challenges and realizing the opportunities is the government's number one priority. It is no small task ahead of us, and it is critical to Tonga's future well-being that we succeed. Success means making the most of the opportunities resulting from the terrible events. I am heartened that Tongans are already doing this. The way people have responded, and the enormous efforts thus far mean that since February 12, 2018, the recovery has made solid progress. The Disaster Recovery Framework set out in these pages will guide not just the government, but also multiple actors from both the public and private sector—individuals, communities, local governments, churches, charities, international donors, and government agencies that have a role in recovery. Success will be measured by how we work together and maximize the opportunities to restore, renew, and revitalize Tonga. The impacts of Tropical Cyclone Gita have been documented. The economic cost is likely to exceed T\$350 million. The social costs—stress, disruption, lost heritage, and lost opportunities—are beyond measure. It is important to remember and learn from these losses.

The pace of recovery is important. We must balance the need to quickly make good decisions against the need to take this unique opportunity to get things right. We must create certainty as quickly as we can, to allow people, communities, and businesses to make their own decisions and move forward.

Already progress is apparent. Around Tonga workers are fixing electricity, owners are repairing houses, and schools are open. As of end June 2018, very few families continued to be housed in shelters. Most of the recovery projects identified in the sector recovery programs—outlined in this document—are already ongoing.

Some have been initiated by the communities themselves, and others through the government, development partners, and civil society organizations. Activity will continue to improve as reconstruction gains momentum. Recovery will be a long journey with hard work ahead. But future generations of Tongans will reap the rewards of the decisions we make now—particularly if we ensure that we build back better. We must work together as quickly and as positively as we can, putting people and Tonga first. We will continue to engage with the private and business sectors, with the international community, and with local communities, and will continue to keep them informed of recovery developments. Together we will make Tonga even greater and more resilient to future events.

This recovery framework is a key milestone in the recovery and rebuilding of Tonga. The recovery plans that will flow from this framework—covering agriculture; commerce and industry; tourism; housing; education; health; energy; public and community buildings; transport; water and sanitation; telecommunications; waste management; social protection, safety, gender, and livelihood; and resilience to climate change and disaster risk—set out the way forward.



**Hon. Samiuela 'Akilisi Pohiva**  
**Prime Minister of Tonga**



# ABBREVIATIONS

<b>\$A</b>	<b>Australian Dollars</b>	<b>MCCTIL</b>	<b>Ministry of Commerce, Consumer, Trade, Innovation and Labor, Tonga</b>
<b>AM</b>	<b>Amplitude modulation</b>	<b>MEIDECC</b>	<b>Ministry of Meteorology, Energy, Information Disaster Management, Environment, Climate Change and Communications, Tonga</b>
<b>BBB</b>	<b>Build Back Better</b>	<b>MFAT</b>	<b>Ministry of foreign Affairs and Trade, New Zealand</b>
<b>DFAT</b>	<b>Department of Foreign Affairs and Trade, Australia</b>	<b>MFNP</b>	<b>Ministry of Finance and National Planning, Tonga</b>
<b>DRF</b>	<b>Disaster Recovery Framework</b>	<b>MIA</b>	<b>Ministry of Internal Affairs, Tonga</b>
<b>DRM</b>	<b>Disaster Risk Management</b>	<b>MOET</b>	<b>Ministry of Education and Training, Tonga</b>
<b>€</b>	<b>Euros</b>	<b>MOH</b>	<b>Ministry of Health, Tonga</b>
<b>FM</b>	<b>Frequency modulation</b>	<b>MOI</b>	<b>Ministry of Infrastructure, Tonga</b>
<b>FY</b>	<b>Fiscal Year</b>	<b>MORDI</b>	<b>Mainstreaming of Rural Development Innovation, Tonga</b>
<b>GDP</b>	<b>Gross Domestic Product</b>	<b>MOT</b>	<b>Ministry of Tourism, Tonga</b>
<b>GFDRR</b>	<b>Global Facility for Disaster Reduction and Recovery</b>	<b>MPE</b>	<b>Ministry of Public Enterprises, Tonga</b>
<b>GoT</b>	<b>Government of Tonga</b>	<b>MRC</b>	<b>Ministry of Revenue and Customs</b>
<b>HMAF</b>	<b>His Majesty's Armed Forces</b>	<b>\$NZ</b>	<b>New Zealand Dollars</b>
<b>ISPS</b>	<b>International Ship and Port Facility Security Standards</b>	<b>NDC</b>	<b>National Disaster Council, Tonga</b>
<b>JICA</b>	<b>Japan International Cooperation Agency</b>	<b>NEMC</b>	<b>National Emergency Management Committee</b>
<b>kph</b>	<b>Kilometers per hour</b>	<b>NEMO</b>	<b>National Emergency Management Office, Tonga</b>
<b>LED</b>	<b>Light Emitting Diode</b>		
<b>MAFFF</b>	<b>Ministry of Agriculture, Food, Forests and Fisheries, Tonga</b>		



<b>NEOC</b>	<b>National Emergency Operations Committee</b>
<b>NERC</b>	<b>National Emergency Recovery Committee</b>
<b>NGO</b>	<b>Non-government Organization</b>
<b>NMS</b>	<b>National Monitoring System</b>
<b>PAT</b>	<b>Ports Authority Tonga</b>
<b>PCRAFI</b>	<b>Pacific Catastrophe Risk Assessment and Financing Initiative</b>
<b>PMO</b>	<b>Prime Minister's Office</b>
<b>PREP</b>	<b>Pacific Resilience Program</b>
<b>PSA</b>	<b>Public Service Association</b>
<b>SME</b>	<b>Small and Medium Sized Enterprises</b>
<b>SPC</b>	<b>Pacific Community</b>
<b>T\$</b>	<b>Tongan Paanga</b>
<b>TAL</b>	<b>Tonga Airports Limited</b>
<b>TBC</b>	<b>Tonga Broadcasting Commission</b>
<b>TC</b>	<b>Tropical Cyclone</b>
<b>TCCI</b>	<b>Tonga Chamber of Commerce and Industry</b>
<b>TNCWC</b>	<b>Tonga National Centre for Women and Children</b>
<b>TNYC</b>	<b>Tonga National Youth Congress</b>

<b>TPL</b>	<b>Tonga Power Limited</b>
<b>TWB</b>	<b>Tonga Water Board</b>
<b>UNICEF</b>	<b>United Nations International Children's Emergency Fund</b>
<b>US\$</b>	<b>US dollars</b>
<b>WAL</b>	<b>Waste Authority Ltd.</b>
<b>WASH</b>	<b>Water and Sanitation</b>
<b>WCCC</b>	<b>Women's and Children's Crisis Centre</b>

# EXECUTIVE SUMMARY

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Tropical Cyclone (TC) Gita passed over the Tongatapu and 'Eua island groups around 11 p.m. on Monday February 12, 2018. Following TC Gita's passage from Tonga, there were reports of significant damage on both Tongatapu and 'Eua.

The total economic value of the effects caused by Tropical Cyclone Gita was estimated to be approximately T\$356 million (US\$164 million). This is equivalent to 36 percent of the gross domestic product (GDP) in Tonga<sup>1</sup> and gives an indication of the scale of impact.<sup>2</sup> Of these effects, T\$208 million (US\$96 million) is attributable to damage and T\$147 (US\$67.7 million) is attributable to losses.

TC Gita produced different effects across the different economic and social sectors. The sector that sustained the highest level of damage was the housing sector, which accounts for 61 percent of the total damage cost, followed by the tourism sector which accounts for 13 percent of the damage cost. The largest level of economic losses occurred in the agriculture sector, which accounts for an estimated 82 percent of the total losses.

The official State of Emergency ended on April 9, when the country moved into the recovery and reconstruction phase.

Total recovery and reconstruction is estimated at **T\$347.2 million** (US\$160 million).<sup>3</sup> Of this amount, T\$72.8 million (US\$33.5 million) is required for immediate recovery (to June 30, 2018), T\$96.1 million (US\$44.3 million) is required for short-term recovery (FY18/19), and T\$178.3 million (US\$82.2 million) is required for medium-term recovery (FY19-21). Table 2 breaks the needs down by sector and by phase. Please refer to the individual sector chapters for further details.

This Disaster Recovery Framework (DRF) will help guide and coordinate decisions on rebuilding over the next three years (till 2021). It will inform more detailed recovery programs, plans, and projects that will be developed and implemented by the responsible government ministries in consultation with key stakeholders and the wider community.<sup>4</sup> In particular, the framework

- Defines what "recovery" means for Tonga
- Sets out a shared vision of recovery
- Establishes principles to guide how the government and other agencies will work together toward recovery
- Describes in broad terms the phases of recovery
- Identifies work programs and indicates which organizations will lead specific programs
- Identifies priorities for recovery efforts
- Identifies governance structures to oversee and coordinate the work programs and link them to wider initiatives
- Clarifies institutional roles and responsibilities
- Outlines a funding gap analysis and how funds will be mobilized
- Commits to measuring and reporting on progress toward recovery

The sectors requiring the largest investments for post-disaster recovery after TC Gita are agriculture, tourism, housing, and education. Some indicative sectoral activities prioritized under the DRF include the following:

- **Agriculture:** Ploughing, fast-growing crops, land clearance, seedlings, storage containers, food preservation training, repairs of small infrastructure
- **Tourism:** Access to finance for small tourism businesses, guidance on more resilient structures, waiving of import duty on construction materials and equipment, suitable insurance options, marketing strategy



- **Housing:** Small payments to households for self-recovery repairs, conditional grants for near-poor households, cash-for-work and apprenticeship programs for unemployed youth to help with repairs, certification for trained youth
- **Education:** Supply of curriculum and equipment, transport to temporary school facilities, repair of minor damage, engineering assessments and retrofitting to make schools more disaster-resistant, building of new schools where needed

The overall vision for recovery is captured by the phrase “recovery with greater resilience” and includes the following dimensions and goals:

- > **Overall:** Make Tonga a place to be proud of for present and future Tongans.
- > **Development:** Get development objectives back on track and ensure vulnerable people get assistance to restore their livelihoods as fast as possible.
- > **Built environment:** Develop resilient, cost-effective, accessible, and integrated infrastructure, public buildings, schools, housing, and transport networks.
- > **Social:** Strengthen community resilience, safety, and well-being and enhance quality of life for residents and visitors.
- > **Economic:** Revitalize Tonga as a prosperous country for business, work, and education, and increase investment in new activities.
- > **Cultural:** Renew Tonga’s unique identity and vitality expressed through sport, recreation, art, history, spirituality, heritage, and traditions.
- > **Natural:** Restore the natural environment to support biodiversity and economic prosperity and to reconnect people to their environment.

Recovery efforts beyond three years will be integrated into the subsequent fiscal calendar after the FY18/19–FY20/21 budget. **The figures in this DRF are preliminary and sample-based; they are as accurate as possible with the information available on June 25, 2018.** The needs identified are thus expected to be a fair representation of reality. Given the significant undertaking in process, the government and community resources are not enough to recover from the devastation caused by TC Gita. As of June 2018, the government was seeking assistance for a funding shortfall estimated at approximately T\$ 62.5 million (US\$28.8 million). The Government of Tonga and development partners will meet the financing gap within the recovery time frame.

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1. The calculation uses the projected GDP of 2018, which is T\$1,000 million.
  2. All data shown in tables and figures are from the Post-Disaster Rapid Assessment teams unless otherwise noted.
  3. This figure was calculated as at June 2018. The total costs for recovery needs may change – including the funding gap.
  4. The DRF will outline immediate needs (first three months), short-term needs (FY18/19), and medium-term needs (FY19-21) as identified in the Post-Disaster Rapid Assessment for the first three years of recovery (2018–2021). The National Emergency Recovery Committee (NERC) and the cluster groups will be utilized by the lead ministries to support the development and delivery of these recovery programs and plans.

# CONTEXT

## TROPICAL CYCLONE GITA

Tropical Cyclone (TC) Gita passed over the Tongatapu and 'Eua island groups on Monday February 12, 2018. Upon landfall, TC Gita had not reached the expected intensity, yet it was still the strongest tropical cyclone to impact Tongatapu and 'Eua since TC Isaac in March 1982, with average wind speeds of 130 kph, and gusts of up to 195 kph. An accompanying storm surge reached 1 m above normal high tide levels, and 200 mm of rain fell over a 24-hour period, resulting in localized flooding.

The storm impacted approximately 80,000 people, or around 75 percent of Tonga's population. The storm brought down power lines, damaged and destroyed schools (which resulted in closures), destroyed crops and fruit trees, and damaged public buildings, including the domestic airport, Parliament building, and Tonga meteorological services. Houses were also significantly impacted by TC Gita, with over 469 households suffering the destruction of their housing and a further 6,527 suffering damage.

## RESPONSE: HUMANITARIAN SUPPORT AND COORDINATION

With humanitarian and development partners, Tonga has been providing emergency assistance to affected communities since the start of the disaster.<sup>5</sup> The government issued a 28-day Declaration of a State of Emergency on February 12, prior to TC Gita making landfall, to encourage people to seek shelter. Following the cyclone, the declaration was extended to April 9, 2018. In total 108 shelters were activated in Tongatapu and 'Eua, while 12 were activated in the Ha'apai group of islands. Other precautionary measures were also undertaken: authorities shut down the power grid on Tongatapu, and the police commissioner announced a 9 p.m. curfew in the Nukualofa central business district beginning on February 12; this curfew was extended to April 9.

The National Emergency Management Committee (NEMC) shared a draft government response plan with the cabinet on February 16 to facilitate coordination of the humanitarian response and early recovery by sector clusters, which are led by government ministries. These clusters include shelter, education, water and sanitation (WASH), food security and livelihood, safety and protection, telecommunication, essential services (waste management, water, and electricity), early recovery and logistics, and economic and social recovery. Humanitarian partners, international and national nongovernmental organizations (NGOs), foreign governments, donors, and civil society are also supporting the government-led response.

To assess the socioeconomic impact of TC Gita, and assist in mobilizing the resources needed for recovery and reconstruction, the Government of Tonga requested that a Post-Disaster Rapid Assessment (Rapid Assessment) be conducted. The assessment was supported by the European Union, United Nations, World Bank, and Asian Development Bank, as well as other regional organizations and bilateral partners, including the Pacific Community (SPC).

## RAPID ASSESSMENT FOR TC GITA: SUMMARY OF DAMAGE AND LOSS

Led by the government, a Rapid Assessment was conducted March 5–23, 2018. This assessment was completed 38 days after the cyclone event of February 12–13, 2018, and reported only on data received at the time of writing. The estimates of damage, losses, and needs that inform this recovery framework may therefore be underestimated.

TC Gita produced different effects across the different economic and social sectors. The sector that sustained the highest level of damage was the housing sector, which accounts for 61 percent of the total damage cost, followed by the tourism sector, which accounts for 13 percent of the damage cost. The largest level of economic losses was the agriculture sector, which accounts for an estimated 82 percent of the total losses. Production losses and associated higher costs of production are expected to linger for some time. Table 1 provides a summary of disaster effects by sector.

**TABLE 1:** Summary of Disaster Effects by Sector (T\$ millions)

	DAMAGE	LOSSES	TOTAL
<b>Productive sectors</b>	<b>54.9</b>	<b>138.5</b>	<b>193.4</b>
Agriculture	5.1	92.4	97.5
Commerce and industry	23.5	31.8	55.3
Tourism	26.3	14.3	40.6
<b>Social sectors</b>	<b>131.5</b>	<b>2.7</b>	<b>134.2</b>
Housing	111.6	0.0	111.6
Education	19.8	2.2	22.0
Health	0.1	0.6	0.7
<b>Infrastructure sectors</b>	<b>22.5</b>	<b>6.1</b>	<b>28.5</b>
Energy	13.4	3.7	17.1
Public and community buildings	5.5	1.0	6.5
Transport	2.3	0.8	3.1
Water and sanitation	1.3	0.6	1.9
<b>TOTAL</b>	<b>208.8</b>	<b>147.3</b>	<b>356.1</b>

Note: Currency unit = Pa'anga (T\$); T\$2.17 = US\$1, based on exchange rate on February 13, 2018 (National Reserve Bank of Tonga). The fiscal year runs July 1 to June 30. The table does not include information for the telecommunications, waste management, and safety and protection sectors. These were assessed by the relevant clusters.



# 2

## **SUMMARY OF RECOVERY AND RECONSTRUCTION NEEDS**

Total recovery and reconstruction is estimated at T\$347.2 million (US\$169 million). Of this amount, T\$72.8 million (US\$33.5 million) is required for immediate recovery (to June 30, 2018), T\$96.1 million (US\$44.3 million) is required for short-term recovery (FY18/19), and T\$178.3 million (US\$82.2 million) is required for medium-term recovery (FY19-21). Table 2 breaks the needs down by sector and by phase. Please refer to the individual sector chapters for further details.

The prioritization of recovery needs is not necessarily determined by the relative cost. Prioritization is rather determined through analysis of the sectoral recovery plans submitted through the Ministry Corporate Plan for resource allocation.

In some sectors, full recovery may take many years. However, priority activities have been identified that will address critical community needs—particularly for those who are vulnerable—and that will offer quick wins to support the economy's recovery from this disaster.

**TABLE 2. Recovery Needs by Sector (T\$ millions)**

	<b>IMMEDIATE RECOVERY NEEDS (UP TO JUNE 2018)</b>	<b>SHORT-TERM RECOVERY NEEDS (FY18/19 )</b>	<b>MEDIUM-TERM RECOVERY NEEDS (FY19/20–20/21)</b>	<b>TOTAL RECOVERY NEEDS</b>
<b>Productive sectors</b>	<b>35.3</b>	<b>12.6</b>	<b>6.6</b>	<b>54.6</b>
Agriculture	1.5	2.7	5.1	9.4
Commerce and industry	1.3	7.00	1.5	9.8
Tourism	32.5	2.90	0.0	35.4
<b>Social sectors</b>	<b>17.0</b>	<b>77.9</b>	<b>48.5</b>	<b>143.4</b>
Housing	5.8	72.1	40.5	118.4
Education	8.5	5.5	8.0	22.0
Health	2.7	0.3	0	3.0
<b>Infrastructure sectors</b>	<b>18.5</b>	<b>2.4</b>	<b>107.8</b>	<b>128.6</b>
Energy	13.4	0.0	86.2	99.6
Public and community buildings	0.3	0.0	20.7	21.0
Transport	0.7	1.6	0.9	3.1
Water and sanitation	2.5	0.8	0	3.3
Telecommunications	0.5	0	0	0.5
Waste management	1.1	0	0	1.1
<b>Social protection, safety, gender, and livelihood</b>	<b>1.9</b>	<b>3.2</b>	<b>15.5</b>	<b>20.6</b>
<b>Disaster risk management</b>	To be confirmed	To be confirmed	To be confirmed	To be confirmed
<b>TOTAL</b>	<b>72.8</b>	<b>96.1</b>	<b>178.3</b>	<b>347.2</b>

Source: Estimations for safety and protection, telecommunications, and waste management are from assessments commissioned by Tonga's cluster system under the National Emergency Management System; the remainder are from the assessment teams.

Note: A detailed breakdown of needs is included in each sector assessment under the Rapid Assessment. This needs table supersedes the needs table in the Rapid Assessment and the table included in the Crisis Response Window funding request by the World Bank.

# 3

## RECOVERY VISION AND GUIDING PRINCIPLES

### WHAT IS RECOVERY?

For the purposes of this framework, recovery is defined as the coordinated process of supporting disaster-affected communities in achieving the following:

- > Rehabilitation, reconstruction, and enhanced resilience of the physical infrastructure
- > Restoration of emotional, social, and physical well-being

It does not mean returning Tongatapu and 'Eua to their condition just before February 12, 2018. Recovery includes both restoration and enhancement. With enhancement, the focus is on supporting Tonga's development objectives and achieving greater resilience to climate change and other natural hazards.

### VISION FOR RECOVERY: "RECOVERY WITH GREATER RESILIENCE"

The vision for recovery is captured by the phrase "recovery with greater resilience" and includes the following dimensions and goals:

- > **Overall:** Make Tonga a place to be proud of for present and future Tongans.
- > **Development:** Get development objectives back on track and ensure that the vulnerable get assistance to restore their livelihoods as fast as possible.
- > **Built environment:** Develop resilient, cost-effective, accessible, and integrated infrastructure, public buildings, schools, housing, and transport networks.
- > **Social:** Strengthen community resilience, safety, and well-being and enhance quality of life for residents and visitors.
- > **Economic:** Revitalize Tonga as a prosperous country for business, work, and education and increase investment in new activities.



- > **Cultural:** Renew Tonga's unique identity and vitality expressed through sport, recreation, art, history, spirituality, heritage, and traditions.
- > **Natural:** Restore the natural environment to support biodiversity and economic prosperity and to reconnect people to their environment.

In working toward this vision, a number of principles listed in this section will be used to guide recovery efforts. These principles, along with normal public sector requirements and obligations, will provide guidance at a strategic level. The Ministry of Finance and National Planning (MFNP) and other government agencies will refer to them as they plan and implement recovery activities together.

## PRINCIPLES

- > **Spirituality:** This principle is consistent with the motto "God and Tonga are my inheritance."
- > **Building back better:** Building back better (BBB) supports the definition of recovery as enhancement through reconstruction to reduce vulnerability and improve living conditions, to support development objectives, and to promote resilience to future risks from natural hazards (climate-related and geological). BBB underlies the policy commitment to improve the resilience of critical infrastructure and means that public infrastructure and public buildings will be rebuilt to a higher construction standard.
- > **Pro-poor and inclusive:** The cyclone disproportionately affected poor people, children, women and girls, young people, the elderly, persons living with disability,<sup>7</sup> migrants, and other vulnerable populations. All recovery programs or plans will address the recovery needs of the most vulnerable individuals and communities; this focus will include considering the impacts on gender, disability, and social issues to ensure that the programs or plans better prepare the poor and vulnerable to absorb the impact of future hazards and shocks.<sup>8</sup> The government will work with public and private agencies to access these affected vulnerable populations.<sup>9</sup>
- > **Building resilient communities, infrastructure, and institutions:** Recovery efforts will support the need to make Tongan communities and assets more resilient to climate change and other hazards specific to Tonga. This includes mainstreaming disaster risk management (DRM) and climate change adaptation into core government documents and institutions to achieve risk-informed development. It also includes investing in infrastructure that is resilient to climate and disaster risk and reviewing DRM legislation and policies to ensure they provide substantive direction for the government and communities.

- > **Ensuring sustainable outcomes:** All recovery programs will need to produce sustainable outcomes that benefit Tongans now and in the future. They will be monitored closely to ensure outcomes are achieved, and regular reports will be provided to government and communities to ensure the recovery is on track.
- > **Collaboration and coordination:** Many actors are involved in recovery, including central and local government, donors, civil society, the private sector, communities, and individuals. Their ability to work together effectively and efficiently will be crucial to achieving the quickest and most effective recovery. Effective leadership, oversight, and clear roles will be essential for ensuring integration, reducing duplication of effort, and reducing confusion of responsibilities. To ensure information flows among all partners, regular reports will be issued by the government to provide updates on the status of the recovery. Government ministries and partners will be invited to contribute updates based on their own recovery initiatives.
- > **Protecting our environment:** To ensure that recovery efforts protect and do not harm our existing or future environment, it will be necessary to undertake environmental impact assessments and carry out appropriate demolition and waste disposal management.
- > **Innovation:** To ensure that recovery efforts use innovate ways to expedite the process as well as minimize costs and manage expectations, they should make use of simplified processes and procedures, technology, and social media.

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7. Approximately 10.6 percent of the population has some form of disability. With the majority of this group living on Tongatapu, the island most affected by the disaster, it is imperative that recovery efforts are inclusive of persons with disabilities.

8. For example, improving the access of vulnerable people to financial services will help them better cope with future disasters.

9. Vulnerability criteria created by the shelter cluster include the following: isolated location or location in very small or highly affected community; single-parent household; elderly head of household; lack of able-bodied men in household or extended family; household members with significant physical disabilities; high ratio of dependent adults or children; low income or proxy for low income.

# 4

## **A PROGRAMMATIC APPROACH TO ADDRESS TC GITA: FOCUS ON SECTOR PRIORITIES**

The Kingdom of Tonga has considered the needs identified in the Rapid Assessment<sup>10</sup> and has worked across government and with key stakeholders to develop the recovery framework. This programmatic approach focuses on the key priority needs to be funded and implemented through the medium-term recovery period (the next three years). Effective government-led recovery programs or plans should do the following:

- Be consistent with the recovery framework, particularly its vision, goals, and principles, thus contextualizing the spirit of the Tonga Strategic Development Framework 2015–2025 and Government Priority Agenda 2018–2021
- Integrate recovery activities with one another and existing programs/plans where possible to reduce duplication and enhance efficiency

- Investigate opportunities for risk reduction and enhancement to build stronger and more resilient communities and subsequently a stronger and more resilient nation
- Use appropriate social and environmental impact assessment methodologies and tools
- Identify program objectives, targets, and indicators to ensure recovery can be monitored, evaluated, and reported on
- Identify pre-cyclone baselines and expectations for the recovery, so that baselines can be used when measuring the success of the recovery programs

Given the scope of the Rapid Assessment and response reports from the cluster groups, the Disaster Recovery Framework (DRF) programs condense the recovery actions under 14 priority sectors. Table 2 provides total recovery needs and costs by sector.

## PRIORITIZATION OF RECOVERY ACTIVITIES

Recovery priorities for TC Gita are based on the information received during the humanitarian response and early recovery activities, on the findings of the Rapid Assessment and similar processes, and on government policy.

The recovery needs that were identified during the Rapid Assessment process are not linked to the availability or form of recovery funding but are driven by the sectoral needs analyses. Given the extent of identified needs and the limited resources, the first step is to prioritize the sectors for recovery and reconstruction based on the available financial envelope and strategic considerations. A criteria-based prioritization of recovery needs across competing sectors is necessary; the highest-priority needs meet the following criteria:

- Have the potential for direct and widest humanitarian impact
- Have the potential to generate sustainable livelihoods
- Are inclusive (pro-poor and pro-vulnerable strategies)
- Are balanced between public and private sector recovery
- Foster restoration and rebuilding of critical infrastructure and services

Immediate recovery and reconstruction activities will target the most affected population within government priority areas, irrespective of gender or age.

## PHASES OF RECOVERY BY SECTOR

This DRF covers the medium-term recovery and reconstruction activities over a three-year period, effective from FY18/19, carried out in tandem and harmonized with short-term ongoing humanitarian assistance. Recovery and reconstruction needs are prioritized as;

- Immediate (to be completed by June 30, 2018);
- Short-term (to be completed between July 1, 2018, and June 30, 2019), and;
- Medium-term (to be completed between July 1, 2019, and June 30, 2021).

Recovery after this point will need to be incorporated and addressed in Tonga's Strategic Development Framework 2015–2025. These time frames are indicative, as timing will depend on a range of factors, including institutional arrangements and both domestic and external funding provisions. In terms of the fiscal year referred to in the tables and in the text, the definitions are;

- FY18/19 = July 2018-June 2019;
- FY19/20 = July 2019-June 2020;
- FY20/21 = July 2020-June 2021.

## AGRICULTURE (LIVESTOCK, FISHERIES, FORESTRY AND CROPS)

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The agriculture sector includes the four subsectors: crops, livestock, fisheries, and forests. In total, the four subsectors made up 17 percent of the 2016 GDP.<sup>11</sup> Of the four subsectors, the crops subsector was the most affected by TC Gita (88 percent of total damage and loss for the sector), followed by forestry (7 percent), livestock (3 percent), and fisheries (2 percent). Perennial crops, including trees (fruit trees and handicraft trees such as mulberry and pandanus), kava, and vanilla, were the most impacted by the cyclone; but annual crops, such as cassava, yam, and taro, also suffered significant losses. The livestock subsector damage and losses occurred mainly in Vaini district and Eua Fo'ou, mostly affecting beef cows (32 dead) and dairy cows (4 dead) but also damaging fences. In the forestry subsector, the timber industry was impacted by high winds that damaged infrastructure and trees, mostly in Nukunuku and Takatamotonga districts. The fisheries subsector was also impacted, with the greatest effect on artisanal fisheries and commercial snapper fishing boats, mostly in Takatamotonga district.

10. Government of Tonga, "Post Disaster Rapid Assessment: Tropical Cyclone Gita // February 12, 2018," Global Facility for Disaster Reduction and Recovery, 2018, <https://www.gfdr.org/en/publication/post-disaster-rapid-assessment-tonga>.

11. This calculation is based on Ministry of Finance and National Planning GDP figures from 2016. Crops and livestock constitute 13.7 percent of the sector's contribution to GDP, followed by fisheries (2.9 percent), and forestry (0.4 percent). About 75 percent of Tonga's population lives in rural areas, with agriculture and fisheries as the main source of livelihoods. Tonga has one of the highest rates of subsistence food production among Pacific Island countries. This consists largely of traditional production of root crops, which provide food security, employment, and income for many households.



**TABLE 3. Damage and Losses in the Agriculture Sector by Subsector (T\$ millions)**

	DAMAGE		LOSSES	
	Private	Public	Private	Public
<b>Agriculture</b>	0.3	0.3	85.4	0.0
Crops	0.0	0.0	32.3	0.0
Fruit trees	0.3	0.0	47.2	0.0
Cash crops (kava, vanilla)	0.0	0.0	6.0	0.0
Infrastructure	0.0	0.3	0.0	0.0
<b>Forestry</b>	<b>0.0</b>	<b>0.1</b>	<b>6.7</b>	<b>0.0</b>
Handicraft/medicine	0.0	0.0	6.2	0.0
Infrastructure	0.0	0.1	0.0	0.0
Timber	0.0	0.0	0.5	0.0
<b>Livestock</b>	<b>3.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>
Animal	3.1	0.0	0.1	0.0
Infrastructure	0.0	0.0	0.0	0.0
Fences	0.0	0.0	0.0	0.0
<b>Fishery</b>	<b>1.2</b>	<b>0.1</b>	<b>0.3</b>	<b>0.0</b>
Small-scale	0.6	0.0	0.0	0.0
Snapper vessels	0.5	0.0	0.3	0.0
Pearl farms	0.2	0.1	0.0	0.0
Infrastructure	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>4.60</b>	<b>0.50</b>	<b>92.38</b>	<b>0.00</b>

Source: Estimations based on Ministry of Agriculture, Food, Forests, and Fisheries (MAFFF) and Mainstreaming of Rural Development Innovation (MORDI) assessments.

**TABLE 4. Damage and Losses to the Agriculture Sector by District (T\$ millions)**

DISTRICT	DAMAGE	LOSSES	TOTAL EFFECT	PRIVATE	PUBLIC
<b>Tongatapu districts</b>					
Kolomotuá	0.2	5.6	5.8	100%	0%
Kolovai	0.1	9.5	9.7	100%	0%
Lapaha	0.8	11.6	12.4	100%	0%
Nukunuku	0.4	21.7	22.1	100%	0%
<b>Takatamotonga</b>	<b>1.7</b>	<b>13.5</b>	<b>15.2</b>	<b>100%</b>	<b>0%</b>
Vaini	0.9	21.8	22.7	100%	0%
Kolofo'ou	1.03	0.4	1.5	68%	32%
<b>Total Tongatapu</b>	<b>5.0</b>	<b>84.1</b>	<b>89.2</b>	<b>99.5%</b>	<b>0.05%</b>
<b>'Eua districts</b>					
Eua fo'ou	0.02	2.96	3.0	100%	0%
'Eua Motu'a	0.01	5.3	5.3	100%	0%
<b>Total 'Eua</b>	<b>0.03</b>	<b>8.3</b>	<b>8.3</b>	<b>100%</b>	<b>0%</b>
<b>TOTAL</b>	<b>5.1</b>	<b>92.4</b>	<b>97.5</b>	<b>100%</b>	<b>0%</b>

Source: Estimations based on Ministry of Agriculture, Food, Forests, and Fisheries (MAFFF) and Mainstreaming of Rural Development Innovation (MORDI) assessments.

The total value of damage and production losses in agriculture amounts to T\$97.5 million, of which T\$5.1 million is attributable to damage and T\$92.4 million is attributable to loss. Tables 3 and 4 provide damage and losses in the agriculture sector by subsector and by district. Most of the damage and all the losses were in the private sector.

The total value of recovery and reconstruction needs for the agriculture sector is estimated at T\$9.36 million, of which T\$1.53 million is required for the immediate phase, T\$2.73 million is required for the short-term phase, and T\$5.1 million is required for the medium-term phase. See Tables 5, 6 and 7 for a further breakdown by recovery activities.

The aims of the recovery and reconstruction efforts in the agriculture sector are primarily to support the reestablishment of food security sources in affected communities, revive economic activity across the sector, and strengthen farmers' capacity to be more resilient to similar future shocks in accordance with BBB principles.

**Crops and livestock.** In the crops and livestock subsectors, immediate-term activities will address immediate food security needs by restoring crop and livestock production through land clearance, distribution of agro-inputs (seeds, seedlings, suckers, cuttings, and fertilizers), and provision of feeds and fodder. Support is also needed for preparing land, clearing existing drainage systems, and rehabilitating critical transport and infrastructure, such as pasture fencing and livestock. In the short term, further resources will be required for restoring the crop and livestock economy by supporting the replanting of trees, by introducing new varieties (such as guava, citrus trees) as well as modern technology where possible, and by promoting climate-smart and resilient farming techniques and systems. Although the impact on livestock has been minimal, many animals are suffering from a lack of feed due to the loss of coconut and other fruit trees. Intervention will be needed to ensure sufficient feed is available.

**Fisheries.** In the fisheries subsector, the main immediate-term priority is the distribution of fishing equipment kits to both licensed and non-licensed fishery enterprises. Resources are required to repair boats and engines, and to replace missing equipment. Short-term needs are support for training to help fishermen repair damaged assets, including boats, as well as funding for repair of fishing infrastructure and support for training on prevention, mitigation, and preparedness techniques. There is also a short-term need to improve disaster preparedness by developing solid baseline data, as well as a need for post-disaster assessment, communications, and monitoring and evaluation.

**Forestry.** For the forestry subsector, the primary immediate-term focus will be clearing and salvaging of fallen trees from plantations. This activity will require obtaining and mobilizing new portable sawmills to support the salvaging process and will need to include the provision of training. Strengthening of nurseries will be required so that replanting programs can operate smoothly from the short term onwards. In the short term, the main focus will be on reforestation of plantations, mostly by the provision of mulberry seedlings as well as pine and mahogany.

For more information on the agriculture sector background, the full assessment of damage and loss effects on the sector, and further clarification on recovery needs, see the Rapid Assessment.

## **PHASES OF RECOVERY**

Table 5, Table 6, and Table 7 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs in the agriculture sector. Table 8 calculates the total cost and identifies unmet costs.



**TABLE 5. Agriculture Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Crops:</b> Immediate response from food security cluster, including provision of plowing, fast-growing planting materials (cassava, pele, corn, sweet potatoes), land clearance support (including chainsaws), other agricultural inputs for replanting of crops	MAFFF	Food security cluster	0.59
<b>Livestock:</b> Immediate response from food security cluster, including chick distribution	MAFFF	Food security cluster	0.17
<b>Forestry:</b> Immediate response from food security cluster, including logging	MAFFF	Food security cluster	0.23
<b>Fisheries:</b> Procurement of reefer container for storage purposes		Food security cluster	0.54
<b>TOTAL</b>			<b>1.53</b>

Note: MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries.

**TABLE 6. Agriculture Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Crops:</b> Provision of improved varieties of seeds/seedlings for fruit trees (coconut, mango, guava, citrus, other new exportable varieties); expansion of existing and establishment of new nursery capacity; increased support to development of cyclone-resilient crops	MAFFF	Food security cluster, NGOs	0.8
<b>Crops:</b> Support development and dissemination of food preservation techniques (traditional and new technologies)	MAFFF	NGOs	0.2
<b>Crops:</b> Technical assistance for the finalization of baseline and assessment tools, including provision of tablets for assessment surveys (10 tablets)	MAFFF	Food security cluster	0.02
<b>Livestock:</b> Distribution of veterinary drugs, feeds	MAFFF		1.3
<b>Forestry:</b> Supply of mulberry and timber seedlings (pine, mahogany)	MAFFF		0.2
<b>Fisheries:</b> Technical assistance for the finalization of baseline and assessment tools, including provision of tablets for assessment surveys (10 tablets)	MFNP	Tonga Statistics Department	0.02
<b>Fisheries:</b> Training on boat, motor, and fishing gear repair and sustainable fishing practices; training on prevention, mitigation, and preparedness techniques	MFNP, technical assistance		0.3
<b>TOTAL</b>			<b>2.7</b>

Note: MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries.

**TABLE 7. Agriculture Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	EXPECTED COST
<b>Crop:</b> Repair of damaged infrastructure	MAFFF	0.4
<b>Livestock:</b> Restocking, repair of fences and buildings	MAFFF	3.1
<b>Forestry:</b> Repair of damaged infrastructure	MAFFF	0.06
<b>Fisheries:</b> Repair of damaged infrastructure, boats, and fishing assets	MFNP	1.5
<b>TOTAL</b>		<b>5.1</b>

Note: MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries.

**TABLE 8. Financial Implications for the Agriculture Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
9.4	1.3	8.1

## COMMERCE AND INDUSTRY

### DAMAGES, LOSSES, AND RECOVERY NEEDS

As of June 2018, damage and loss to the commerce and industry sector totaled T\$55.27 million. The value of the damage to physical infrastructure and assets in the sector was estimated as T\$23.5 million. The losses in the sector were estimated at T\$31.8 million, which represents the revenue loss from the time of the event until such time as operations return to pre-disaster levels.

The total value of recovery and reconstruction needs for the commerce and industry sector is estimated at T\$9.8 million, of which T\$1.3 million is required for the immediate phase, T\$7.0 million is required for the short-term phase, and T\$1.5 million is required for the medium-term phase.

The Post-Disaster Rapid Assessment made the following recommendations for the restoration of the commerce and industry sector:

- Encourage more businesses to insure their structures and assets (equipment and machinery).
- Reduce further risk by ensuring that properties are retrofitted and constructed according to the national building codes.
- Support female business owners in the handicrafts sector in rehabilitating their microenterprises.
- Offer other needed support, including seedlings for replanting and a quick replacement of lost raw material.

The Government of Tonga is in the process of reviewing these recommendations and will confirm recovery actions and priorities with the Tongan community as soon as these decisions are made. Table 9, Table 10 and Table 11 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs in the agriculture sector. Table 12 calculates the total cost and identifies unmet costs.

**TABLE 9. Immediate Needs in the Commerce and Industry Sector (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
Tax exemption for inputs and materials necessary for rebuilding (specifically construction materials for rebuilding businesses affected by TC Gita)	To be confirmed	To be confirmed	
Establishment/strengthening of a new microfinance facility for businesses affected by TC Gita, with a special funding line to rebuild/recommence operations following TC Gita (including a special window to meet the needs of women handicraft producers)	To be confirmed	To be confirmed	
Capacity building of affected businesses to ensure viable regrowth	To be confirmed	To be confirmed	
Introduction of new disaster resilience products, such as (i) instruments to improve business insurance coverage, (ii) initiatives to reduce business costs (i.e., for fuel, telecommunications, Internet, etc.), and (iii) capacity building for financial institutions in business loan processes and policies aligned to risks of business in Tonga	To be confirmed	To be confirmed	
Preparation of local suppliers to meet relief needs in the case of future events (special campaigns/workshops)	To be confirmed	To be confirmed	
<b>TOTAL</b>			<b>1.3</b>

**TABLE 10. Short-Term Needs in the Commerce and Industry Sector (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Tax exemption for inputs and materials necessary for rebuilding (specifically construction materials for rebuilding businesses affected by TC Gita)	To be confirmed	To be confirmed	1.5
Establishment/strengthening of a new microfinance facility for businesses affected by TC Gita, with a special funding line to rebuild/recommence operations following TC Gita (including a special window to meet the needs of women handicraft producers)	To be confirmed	To be confirmed	5.0
Capacity building of affected businesses to ensure viable regrowth	To be confirmed	To be confirmed	0.3
Introduction of new disaster resilience products, such as (i) instruments to improve business insurance coverage, (ii) initiatives to reduce business costs (i.e., for fuel, telecommunications, Internet, etc.), and (iii) capacity building for financial institutions in business loan processes and policies aligned to risks of business in Tonga	To be confirmed	To be confirmed	0.1
Preparation of local suppliers to meet relief needs in the case of future events (special campaigns/workshops)	To be confirmed	To be confirmed	0.1
<b>TOTAL</b>			<b>7.0</b>

**TABLE 11. Medium-Term Needs in the Commerce and Industry Sector (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Establishment/strengthening of a new microfinance facility for businesses affected by TC Gita, with a special funding line to rebuild/recommence operations following TC Gita (including a special window to meet the needs of women handicraft producers)	To be confirmed	To be confirmed	1.0
Capacity building of affected businesses to ensure viable regrowth	To be confirmed	To be confirmed	0.3
Introduction of new disaster resilience products, such as (i) instruments to improve business insurance coverage, (ii) initiatives to reduce business costs (i.e., for fuel, telecommunications, Internet, etc.), and (iii) capacity building for financial institutions in business loan processes a	To be confirmed	To be confirmed	0.1
Preparation of local suppliers to meet relief needs in the case of future events (special campaigns/workshops)	To be confirmed	To be confirmed	0.1
<b>TOTAL</b>			<b>1.5</b>



**TABLE 12. Financial Implications for the Commerce and Industry Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
9.8	To be confirmed	9.8

## TOURISM

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The tourism sector encompasses accommodations, restaurants, marine tours, tour operators, and travel agencies.<sup>12</sup> Listed in the National Accounts as the “hotels and restaurants” sector, tourism represents T\$26.9 million in earnings (3.2 percent of 2016 GDP).<sup>13</sup> The total effects of TC Gita on the tourism sector are estimated at T\$40.60 million. This represents T\$26.30 million in approximate damages and T\$14.30 million in expected losses.

Of the total T\$26.30 million damage, 90 percent was incurred by accommodation buildings, furnishings, equipment, and other assets. Around 72 of the 76 accommodation businesses on Tongatapu and ‘Eua sustained damage, with 25 percent suffering major damage. The resort category (14 properties) was the most affected; it faces T\$11.0 million in damage to buildings, furnishing, and equipment, of which an estimated T\$9.5 million is uninsured.

The T\$14.30 million in economic losses to Tonga’s tourism sector reflects the loss in revenues for the industry based on cancellations to date, an expected fall in international visitor numbers in the short term, and/or extended closure of some restaurants and accommodation businesses. It also reflects higher operational costs incurred by the private sector due to the disaster and expected costs of post-disaster promotional efforts to restore market demand.

The losses will be felt more by beach/island resorts, backpacker accommodations, and lodges targeting tourists, especially those located outside Nuku’alofa; these are experiencing disproportional declines in business compared to some hotels in town, which are facing minimal losses (and possibly gains) as they meet the atypical demand for workers associated with cyclone recovery. This disparity is compounded for the resort category, which has the longest time frames for reconstruction and reopening.

Recovery needs for the sector are estimated at least T\$35.40 million, including reconstruction of damaged properties with sufficient investment to build back better using resilient structures and practices. Most of this (T\$32.50 million) is required in the immediate term for reconstruction (estimated as T\$28.5 million) and for a recovery marketing campaign (around T\$800,000). The former requires dedicated efforts to overcome access to finance constraints for affected businesses.

A further (minimum) T\$2.9 million will be required in the short term for other programs aimed at providing small and medium enterprises (SMEs) in the tourism sector with access to appropriate disaster insurance products, strengthening tourism SME operations, and strengthening tourism development and marketing for Tonga overall. Although these recommendations are not solely associated with the effects of the disaster, the event has highlighted the challenges facing the sector and the limitations in its capacity to recover and grow unless these are addressed.

For more information on the tourism sector background, the full assessment of damage and loss effects in the sector, and further clarification on recovery needs, see the Rapid Assessment.

### PHASES OF RECOVERY

Table 13, Table 14 and Table 15 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs. Table 16 calculates the total cost and identifies unmet costs.

12. Categories are based on Ministry of Tourism activity. According to the Tourism Act, the tourism sector also covers other business types, including taxi services and handicrafts; however, the Ministry of Tourism does not have access to these business registration records, which sit with the Ministry of Commerce’s Business Registries Office. Therefore, the tourism sector assessment is based on the five categories outlined above, for which the Ministry of Tourism has information. Taxis and handicrafts are covered under the commerce sector section.

13. Calculation is based on Ministry of Finance and National Planning GDP figures from 2016.

**TABLE 13. Tourism Immediate Program Delivery (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>COMMENTS</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
<b>Reconstruct tourism businesses/ and heritage site assets</b>	Reconstruct damaged accommodation, restaurant, and other tourism businesses (some completed, some under way, some yet to occur)	To be confirmed	Insurance companies, private sector, TDB, commercial banks (with assistance)	31.5 a
	Provide the tourism private sector with necessary technical guidance and materials to build back better with more resilient structures (workshop to be held engaging external expertise)	MOT and other TBA	To be confirmed	0.15
	Waive import duty on construction materials required for rebuilding, as well as furnishings and equipment for damaged businesses	MOT and other TBA	To be confirmed	completed
<b>Undertake a targeted marketing campaign</b>	Work with travel distributors (e.g., Trip Advisor, travel wholesalers, airlines) in key target markets to overcome any market uncertainty about Tonga's readiness to resume tourism business, and drive sales of product-ready packages	MOT with opportunities for private sector buy-in	To be confirmed	0.80
<b>TOTAL</b>				<b>32.5</b>

Note: MOT = Ministry of Tourism; MOI = Ministry of Infrastructure; MRC = Ministry of Revenue and Customs.

a. Figure includes T\$28.5 million to rebuild with resilience in accommodation subsector, T\$3.0 million to rebuild in restaurants. Approximately T\$10.5 million covered by insurance; T\$21.0 million required in self- or commercial financing.

**TABLE 14. Tourism Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	COMMENTS	LEAD	PARTNERS	EXPECTED COST
<b>Introduce a suitable natural disaster insurance product</b>	Explore options for providing a portfolio insurance product through banks in order to provide tourism SMEs with appropriate natural disaster cover and increase the current low coverage rates (especially relevant to the resort accommodation category). This should build on the Fiji experience.	MFNP/ MCCTIL	Insurance companies; commercial banks	0.25
<b>Strengthen tourism SME financial management</b>	Through provision of training and resources, equip tourism SMEs with the skills and tools to manage their business records and understand critical financial indicators in times of disaster.	MCCTIL	MFNP	0.15
<b>Strengthen the institutional arrangements for tourism</b>	Undertake a review of the institutional arrangements for tourism in Tonga and determine an appropriate structure for licensing, destination development, and marketing. <sup>a</sup>	MOT/MCCTIL		0.15
<b>Strengthen tourism sector data</b>	Build tourism data collection and management practices and resources within the Ministry of Tourism. This will entail a supply analysis and visitor survey project.	MOT, Tonga Statistics Department		0.15
<b>Strengthen Tonga as a tourism destination</b>	Prepare and implement a tourism development plan <sup>b</sup>	MOT		0.2
<b>Develop and mobilize an associated marketing strategy for targeted, cost-effective marketing (to continue from immediate market response)</b>		MOT and private sector		2.0
<b>TOTAL</b>				<b>2.9</b>

Note: MCCTIL = Ministry of Commerce, Consumer, Trade, Innovation and Labour; MOT = Ministry of Tourism.

a. This activity will address issues limiting the disaster assessment, but more importantly will enable sector growth.

b. This plan should support growth of the sector by identifying additional programs to strengthen existing products, as well as opportunities to diversify supply to attract best-prospect markets.

**TABLE 15. Tourism Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	EXPECTED COST
Establish a Tourism Satellite Account for Tonga to accurately measure contribution of the sector to GDP	MOT, MFNP	To be confirmed
<b>TOTAL</b>		<b>TO BE CONFIRMED</b>

Note: MOT = Ministry of Tourism

**TABLE 16. Financial Implications for the Tourism Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
35.4	3.4	32

**TABLE 17. Effects on Private Housing**

DIVISION/DISTRICT/ REGION	DESTROYED	MINOR DAMAGE	MAJOR DAMAGE	PRIVATE	PUBLIC
<b>Tongatapu</b>					
Kolofo'ou	197	582	328	5.77	0.00
Kolomotu'a	139	444	250	9.65	0.00
Vaini	97	268	151	12.38	0.00
Tatakamotonga	58	233	131	22.10	0.00
Lapaha	88	340	192	15.15	0.00
Nukunuku	110	270	152	22.68	0.00
Kolovai	61	131	73	0.99	0.47
<b>Subtotal</b>	<b>750</b>	<b>2,268</b>	<b>1,276</b>	<b>88.71</b>	<b>0.47</b>
<b>'Eua</b>					
'Eua Motu'a	18	121	59	2.98	0.00
Eua fo'ou	40	147	93	5.32	0.00
<b>Subtotal</b>	<b>58</b>	<b>268</b>	<b>152</b>	<b>8.30</b>	<b>0.00</b>
<b>TOTAL</b>	<b>808</b>	<b>2,536</b>	<b>1,428</b>	<b>97.01</b>	<b>0.47</b>

Source: Estimates based on government data.



## HOUSING

### DAMAGES, LOSSES, AND RECOVERY NEEDS

TC Gita left 808 private dwellings destroyed and 3,965 damaged (Table 17), with an overall total of 4,793 households affected out of an estimated total of 13,838 households in Tongatapu and 'Eua. Of the damaged housing stock, 63 percent was considered to have suffered minor damage and 36 percent major damage. The effects of TC Gita left Tongatapu with 6 percent of its housing destroyed and 27 percent damaged; in 'Eua, 7 percent of the housing was lost and 50 percent suffered damage. It can be concluded that the severest toll on the housing sector was in 'Eua.

The damage to housing infrastructure in 'Eua—both minor and major—suggests that the cyclone's effects on timber and masonry houses were similar. Regarding destroyed housing, the data suggest that 2 percent of masonry houses and 11 percent of timber houses were destroyed. As of June 2018, very few families continue to be housed in shelters.

The cost of the damage to infrastructure and assets in the housing sector amounts to T\$111.6 million. Losses in the Sector were negligible (T\$0.016 million) and derived from loss of income to rental properties. Damages and losses in the housing sector are shown by subsector in Table 18 and by district in Table 19. Note that all these damages and losses were in the private sector.

**TABLE 18. Damage and Losses in the Housing Sector by Subsector (T\$ millions)**

SUBSECTOR	DAMAGES	LOSSES	TOTAL EFFECTS	PRIVATE (PERCENTAGE OF TOTAL)	PUBLIC
Infrastructure	93.4		93.4	100%	0%
Assets	18.2		18.2	100%	0%
Rental income		0.02	0.02	100%	0%
<b>SECTOR TOTAL</b>	<b>111.6</b>	<b>0.02</b>	<b>111.6</b>	<b>100%</b>	<b>0%</b>

Source: Estimates based on government data.

**TABLE 19. Damage and Losses in the Housing Sector by District (T\$ millions)**

	DISTRICT	DAMAGES	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
<b>INFRASTRUCTURE</b>						
<b>Tongatapu</b>	<b>TOTAL</b>	<b>85.4</b>	<b>0.02</b>	<b>85.4</b>	<b>100%</b>	<b>0%</b>
	Kolofo'ou	22.3	0	22.3	100%	0%
	Kolomotu'a	16.1	0	16.1	100%	0%
	Vaini	10.7	0	10.7	100%	0%
	Tatakamotonga	7.4	0	7.4	100%	0%
	Lapaha	11.0	0	11.0	100%	0%
	Nukunuku	11.7	0	11.7	100%	0%
	Kolovai	6.2	0	6.25	100%	0%
<b>'Eua</b>	<b>TOTAL</b>	<b>8.0</b>	<b>0</b>	<b>8.0</b>		
	'Eua Fo'ou	5.2	0	5.2	100%	0%
<b>TOTAL INFRASTRUCTURE</b>		<b>93.4</b>	<b>0.02</b>	<b>93.4</b>	<b>100%</b>	<b>0%</b>
<b>ASSETS</b>						
<b>Tongatapu</b>		16.4	0	16.4		
<b>'Eua</b>		1.8	0	1.8		
<b>TOTAL ASSETS</b>		<b>18.2</b>	<b>0</b>	<b>18.2</b>		
<b>SECTOR TOTAL</b>		<b>111.6</b>	<b>0.2</b>	<b>111.6</b>		

Source: Estimates based on government data.

The cost of recovery to the housing sector could range from T\$111.62 million, which represents the full reconstruction of 202 houses at a Category 4 standard, down to T\$102.6 million, the cost to support the construction of core housing. Support amounting to T\$4.8 million for the immediate recovery (to June 2018) is expected to come from the TC Gita Relief Fund.

The housing recovery costs do not include any relocation costs, as there does not appear to be any need for relocation

A number of programmatic options have been advanced for reconstruction and repair in the sector. These include in-kind replacement for the poorest based on core house replacement (not full replacement), matching grants, low-interest credit facility, community-driven repairs, and involvement of young unemployed persons in cash-for-work programs that lead to certification through training and apprenticeship programs. Lessons learned from past approaches to housing recovery suggest that success depends on community engagement in the process at all stages—planning, construction/repair, and distribution.

Financing for housing in Tonga occurs through the local banking sector, remittances, and private savings. This varied approach has implications for the proportion of housing that is covered by insurance and may influence reconstruction policy. For more information on the housing sector background and the full assessment of disaster effects in the sector, see the Cyclone Gita Rapid Assessment<sup>14</sup>. The Housing Sector Recovery Policy and Strategy will contain relevant information as well but as of the time of writing the latter was still being developed.

## **POLICY**

Recovery activities are presented below with the understanding that the not-yet-finalized Housing Sector Recovery Policy and Strategy may complement or supersede them.

Recovery is being guided in part by the Tonga Strategic Development Framework 2015–2025, specifically Pillar 4, Organizational Outcome 4.4, titled “More reliable, safe and affordable buildings and other structures,” which calls for “more reliable, safe and affordable buildings and other structures, taking greater account of local conditions, helping to lower construction, maintenance and operating costs, increase resilience to disasters, improve the quality of services provided and facilitate increased access.”<sup>15</sup>

## **PHASES OF RECOVERY**

Tables 20, 21 and 22 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs. Table 23 calculates the total cost and identifies unmet costs.

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14. [https://www.gfdr.org/sites/default/files/publication/WB\\_Tonga\\_Report\\_FA02\\_Medium\\_0.pdf](https://www.gfdr.org/sites/default/files/publication/WB_Tonga_Report_FA02_Medium_0.pdf)

15. Government of Tonga, “Tonga Strategic Development Framework 2015–2025,” Ministry of Finance and National Planning, May 2015, <http://extwprlegs1.fao.org/docs/pdf/ton168846.pdf>.

**TABLE 20. Housing Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	COMMENTS	LEAD	PARTNERS	EXPECTED COST
Short-term program supporting self-recovery for households affected by TC Gita	Households are expected to receive support ranging from T\$500 for minimal and minor damage to T\$1,500 for major damage and T\$3,000 for totally damaged property.	MOI	NGOs (MORDI, Care, CARITAS, Habitat for Humanity, Tonga Red Cross)	5.8 (from TC Gita Relief funds)
<b>TOTAL</b>				<b>5.8</b>

Note: MOI = Ministry of Infrastructure; MORDI = Mainstreaming of Rural Development Innovation.

This activity is based on a proposed strategy from the shelter cluster, which is currently developing a detailed plan to implement this program. Disbursement of funds approved will be subject to agreed special conditions—e.g., all repair works will be subject to MOI's technical assessment of structural soundness of relevant buildings.

**TABLE 21. Housing Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Reconstruct destroyed houses for most vulnerable households (based on recent Household Income Expenditure Survey) in accordance with the principle of BBB	MOI	MFNP/MIA	18.0
Provide conditional grants (e.g., matching grants—skill equity or financial) with technical assistance to reconstruct destroyed houses for households who may be classified as near-poor	MFNP/MOI		54.1
<b>TOTAL</b>			<b>72.1</b>

Note: MOI = Ministry of Infrastructure; MIA = Ministry of Internal Affairs.



**TABLE 22. Housing Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	COMMENTS	LEAD	PARTNERS	EXPECTED COST
Owner- or community-driven projects with conditional grants, technical assistance, and training		MFNP/MOI		40.0
Youth training and certification	Young persons will be trained in housing repair for an initial 10-day period, followed by an on-the-job apprenticeship. Certification is to be awarded after a 3–6month period.	MOI/Ministry of Education and Training (MOET)		0.5
<b>TOTAL</b>				<b>40.5</b>

Note: MOI = Ministry of Infrastructure; MOET = Ministry of Education and Training.

**TABLE 23. Financial Implications for the Tourism Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
118.4	4.8	112.6

Note: Inflation rate of 5.5 percent would increase cost by T\$5.9 million in the first year and an additional 5.5 percent a year thereafter.

## EDUCATION

### DAMAGES, LOSSES, AND RECOVERY NEEDS

Education infrastructure across Tongatapu and ‘Eua was severely impacted by TC Gita,<sup>16</sup> with an estimated T\$19.78 million in damages and T\$2.17 million in losses. Schools perform a vital role in the community, and the rapid recovery of school infrastructure enables students to regain a sense of normalcy in their lives and helps the community to move forward in the aftermath of a disaster. Immediate action is required to return students to permanent facilities as soon as possible to minimize disruption to their education.

A rapid damage assessment conducted by Ministry of Education and Training (MOET) officers found direct damage to approximately 60 percent of early childhood education centers, 75 percent of primary schools, 88 percent of secondary schools, and 56 percent of tertiary institutes across Tongatapu and ‘Eua. A total of 109 of 150 schools, with an estimated 23,000 students at all levels of education, were affected. In the affected areas, 22 percent of the school building stock was damaged or destroyed.

The cyclone severely damaged education facilities such as classrooms, staff houses, dormitories, and water and sanitation facilities, as well as associated school furniture, books, and other resources. Specifically:

- 30 classrooms were damaged beyond repair; 85 had major damage and 120 had minor damage
- 45 staff houses require repair or reconstruction
- 29 early childhood education centers were damaged
- Water tanks and sanitation facilities were damaged or destroyed
- School resources and furniture were damaged or destroyed

Approximately T\$13.0 million in infrastructure damage, T\$6.9 million in asset damage, and T\$2.2 million in losses were recorded. Table 24 summarizes the damage and losses to the education sector by district, for both government and nongovernment schools. Damages assessed include physical infrastructure (classrooms, halls, dormitories, staff quarters, water and sanitation facilities) and assets<sup>17</sup> (curriculum materials, books, computers, office equipment, and furniture). Losses assessed include costs incurred for temporary school facilities, student transport to alternative nearby schools when regular schools were not available, demolition and rubble removal, psychosocial support programs, fumigation of schools, and professional services costs associated with repair and reconstruction.

The large number of school buildings damaged highlights the issue of substandard construction, the lack of regular maintenance, and the need to replace many aging structures. Damage observed at several recently upgraded school buildings highlights the need for engineer-certified designs for all new and retrofitted school buildings, as well as mandatory inspections during construction by qualified professionals.

A phased, strategic, and long-term approach to school repair, retrofitting, and reconstruction—one that enables schools to return to normal operation as soon as possible—is required.<sup>18</sup> To minimize future impacts on students’ education, it is necessary to invest in upgrading the remaining school building stock to make it more resilient to natural hazards.

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16. School infrastructure sustained damage from high winds, which destroyed roofs, smashed windows with flying debris, and collapsed structures. Many buildings were subsequently water-damaged from heavy rainfall, which penetrated indoors after roofs were lost. In low-lying areas, water flooded the floors of buildings, bringing with it silt and debris. Septic tank systems were flooded from rising groundwater, and tank water supply systems were compromised as gutters were torn from buildings. A large proportion of the damage (35 percent) was from damage to assets contained within the buildings.

17. Asset damage costs listed are based on the Ministry of Education and Training Rapid Assessment only.

18. School facilities must be considered as a whole system, as all components are vital for their operation. One school surveyed had sufficient classrooms to house students, but with destroyed water and sanitation systems and damaged teachers’ quarters, the school was forced to close, and students had to relocate to a nearby facility.

**TABLE 24. Damage and Losses in the Education Sector by District (T\$ millions)**

DISTRICT	DAMAGES	LOSSES	TOTAL EFFECTS	GOVERNMENT	NON-GOVERNMENT
Kolofo'ou	4.8	0.5	5.3	1.3	4.0
Kolomotu'a	3.8	0.4	4.2	0.1	3.9
Kolovai	0.8	0.1	0.8	0.5	0.3
Lapaha	3.9	0.4	4.3	2.4	1.8
Nukunuku	0.5	0.05	0.5	0.1	0.4
Tatakamotonga	1.5	0.2	1.7	0.2	1.4
Vaini	3.9	0.4	4.4	2.1	2.1
'Eua	0.7	0.08	0.8	0.05	0.7
<b>TOTAL</b>	<b>19.9</b>	<b>2.1</b>	<b>22.0</b>	<b>6.8</b>	<b>14.6</b>

Source: Estimates based on government data.

An immediate investment of T\$8.5 million is required to repair the existing building stock with minor damage, replace education materials and equipment, and provide support for temporary school facilities. Psychosocial support services should also be provided to assist students during the recovery.

In the short to medium term, a reconstruction and retrofitting program of T\$13.5 million is required to replace buildings that suffered major damage or destruction. This program will require support from a qualified engineering consultant to assess the condition of existing assets and determine their suitability for retrofitting or recommend reconstruction where appropriate. A phased approach may be employed to retrofit existing structures before constructing new facilities to speed up the return of students to permanent school facilities.

Due to the large number of buildings that require work, a strategy should be developed that addresses potential constraints in the local labor force and material supply market, including the potential for surge pricing due to increased demand. Works may be divided into packages and/or phases and tendered to multiple contractors to deliver works rapidly. All works should employ the principles of build back better to ensure that they are able to withstand future disasters and are designed to minimize ongoing maintenance requirements.

The high value of assets (T\$6.9 million) that were lost following TC Gita and the negative impact on students' education provides a strong case for investments to preemptively retrofit or reconstruct existing infrastructure. Relatively small investments in structural retrofitting can deliver a significant increase in building performance by making existing structures resilient to future disasters and thereby minimizing future damage, losses, and disruption. In the long term, a program to strengthen or replace the existing infrastructure should be undertaken on all education assets across the islands.

For more information on the education sector background, the full assessment of damage and loss effects on the sector, and further clarification on recovery needs, see the Rapid Assessment.

## **POLICY**

A key strategic priority as identified under the Tonga Strategic Development Framework 2015–2025 is quality of education. Policy interventions related to this priority may include the following:

- Stronger and more resilient education infrastructure
- Strict adherence of all school buildings to standard building code policies
- Quality early childhood, primary, and secondary education and relevant learning
- Qualified and motivated teachers
  - Maternity policy: reduce to two months with cash the third month
  - Amalgamation of some primary schools and Form 7
  - Related to the above, school zoning decisions

- Global citizenship education and education for sustainability
- Closer alignment of scholarship supply with the demand
- Education offering relevant skills for decent work and entrepreneurship
- Increased salary for mission school teachers to assist with retention

## **PHASES OF RECOVERY**

Tables 25, 26 and 27 summarize immediate, short-term, and medium-term recovery activities and expected costs. Table 28 calculates the total cost and identifies unmet costs.

**TABLE 25. Education Immediate Program Delivery (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
Supply curriculum materials	MOET	MFAT	4.4
Supply education equipment, furniture, and other assets	MOET	Diaspora	2.5
Provide support for temporary school facilities (materials/transport)	MOET		0.4
Provide psychosocial support	MOET/ UNICEF		0.1
Undertake engineering assessment of minor damaged infrastructure	MOET, engineering consultant		0.1
Repair minor damage to government schools	MOET, MOI		0.3
Repair minor damage to nongovernment schools	MOET, MOI		0.6
<b>TOTAL</b>			<b>8.5</b>

Note: MFAT = New Zealand Ministry of Foreign Affairs and External Trade; MOI = Ministry of Infrastructure.

**TABLE 26. Education Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Undertake engineering assessment of major damaged infrastructure	MOET, MOI	Engineering consultant	1.5
Retrofit and reconstruct major damaged infrastructure—Phase 1	MOET, MOI		4.0
<b>TOTAL</b>			<b>5.5</b>

Note: MOI = Ministry of Infrastructure.

**TABLE 27. Education Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Retrofit and reconstruct major damaged infrastructure—Phase 2	MOET, MOI		8.0
Preemptively retrofit and repair remaining school infrastructure stock not affected by TC Gita	MOET, MOI		Not yet identified
<b>TOTAL</b>			<b>8.0</b>

Note: MOI = Ministry of Infrastructure.

**TABLE 28. Financial Implications for the Education Sector (T\$ millions)**

TOTAL EXPECTED COST	MET–TONGA	MET–DONOR	UNMET (FINANCING GAP)
22.0	5.1	44.7	-27.8



## HEALTH

### DAMAGES, LOSSES, AND RECOVERY NEEDS

Health facilities across Tongatapu and 'Eua suffered only minor damage as a result of TC Gita; damages were estimated at T\$0.1 million and losses at T\$0.55 million (Table 29). All facilities remained operational throughout and following the storm. Minor damage to roofs and water ingress from smashed windows and wind-driven rain were the predominant issues affecting health buildings. Past investments to improve the quality of health infrastructure have demonstrated the value of creating resilient assets that can withstand natural hazards. Ongoing investments are required to ensure these facilities are upgraded nationwide and maintained adequately to ensure continuous operation into the future.

Recovery needs for the water sector are estimated at T\$3.03 million, with T\$2.73 million required for the immediate phase and T\$0.3 required for the short-term recovery.

Key needs for recovery and reconstruction in the health sector include the following:

- Minor works to return health infrastructure in the affected areas to pre-cyclone condition
- Development of a program to inspect all existing health infrastructure nationally and provide ongoing support for the maintenance of facilities<sup>19</sup>

### PHASES OF RECOVERY

Tables 30, 31 and 32 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs. Table 33 calculates the total cost and identifies unmet costs. Subsequent to Cyclone Gita, the hospital on Eua was damaged by strong wind during Cyclone Keni in April 2018. Temporary repairs have been undertaken by the government. Further retrofitting/reconstruction will be discussed as part of the World Bank funded PREP Tonga project.

19. Where required, preemptive retrofitting works should be carried out. Subsequent periodic assessments of the facilities should be conducted biannually to ensure facilities' performance into the future. Increased resilience could be provided at each of the 14 health centers by installing backup power generators as well as upgraded water supply systems; these improvements would make facilities self-sufficient following disasters. The installation of cyclone shutters on all facilities would also reduce the potential for smashed windows and subsequent water damage.

**TABLE 29.** Damage and Losses in the Health Sector (T\$ millions)

SECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	PUBLIC (PERCENTAGE OF TOTAL)
Health	0.10	0.55	0.65	100%

**TABLE 30. Health Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Minimize negative impacts; repair and renovate health care facilities, essential equipment, and supplies (minus generators)	MOH		1.8
Offer psychological support for affected population	MOH		0.03
Reduce breeding of mosquitoes			0.5
Apply insecticide; spray sites identified as high risk			0.4
<b>TOTAL</b>			<b>2.7</b>

Note: MOH = Ministry of Health.

**TABLE 31. 31 Health Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Restore partially damaged systems	MOH		0.3
<b>TOTAL</b>			<b>0.3</b>

Note: MOH = Ministry of Health.

**TABLE 32. Health Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Conduct preemptive structural assessment, retrofitting, and repair of remaining health infrastructure not affected by TC Gita	MOH/MOI		Not yet identified
Install backup power, water supplies, and cyclone shutters at all hospitals and health centers	MOH/MOI		Not yet identified
<b>TOTAL</b>			<b>TO BE CONFIRMED</b>

Note: MOH = Ministry of Health.

**TABLE 33. Financial Implications for the Education Sector (T\$ millions)**

TOTAL EXPECTED COST	MET–TONGA	UNMET (FINANCING GAP)
3.03	3.03	0

## ENERGY

### DAMAGES, LOSSES, AND RECOVERY NEEDS

Power supply on the islands of ‘Eua and Tongatapu was disrupted by TC Gita; all Tonga Power Ltd. (TPL) customers in the area were affected. The damage on ‘Eua was marginal. All customers on ‘Eua (about 1,170) were disconnected from the electricity supply, but power supply was fully reconnected 14 days after TC Gita’s landfall. On Tongatapu, the damage was more significant. About 17,782 customers were disconnected from the electricity supply, and they were reconnected progressively over a seven-week period following the day of the cyclone.

While Tropical Cyclone Gita caused significant damage to the power grid, lower levels of damage were experienced in the power generation infrastructure, with the estimated damage of about T\$615,000. TPL’s diesel generation assets were quickly repaired after TC Gita made landfall.

The total effects of TC Gita are estimated at T\$17.14 million, consisting of T\$13.41 million in damage to power sector infrastructure and T\$3.7 million in losses to TPL, mainly from loss of revenue. Table 34 summarises the breakdown of the damage to the energy assets, whereas Table 35 elaborates the damage to assets by location.

The total cost of recovery and reconstruction for the electrical sector includes (i) the cost of immediate works (about T\$13.4 million) to reestablish electricity supply across the islands of Tongatapu and ‘Eua; and (ii) medium-term disaster resilience rehabilitation works of power grid infrastructure assets on Tongatapu (estimated at T\$86.2 million) to be realized under the Nuku’alofa Network Upgrade Project. The total requirements for reconstruction of the system are estimated at about T\$99.6 million.

**TABLE 34. Percentage of Energy Assets Damaged**

	TONGATAPU				‘EUA	REMARKS
	Outer villages—grids not yet upgraded	Outer villages—grids upgraded	Nuku’alofa—grids not yet upgraded	Average/subtotal		
Power network	45.9%	4.7%	18.7%	44.6%	12.4%	
Generation				43.7%	19.1%	Mostly minor damages and quickly restored

**TABLE 35. Energy Damage by Island (T\$ millions)**

	TONGATAPU				‘EUA	TOTAL
	Outer villages—grids not yet upgraded	Outer villages—grids upgraded	Nuku’alofa—grids not yet upgraded	Average/subtotal		
Power network	3.1	1.9	7.8	12.7	0.08	<b>12.8</b>
Generation				0.6	0.03	<b>0.6</b>

Note: Prior to landfall by TC Gita, 54 percent of TPL’s grid on Tongatapu had already been upgraded under the Tonga Village Network Upgrade Project. The grids that had not yet been upgraded suffered significantly greater damage than the upgraded grids.

The proposed Nuku'alofa Network Upgrade Project will support the rehabilitation of the existing 11 kV overhead network, installation of new 11/0.4 kV distribution transformers, rehabilitation of the existing low-voltage overhead network using modern aerial-bundled conductors, and installation of new underground service cables to customer premises with new smart meters across five contiguous subproject areas and 56 villages in Nuku'alofa.<sup>20</sup> For more information on the energy sector background and the full assessment of disaster effects on the sector, see the Rapid Assessment.

## **POLICY**

A key strategic priority as identified under the Tonga Strategic Development Framework 2015–2025 is energy efficiency. In particular, the Framework's organizational outcome includes "More reliable, safe, affordable and widely available energy services built on an appropriate energy mix moving towards increased use of renewable energy".<sup>21</sup> The restoration of the electricity supply offers a good opportunity to build back better and move toward this strategic priority.

Policy interventions include:

- > Support for renewable energy
  - > Public-private partnership negotiations to strengthen partnership for energy efficiency
  - > Ongoing support for wind power and solar power and storage; review of the Energy Bill
  - > LED policies to save power
- > Support for petroleum storage energy
- > Support for an enabling environment, including policies to limit the life of vehicle usage

## **PHASES OF RECOVERY**

Table 36 provides a summary of immediate recovery activities and expected costs. Table 37 summarizes activities and costs for the short and medium term. Table 38 calculates the total cost and identifies unmet

20. Five contiguous subproject areas include (i) Kolomotu'a and Kolofou'u; (ii) Matakieu'a, Tofoa to Fanga; (iii) Fasi, Halaleva to Ma'ufanga; (iv) Anana, Touliki to Popua; and (v) West to Sopa.
21. <https://policy.asiapacificenergy.org/sites/default/files/TSDf%20II.pdf>.

**TABLE 36. Energy Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Restoration of power network	Tonga Power Ltd.		12.7
Restoration of generation network			0.7
<b>TOTAL</b>			<b>13.4</b>

**TABLE 37. Energy Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Restoration of the power network to BBB standards	Tonga Power Ltd.	MEIDECC/MPE	86.2
<b>TOTAL</b>			<b>86.2</b>

Note: MEIDECC = Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change, and Communications; MPE = Ministry of Public Enterprises.

**TABLE 38. Financial Implications for the Energy Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
99.6	42.2	57.4

## PUBLIC AND COMMUNITY BUILDINGS

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The impact of TC Gita was assessed on 69 public buildings<sup>22</sup> across the islands of 'Eua and Tongatapu. Damage to the sector totaled T\$5.5 million, of which 82 percent was infrastructure damage. The Parliament building on Tongatapu was destroyed during the cyclone and makes up 47 percent of the total infrastructure damage. Impacts to public buildings in 'Eua were significant (39 percent of total infrastructure damage), with the prison and fire services buildings suffering more than 70 percent of the damage on 'Eua. Inadequate fixing of roof iron and roof structures to wall plates was the most common failure mechanism across both islands.

Losses to the sector are linked primarily to costs associated with the relocation of Parliament to a new (temporary) premises and the required fit-out, which have been valued at T\$1.0 million. Significant additional losses related to retrieval of public data/ records that were damaged or lost during TC Gita are anticipated, particularly from the Parliament building, but these losses have not been fully quantified as of June 2018.

Table 39 shows the breakdown of the damage and losses, as well as the proportion of private and public ownership of the assets that were affected by Cyclone Gita in the public buildings sector.

22. Public building assets considered here include all government offices, quarters, and ministerial buildings not covered under other sector assessments. Housing, education, health, agriculture, and fisheries building assets have been included in their respective sector assessments. Losses incurred from demolition and removal of rubble have been captured under the transport sector analysis.

**TABLE 39. Damage and Losses in the Public Buildings Sector (T\$ millions)**

SUBSECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
Army, police, and emergency services	1.0		1.0	0%	100%
Government office	0.4		0.4	0%	100%
Government quarters	0.1		0.1	0%	100%
Detention facilities	0.5		0.5	0%	100%
Parliament and king's residence <sup>a</sup>	3.2	1.0	4.2	0%	100%
Other <sup>b</sup>	0.2		0.2	0%	100%
<b>SECTOR TOTAL</b>	<b>5.5</b>	<b>1.0</b>	<b>6.5</b>		

Notes: Damages and losses to the national rugby stadium have not been calculated and will need to be assessed.

a. Information on the king's residence is for the residence in 'Eua, which sustained major roofing damage. No damage to the Tongatapu residence has been reported.

b. Other buildings include sheds, storage facilities, workshops, and ancillary buildings.



Immediate roofing repairs have been initiated. However, a detailed assessment of recovery needs and forward planning are required to ensure that resilient retrofitting designs can be implemented where appropriate. Adequate investment in maintenance planning and budgeting will also be required to mitigate further rapid deterioration of the already aging assets. Clean up of partially damaged buildings is an immediate priority and must be expedited to reduce the risk of further damage and injury to occupants and the public.

Additional detailed survey and damage assessments of the 18 significantly damaged buildings across both islands will need to be carried out to better understand their structural integrity and suitability for repair and retrofit. A significant percentage of the major damage occurred in the army, police, fire, and emergency services subsector; thus adequate funding and a strategic approach for building the resilience of this infrastructure will be required to ensure the subsector has the capacity to carry out its vital public service roles, including emergency response.

A rapid survey and assessment of all public buildings across Tonga is urgently required so that a geolocated register of public building assets can be developed as a tool for improved maintenance programming. Currently no such register exists, and it is unclear how many public buildings there are in Tonga and what their condition is. Understanding the full extent of the economic impact to the sector from events such as Gita is not possible without this information, and the register should therefore be prioritized. Given the aging building stock, routine maintenance of buildings unaffected by TC Gita should be improved in order to mitigate further damage and losses, now and in the future.

The assessment of government quarters on Tongatapu identified 13 houses that still have asbestos roof sheeting at various stages of deterioration. The houses themselves are in particularly poor condition and require substantial renovations. Removal and correct disposal of the asbestos and upgrade of the roofing structure should be carried out as soon as possible to mitigate any health and safety risks.

The medium-term recovery needs of the sector depend heavily on the findings of a more detailed survey of public buildings across Tonga so that the needs of the sector can be properly understood and prioritized. With many of the significantly damaged buildings likely reaching the end of their serviceable life, the cost to the government to retrofit or rebuild them to resilient standards will be high.

Recovery needs for community and public buildings are estimated at T\$21.10 million, with T\$0.31 million is required for the immediate phase and T\$20.70 is required for the medium-term recovery.

For more information on the public and community building sector background and the full assessment of effects on the sector, see the Rapid Assessment.

#### **PHASES OF RECOVERY**

Table 40 provides a summary of immediate activities and expected costs; Table 41 summarizes activities and costs for the short term and medium term. Table 42 calculates the total cost and identifies unmet costs.

**TABLE 40. Public and Community Buildings Immediate Program Delivery (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>EXPECTED COST</b>
Emergency and minor roofing repairs across Tongatapu and 'Eua	MOI	0.3
<b>TOTAL</b>		<b>0.3</b>

Note: MOI = Ministry of Infrastructure.

**TABLE 41. Public and Community Buildings Short- and Medium-Term Program Delivery (July 2019 –2021) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>EXPECTED COST</b>
Survey and damage assessments of assets with major damage	MOI	0.05
Total public building survey and register development	MOI/Ministry of Lands, Survey and Natural Resources	0.05
Asbestos roof removal and replacement	MOI with assistance from certified asbestos handling firm	0.6
Repair and reconstruction of the assets with major damage, including Parliament building and stadiuma.	MOI	20.0 b
<b>TOTAL</b>		<b>20.7</b>

Note: MOI = Ministry of Infrastructure.

a. Complete number of public building assets is not currently understood, so this is a preliminary/tentative estimate and is based on the estimated replacement costs of known public building assets.

b. This figure is the estimated replacement cost of the known public building assets at the time the report was written.

**TABLE 42. Financial Implications for the Public and Community Buildings Sector (T\$ millions)**

<b>TOTAL EXPECTED COST</b>	<b>MET</b>	<b>UNMET (FINANCING GAP)</b>
21.0	1.0	20.0

## TRANSPORT

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The transport infrastructure and networks across the three subsectors (land, maritime, and aviation) suffered only minor damages from TC Gita. Damages were concentrated in central Nuku'alofa (Kolofo'ou district) and the Takakamotonga district, where port and airport operations are based respectively. The transport sector incurred minor losses due to lost revenue from canceled flights and cruise ships, and from salvaging of sunken vessels and damaged assets. Damage to the sector totaled T\$2.3 million, while losses totaled T\$0.8 million.

The cost of the damage is taken to be the cost to repair or replace the structures to their pre-disaster state. The assessed damages and losses to the transport sector by subsector and district are in tables 40 and 41 respectively. Table 43 is the breakdown of the damage and losses in the Transport subsectors. Table 44 shows the breakdown of damage and losses by district.

**TABLE 43. Damage and Losses in the Transport Sector by Subsector (T\$ millions)**

SUBSECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
Maritime	1.3	0.5	1.8	0%	100%
Aviation	0.9	0.1	1.1	0%	100%
Land	0.05	0.2	0.2	0%	100%
<b>SECTOR TOTAL</b>	<b>2.3</b>	<b>0.8</b>	<b>3.1</b>	<b>0%</b>	<b>100%</b>

**TABLE 44. Damage and Losses in the Transport Sector by District (T\$ millions)**

SUBSECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
Kolofo'ou	1.4	0.6	1.8	0%	100%
Kolomotu'a	0.03	0.09	0.1	0%	100%
Tatakamotonga	0.9	0.1	1.0	0%	100%
<b>SECTOR TOTAL</b>	<b>2.3</b>	<b>0.8</b>	<b>3.0</b>	<b>0%</b>	<b>100%</b>

Note: Land subsector damage and losses (T\$0.22 million) were not disaggregated and so have been distributed evenly between Nuku'alofa's central and most dense road networks, in Kolofo'ou and Kolomotu'a districts.

**Maritime subsector.** Maritime damage was concentrated in the Ports Authority Tonga (PAT) wharf compound in the Kolofō'ou district. Total damage to the maritime subsector has been estimated at T\$1.3 million, equating to approximately 6 percent of total insured assets. It is anticipated that approximately 70 percent of these damages will be covered by PAT's insurance.

PAT and the government seek reconstruction of critical assets to withstand Category 5 cyclones. PAT will fund capital investments to maintain port infrastructure to current standards, but there is currently a financing gap for activities required to upgrade core infrastructure and facilities to be more resilient and to ensure high standards of operation and safety into the future.

Immediate-term recovery needs focused on emergency repairs to fencing and minor infrastructure damage to allow port operations to resume to pre-cyclone conditions. Immediate priorities include reinstatement of widely damaged fencing, most critically at the international wharf to ensure compliance with International Ship and Port Facility Security (ISPS) standards. Other immediate priorities include repair of rock revetment and public facilities, conduct of structural integrity surveys, and replacement of flood lights, navigational aids, and fenders throughout Queen Salote domestic and international berths. Immediate temporary repairs to buildings critical for operations of the port are ongoing, with approximately 80 percent already completed as at June 2018.

The short- to medium-term recovery needs include reinstating damaged assets to the pre-cyclone condition as well as upgrading critical operational infrastructure assets in accordance with BBB principles to increase the resilience of the sector to future cyclones and other hazard events. It is anticipated that ongoing development investment programs, such as the Maritime Safety and Resilience Program and the Transport Sector Consolidation Project, will incorporate such principles in all designs to be undertaken.

Critical assets for port operations and shipping, including the FISA Building, Teisina, Waratah, and the Export Culture Co. Building, will require significant upgrades to ensure continuity of services in the medium to long term. These buildings and the flea market provide an important source of rental income for PAT, so it is vital that they are safeguarded against future impacts from natural hazards.

**Aviation subsector.** The roof structure of the passenger terminal at the domestic terminal building was destroyed and makes up the majority of the total damage to the subsector, valued at T\$0.93 million. Impacts to the Fua'amotu international terminal were minor, and included damage to roof sheeting, the internal ceiling lining, navigational aids, and lighting. Aviation sector losses were valued at T\$0.1 million, the result of lost revenue from canceled international flight operations via taxes and landing fees and increased operational costs associated with debris cleanup.

Immediate needs of the aviation subsector include replacement of destroyed navigational aids, communication systems, lighting, computers, and other office equipment. Replacement of the roof sheeting and internal ceiling in the damaged areas of the Fua'amotu international building is also a priority. Replacement of critical aircraft surveillance technology as well as restoration of the Royal Family's VIP lounge adjacent to the international terminal has already been completed at a cost of T\$0.1 million. Reconstruction of the domestic terminal will be the focus for short-term recovery of the aviation subsector.<sup>23</sup> At the time of this report, planning for the reconstruction and upgrade of the terminal was already under way and expected to be implemented over the next 12–18 months.

**Land subsector.** Tonga's land transport infrastructure was largely unaffected by TC Gita, with only very minor damages identified to road signage and stockyard sheds, totaling T\$0.05 million. The losses to the land subsector mostly resulted from increased operational costs associated with the debris clearing across Tongatapu and 'Eua. Fuel costs for heavy machinery (dump trucks, loaders), which was mobilized for the cleanup by the Ministry of Infrastructure (MOI) and His Majesty's Army, was T\$0.1 million. One contractor already under contract with the Land Transport Division (in MOI) for routine maintenance was also required to assist the clean-up, at a cost of T\$0.05 million.<sup>24</sup>

For more information on the transport sector background and the full assessment of disaster effects on the sector, see the Rapid Assessment.

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23. Medium-term priority development needs for the aviation subsector, such as construction of the new control tower at Fua'amotu International Airport and resurfacing works in Ha'apai, are already being met by ongoing development projects and are not covered by this assessment.

24. Short- and medium-term priority development needs for the land subsector, such as road rehabilitation and upgrading, are already being addressed by the government through several projects in association with its development partners and are not considered by this assessment.

## **POLICY**

A key strategic priority as identified under the Tonga Strategic Development Framework 2015–2025 is resilient infrastructure. Policy Interventions outlined for this sector include the following:

- > Review of relevant road maintenance policy
- > Review of revenue for maintenance of large public utilities, e.g., roads, wharfs, and airports
- > Review and consideration of dedicated revenue for specific road, airport, and wharf maintenance
- > Enforcement of mandatory sea, land, and air regulatory standards and requirements

Recognizing the key role that transport plays in the economy and social fabric of Tonga—in part because of its isolated and dispersed nature—the government is committed to improving the efficiency of the sector as highlighted in Tonga’s National Infrastructure Investment Plan 2013–2023.

Since 2004, the government’s transport policy has been strengthened; and road maintenance, maritime and aviation safety, and infrastructure have been improved. This progress has occurred through targeted programs such as the Tonga Transport Sector Review and the World Bank–funded Tonga Transport Sector Consolidation Project, and with support from development partners, including the World Bank, Asian Development Bank, Australian Government, and the Pacific Region Infrastructure Facility.

## **PHASES OF RECOVERY**

Table 45, Table 46 and Table 47 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs. Table 48 calculates the total cost and identifies unmet costs.

**TABLE 45. Transport Immediate Program Delivery (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
<b>Roads:</b> Signage repair and replacement	MOI (Land Transport Division)		0.05
<b>Maritime:</b> Fencing repairs, navigational aid and flood light replacement, engineering services, emergency building repairs	PAT		0.4
<b>Aviation:</b> Repairs to navigational aids, communication systems, lighting, and international terminal roofing	TAL		0.2
<b>TOTAL</b>			<b>0.7</b>

Note: TAL = Tonga Airports Ltd.

**TABLE 46. Transport Immediate Program Delivery (to June 2018) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
<b>Maritime:</b> Upgrade and climate-proofing of PAT head office, flea market, passenger terminals, and critical operations support assets	PAT		0.9
<b>Aviation:</b> Reconstruction of domestic terminal	TAL		0.7
<b>TOTAL</b>			<b>1.6</b>

Note: TAL = Tonga Airports Ltd.



**TABLE 47. Transport Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Maritime:</b> Upgrading and climate-proofing of remaining assets	PAT		0.9
<b>TOTAL</b>			<b>0.9</b>

**TABLE 48. Financial Implications for the Transport Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
3.1	To be confirmed	3.1

## WATER AND SANITATION

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The total effect of TC Gita on the water and sanitation sector was T\$1.9 million. The total damage to water infrastructure is estimated at T\$1 million, comprising T\$0.2 million in damage to urban water infrastructure and T\$0.9 million for rural water infrastructure. Losses equate to T\$0.3 million, comprising T\$0.1 million for urban infrastructure and T\$0.2 million for rural infrastructure. Note that some of these damages and losses were in the private sector and some in the public sector. Table 49 is the breakdown of the damage and losses by subsector and shows the proportion of private and public assets affected. Table 50 shows the damage and losses by district.

Table 49 Damage and Losses in the Water and Sanitation Sector by Subsector

Key needs for the recovery and reconstruction of the water and sanitation sector include the following:

- Short-term works to re-establish, as soon as possible, full water supply capacity and service for all rural village households and consumers
- Nonurgent short-term reconstruction works
- Improved disaster resilience design of key/critical infrastructure assets for medium- and long-term reconstruction work

Recovery needs for water and sanitation are estimated at T\$3.3 million, with T\$2.5 million required for the immediate phase and T\$0.8 million required for the short-term recovery.

### POLICY

To improve system resilience, the Tonga Water Board (TWB), Waste Authority Ltd. (WAL), and village water supply committees may need to update and increase the cyclone design specification rating for key assets during short- to medium-term reconstruction. This will include a review of the wind loadings and a possible move to a Category 5 cyclone rating for key buildings and structures, including elevated tank stands, high-voltage power distribution lines, pump and generator plant houses, sheds and storage structures, and solar system components.<sup>25</sup>

### PHASES OF RECOVERY

Table 51 and 52 provide a summary of immediate and short-term recovery activities and expected costs. Table 53 calculates the total cost and identifies unmet costs.

25. Undergrounding of key power distribution lines is one approach to improve disaster resilience for cyclone events. TPL and TWB already have a practice of undergrounding key low-voltage transmission and distribution assets in the production borefield areas. However, TPL does not presently underground high-voltage reticulation: reconstruction following TC Gita will not include any additional immediate undergrounding of any sub-transmission and distribution assets for the water sector. However, TPL and TWB will continue to include undergrounding in future development plans to maximize system resilience.

**TABLE 49. Damage and Losses in the Water and Sanitation Sector by Subsector (T\$ millions)**

SUBSECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
Water	1.0	0.3	1.3	79%	21%
Sanitation	0.3	0.3	0.6	0%	100%
<b>SECTOR TOTAL</b>	<b>1.3</b>	<b>0.6</b>	<b>1.9</b>		

**TABLE 50. Damage and Losses in the Water and Sanitation Sector by District (T\$ millions)**

SUBSECTOR	DAMAGE	LOSSES	TOTAL EFFECTS	OF WHICH PRIVATE	OF WHICH PUBLIC
Kolofo'ou	0.2	0.2	0.4	0%	100%
Kolomotu'a	0.2	0.1	0.4	0%	100%
Vaini	0.2	0.06	0.3	100%	0%
Tatakamotonga	0.1	0.06	0.2	100%	0%
Lapaha	0.08	0.06	0.1	100%	0%
Nukunuku	0.4	0.06	0.5	100%	0%
Kolovai	0.02	0.06	0.08	100%	0%
<b>SECTOR TOTAL</b>	<b>1.3</b>	<b>0.6</b>	<b>1.9</b>		

**TABLE 51. Water and Sanitation Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Water:</b> Repair building at Mataki'eua; repair and maintain pump stations, mainlines, meters, and reconnections	TWB	MPE	0.4
<b>Water:</b> Restore village systems that are almost entirely unproductive after TC Gita	MOH/TWB	MPE	1.2
<b>Water and sanitation:</b> Restore water and sanitation for health care	MOH	TWB	0.2
<b>Water and sanitation:</b> Restore water and sanitation for temporary learning spaces	MOH/TWB/ MOET		0.4
<b>Water and sanitation:</b> Provide safer water supply in schools and gender-segregated toilets in schools	MOH/TWB/ MOET		0.2
<b>TOTAL</b>			<b>2.5</b>

Note: MOH = Ministry of Health; MPE = Ministry of Public Enterprises.

**TABLE 52. Water and Sanitation Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>EXPECTED COST</b>
Restore partially damaged systems	TWB	0.3
Repair TWMF infrastructure	Waste Authority Ltd.	0.5
<b>TOTAL</b>		<b>0.8</b>

Note: TWMF = Tapuhia Waste Management Facility.

**TABLE 53. Financial Implications for the Water and Sanitation Sector (T\$ millions)**

<b>TOTAL EXPECTED COST</b>	<b>MET</b>	<b>UNMET (FINANCING GAP)</b>
3.3	5.4	-2.1

## TELECOMMUNICATIONS

### DAMAGES, LOSSES, AND RECOVERY NEEDS

An assessment of damages to the telecommunications system was undertaken not by the Rapid Assessment team but rather by the telecommunications cluster. The assessment found damages to assets owned by the Tonga Broadcasting Commission (TBC), including generators at Popua. Recovery needs for community and public buildings are estimated at T\$0.49 million for the immediate phase.

### PHASES OF RECOVERY

Table 54 provides a summary of immediate recovery activities and expected costs. Table 55 calculates the total cost and identifies unmet costs.

**TABLE 54. Telecommunications Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Repair and maintenance of TBC generators at Popua, repair of damage to cable linking AM broadcasting from studio, fuel usage for standby generators in Popua and Fasi, staff costs for emergency team, repair of AM and FM broadcasting computers, repair of TV broadcasting due to damage of equipment and satellite system.	TBC	MPE	0.5
<b>TOTAL</b>			<b>0.5</b>

Source: Telecommunications cluster.

Note: MPE = Ministry of Public Enterprises.

**TABLE 55. Financial Implications for the Telecommunications Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
0.5	0.2	0.3



## WASTE MANAGEMENT

### DAMAGES, LOSSES, AND RECOVERY NEEDS

An assessment of damages to the waste management system was not undertaken by the Rapid Assessment team but rather by the essential services cluster. The assessment found damages to roofing of septic bed houses at Tapuhia and costs for immediate response efforts from TC Gita, including use of 50 waste collectors for a two-month period, truck repairs, and equipment hire costs for waste disposal.

There is a need for a clear management plan that addresses how to deal with the large amount of post-cyclone debris as well as the demolition and other waste that will be generated by recovery activities.

The volume of this waste may test the current waste management system. It is recommended that a waste disposal plan be developed for demolitions, recycling, waste storage site management, and waste in public spaces.

Recovery needs for the waste management sector are estimated at T\$1.1 million for the immediate phase and additional costs for the short-term recovery phase to be confirmed by the Government.

### PHASES OF RECOVERY

Table 56 and Table 57 provide a summary of immediate and short-term recovery activities and expected costs. Table 58 calculates the total cost and identifies unmet costs.

**TABLE 56. Telecommunications Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Repair of roofing of septic bed houses at Tapuhia	WAL	MPE	0.9
50 temporary waste collectors for a two-month period	WAL	MPE	0.07
Truck repairs	WAL	MPE	0.03
Fuel and hire of equipment for bulky waste disposal at Tapuhia	WAL	MPE	0.2
<b>TOTAL</b>			<b>1.1</b>

Source: Essential services cluster. Note: MPE = Ministry of Public Enterprises.

**TABLE 57. Waste Management Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
Establishment of a waste disposal plan for demolitions, recycling, waste storage site management, and waste in public spaces	WAL	MPE	To be completed
<b>TOTAL</b>			<b>TO BE COMPLETED</b>

Source: Essential services cluster. Note: MPE = Ministry of Public Enterprises.

**TABLE 58. Financial Implications for the Waste Management Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
1.1	0.2	0.9

## SOCIAL PROTECTION, SAFETY, GENDER, AND LIVELIHOOD

### DAMAGES, LOSSES, AND RECOVERY NEEDS

The Government of Tonga's response to TC Gita marks the first time that it has used its existing social protection system to disburse disaster assistance to the most vulnerable. Under the Social Welfare Scheme for the Elderly and the Disability Welfare Scheme, existing beneficiaries received a one-time top-up payment, which was in addition to their regular monthly payment funded by the Australian Department of Foreign Affairs and Trade (DFAT). The top-up payments were intended to help beneficiaries living in the two affected areas (Tongatapu and 'Eua) meet their most pressing needs in the immediate recovery phase. It is estimated that the disaster assistance has reached over 3,500 beneficiaries, or 20,000 people (20 percent of the population), for a budget amount of approximately T\$0.8 million (see table 55). Table 59 shows the breakdown of the number of households that received a top-up payment as disaster support under the exiting Social Welfare Scheme for the Elderly and the Disability Welfare Scheme following Cyclone Gita.

26. For more information on Tonga's existing social protection system, refer to the Rapid Assessment.

**TABLE 59. TC Gita Social Protection Top-up Payments 2018**

PROGRAM	TONGATAPU		TOTAL NUMBER OF BENEFICIARY HOUSEHOLDS REACHED	TOTAL NUMBER OF PEOPLE REACHED	TC GITA TOP-UP PAYMENTS (T\$ MILLIONS)
	Number of beneficiary households	Number of beneficiary households			
Disability Welfare Scheme	493	41	534	2,937	0.1
Social Welfare Scheme for Elderly	2,811	213	3,024	16,632	0.7
<b>TOTAL</b>	<b>3,304</b>	<b>254</b>	<b>3,558</b>	<b>19,569</b>	<b>0.8</b>

Source: Compiled by the Rapid Assessment team based on government data.

Note: Total household size of 5.5 people is taken to approximate the number of people reached. For the percentage of households in poverty by region (2015/16), refer to the Rapid Assessment.

The safety and shelter cluster<sup>27</sup> carried out a Rapid Assessment within a week of TC Gita to understand the immediate needs of the people residing in the affected areas of Tongatapu and 'Eua. There were several key findings from the Rapid Assessment. First, women would like to be more actively involved within the first 72 hours after a cyclone (this view was expressed by respondents in more than 80 percent of evacuation centers).<sup>28</sup>

Women would also like to be more prepared for and involved in decision making. Second, families felt the pressure of having to prioritize their household spending on emergency supplies, which in some instances compromised the special needs of vulnerable family members, such as the disabled and the elderly. Third, the evacuation centers were inaccessible for people with limited mobility, especially the elderly and disabled. Lastly, few counselling and psychosocial support services were available to people facing trauma due to the disaster.

A needs assessment survey of 230 persons with disability was carried out by the Pacific Disability Forum in Tongatapu during the first week of March 2018.<sup>29</sup> The survey highlighted some of the issues being faced by people with a disability in the aftermath of the cyclone, such as assistive devices being damaged and needing replacement. Over 60 percent of the disabled people surveyed had suffered partial damage to their homes, while 7 percent reported destruction of their homes and 30 percent no damage to their homes.

An assessment of the social protection and safety sector was not undertaken by the Rapid Assessment but rather by the safety and protection cluster under the National Emergency Management Committee structure. The assessment identified certain recovery needs, including leadership and capacity-building support for a coordinated and effective protection response; active involvement of vulnerable individuals in consultations, information-sharing, and decision making around relief efforts; and safe, rapid, and confidential access to comprehensive services—including psychosocial support—for those who have experienced trauma or violence, with particular emphasis on vulnerable groups.

The total amount needed to recover from the social impacts of TC Gita is T\$23.2 million, of which T\$5.2 million is needed for immediate recovery, T\$2.5 million for short-term recovery, and T\$15.5 million for medium-term recovery.

Recommendations for recovery highlight the need to develop a Poverty Registry, create cash-for-work and public works programs to engage unemployed youth in rebuilding homes, and promote literacy on climate change and resilience through the social protection programs. Based on the high vulnerability of disabled persons to disasters, there is also a need to expand the coverage of the Disability Welfare Scheme and increase the number of program beneficiaries. For more information on the social protection sector background and the full assessment of disaster effects on the sector, see the Rapid Assessment.

## **PHASES OF RECOVERY**

Table 60 Table 61 and Table 62 provide a summary of immediate, short-term, and medium-term recovery activities and expected costs. Table 63 calculates the total cost and identifies unmet costs.

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27. The safety and protection cluster is led by the Ministry of Internal Affairs, with representation from local and international NGOs, civil society, and development partners.
  28. Interviews were conducted by Women's and Children's Crisis Centre (WCCC), as reported in Safety and Protection Cluster, "Situation Report and Initial Rapid Assessment TC Gita," February, 19, 2018, <https://reliefweb.int/report/tonga/safety-and-protection-cluster-situation-report-and-initial-rapid-assessment-to-gita>.
  29. The survey was funded by the New Zealand Ministry of Foreign Affairs and External Trade.

**TABLE 60. Social Protection Immediate Program Delivery (to June 2018) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Employment:</b> Institutional strengthening for preparedness and resilience among private sector and related government and workers institutions, including micro enterprise	MCCTIL	TCCI, PSA, Skills Tonga	0.2
<b>Employment:</b> Respond to skills demand in the construction sector through recognized qualifications and competencies (includes transport sector workers)	MOET	TCCI, MCCTIL, MIA, Skills Tonga	0.4
<b>Gender:</b> Conduct recovery initiatives (training in handicrafts, agriculture, and micro-finance; learning exchanges) to diversify the livelihood options for women whose livelihoods have been impacted by TC Gita	MCCTIL	MIA, Langafonua 'a Fafine Tonga (Handicraft Association), MAFFF, Tonga Skills, TCCI	0.3
<b>Gender:</b> Promote awareness of gender-based violence issues (through media, workshops, leaflets, posters) provide counseling for women impacted by TC Gita	MIA	TNCWC, WCCC	0.1
<b>Gender:</b> Assess and recommend safety measures in evacuation centers (ensure safety of pregnant, lactating, disabled, elderly females- and children)	MIA	TNCWC, WCCC	0.08
<b>Social protection:</b> Provide psychological support training sessions for disabled persons	MIA	TNCWC, WCCC	0.02
<b>Safety:</b> Provide leadership and capacity-building support for a coordinated and effective protection response	MIA	TNCWC, WCCC	0.1
<b>Safety:</b> Ensure vulnerable individuals—women and girls, disabled people, elderly, the LGBTIQ community—are engaged in consultation, information sharing, and decision making around relief efforts	MIA	Relevant NGO	0.08
<b>Safety:</b> Ensure safe, rapid, and confidential access to comprehensive services including psychological support, for those who experienced trauma or violence, with a particular emphasis on vulnerable groups	MIA	Relevant NGO	0.5
<b>Safety:</b> Identify and mitigate risks of violence against women and children	MIA	Relevant NGO	0.05
<b>Safety:</b> Promote adherence to essential protection standards throughout sectoral response and recovery efforts	MIA	Relevant NGO	0.03
<b>TOTAL</b>			<b>1.94</b>

Note: MCCTIL = Ministry of Commerce, Consumer, Trade, Innovation and Labour; MIA = Ministry of Internal Affairs; TCCI = Tonga Chamber of Commerce and Industry; PSA = Public Service Association; TNCWW = Tongan National Centre for Women and Children; WCCC = Women's and Children's Crisis Centre.



**TABLE 61. Social Protection Short-Term Program Delivery (July 2018–June 2019) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Employment:</b> Improve business confidence through access to financial services and value chain efficiency, particularly for youth, women, and persons with disabilities involved in micro-enterprises in agriculture and handicraft sector	MCCTIL/MFNP	TCCI, MIA, Langafonua 'a Fafine Tonga (Handicraft Association), farmers associations, TNYC, Tonga Mental Health & Disability Organization	0.4
<b>Employment:</b> Promote Employment Intensive Infrastructure Programs to support reconstruction and jobs	MCCTIL/MIA	Private contractors, communities, Skills Tonga	0.5
<b>Gender:</b> Promote gender recovery initiatives to diversify income of women impacted by TC Gita through participation in Women's Handicraft Expo in 'Eua and Tongatapu (International Women's Day, March) and Women's Regional Exchange (knowledge exchange on handicraft making)	MCCTIL/MIA	MAF (Women's Extension), Ministry of Tourism, Langafonua 'a Fafine Tonga, TCCI	0.3
<b>Gender:</b> Provide training to women impacted by TC Gita to facilitate disaster response and preparedness (including training in food preservation, farming practices, and budgeting); raise awareness through training and media campaigns of family responsibilities during emergencies	MIA/MAFF	Tonga Skills, TCCI, local experts, MEIDECC, NEMO	0.3
<b>Gender:</b> Continue awareness programs and referral system (training of counterparts and relevant stakeholders on primary prevention strategy specifically focused on time of emergency)	MIA	TNCWC, WCCC, MFF, Talitha Project, TNYC	0.05
<b>Gender:</b> Conduct psychosocial needs assessment for communities of 'Eua and Tongatapu; continue funding of counselor; establish a Crisis Centre branch at 'Eua	MIA	TNCWC	0.05
<b>Gender:</b> Drawing on safety assessment, consider and implement recommendations on evacuation centers (Tongatapu and 'Eua)	MIA	NEMO	0.8
<b>Social protection:</b> Develop a Poverty Registry (funding is already committed through a World Bank-funded project)	MIA		0.4
<b>Social protection:</b> Expand the Disability Welfare Scheme by 20% to target more beneficiaries	MIA		0.2

**TABLE 61. Social Protection Short-Term Program Delivery (July 2018–June 2019) (T\$ millions) (Continued)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
<b>Social protection:</b> Promote literacy on climate change and resilience through the social protection programs, which will include creation of knowledge products suited to the skills and needs of the poorest population, in particular women, children, the elderly, and disabled persons.	MIA		0.4
<b>TOTAL</b>			<b>3.2</b>

Note: MCCTIL = Ministry of Commerce, Consumer, Trade, Innovation and Labour; MIA = Ministry of Internal Affairs; MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries; TCCI = Tonga Chamber of Commerce and Industry; TNYC = Tongan National Youth Congress; MEIDECC = Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change, and Communications; NEMO = National Emergency Management Office; TNCWC = Tongan National Centre for Women and Children; WCCC = Women's and Children's Crisis Centre; MAFF = Ministry of Agriculture, Food and Forests.

**TABLE 62. Social Protection Medium-Term Program Delivery (July 2019–2021) (T\$ millions)**

ACTIVITY	LEAD	PARTNERS	EXPECTED COST
<b>Employment:</b> Promote transition of informal business/workers to formality, ensuring social security and employment/disaster protection	MCCTIL	Tonga Retirement Benefits Fund, Ministry of Labour, PSA.	0.2
<b>Employment:</b> Improve labor market information for disaster preparedness and long-term labor market outcomes	National Tonga Statistics Department	MCCTIL, TCCI, PSA	0.2
<b>Gender:</b> Continue gender recovery initiatives to diversify income of women impacted by TC Gita through participation in women’s national and regional exchanges	MIA	MAF (Women’s Extension), Ministry of Tourism, Langafonua, TCCI	0.3
<b>Gender:</b> Continue training to facilitate disaster response for women impacted by TC Gita and preparedness for future disasters (including training in farming practices, budgeting); continue raising awareness through training and media campaigns on disaster preparedness and family responsibilities during emergencies	MIA	MAFFF, Tonga Skills, TCCI, local experts, MEIDECC, NEMO	0.2
<b>Gender:</b> Continue support for counselor and Crisis Centre branch at ‘Eua	MIA	TNCWC	0.06
<b>Gender:</b> Continue implementing safety assessment recommendations on evacuation centers	MIA	NEMO	0.5
<b>Social protection:</b> Introduce Poverty Targeted Cash Assistance program (funding is already committed through a World Bank–funded project)	MIA		14.0
<b>TOTAL</b>			<b>15.5</b>

Note: MCCTIL = Ministry of Commerce, Consumer, Trade, Innovation and Labour; MIA = Ministry of Internal Affairs; TCCI = Tonga Chamber of Commerce and Industry; PSA = Public Service Association; MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries; MEIDECC = Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change, and Communications; NEMO = National Emergency Management Office; TNCWC = Tongan National Centre for Women and Children.

**TABLE 63. Financial Implications for the Social Protection Sector (T\$ millions)**

TOTAL EXPECTED COST	MET	UNMET (FINANCING GAP)
20.6	0.3	20.3

## RECOVERY EFFORTS TO BUILD AND STRENGTHEN RESILIENCE TO CLIMATE CHANGE AND DISASTER RISK

The 172-island archipelago<sup>30</sup> of Tonga is exposed to a range of natural hazards and is frequently impacted by severe weather. It is ranked by the 2016 World Risk Index as the second-most disaster-prone country in the world.<sup>31</sup> The country is located in an area known for the occurrence of frequent tropical cyclones with damaging winds, rain, and storm surge and is also within the Pacific Ring of Fire, which aligns with the boundaries of the tectonic plates and is associated with extreme seismic activity (strong earthquakes and tsunamis) and volcanic activity.

Tonga has been affected by multiple devastating disasters in the last few decades. In 2014, Tropical Cyclone Ian destroyed almost 1,000 homes and buildings in the Ha'apai island group. In 2009, a magnitude 8.1 offshore earthquake generated a tsunami that resulted in nine fatalities and destroyed over half the houses on the Tongan island of Niuatoputapu. The effects of natural hazards in Tonga are far reaching and can negatively impact social infrastructure and well-being, agriculture, housing, transport infrastructure, public utilities, and tourism.

Tonga is expected to incur, on average, US\$15.5 million per year in losses due to earthquakes and tropical cyclones. In the next 50 years, Tonga has a 50 percent chance of experiencing a loss exceeding US\$175 million and casualties higher than 440 people, and a 10 percent chance of experiencing a loss exceeding US\$430 million and casualties higher than 1,700 people.<sup>32</sup> These figures could increase if the impacts of climate change are considered.<sup>33, 34</sup>

Likely as a direct result of investments in early warning and preparedness measures, no lives were lost due to TC Gita. The early warning and preparedness measures that had been put in place in advance functioned well despite damage to physical infrastructure caused by the storm. Contingency arrangements, such as the transfer of warning operations to the Regional Specialized Meteorological Centre during the height of the storm, worked as planned. The Government of Tonga instituted the cluster system for the first time following TC Gita. Lessons on the functionality of the cluster system will inform planning for future disaster events.

## DAMAGES, LOSSES, AND NEEDS

The following damage was sustained to key early warning infrastructure:

- The Fua'amotu Tropical Cyclone Warning Centre (FTWC) office in Tongatapu sustained damage to the building and to communications and meteorological equipment. Main power to the Met Office was cut prior to the cyclone as a precautionary measure and was restored just before midday on February 22, 2018, due to damage to the power supply system. The FTWC operated on a standby generator for 10 days.
- In the FTWC enclosure, monitoring equipment was damaged. The Stevenson screens—used to protect meteorological instruments from rain, high winds, and other factors—were blown away and the instruments they had protected were damaged. The Himawari satellite data reception dish's elevation was misaligned when the maximum gust hit, but the dish was operational again within two days, after a readjustment.
- AM Radio Tonga 1 (A3Z) failed, and consequently radio warnings were restricted to FM90 and FM87.5 radio stations.<sup>35</sup>

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30. Thirty-six of the islands are inhabited,

31. This index measures every country's exposure and susceptibility to natural disasters, together with their coping and adaptive capacities using globally available data. It is available at <http://weltrisikobericht.de/wp-content/uploads/2016/08/WorldRiskReport2016.pdf>.

32. World Bank, "Tonga: Country Risk Profile," Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), September 2011, <http://documents.worldbank.org/curated/en/846521468190741310/Tonga-country-risk-profile>.

33. Tropical Cyclone Ian, which struck the country in January 2014, resulted in total damage and losses of approximately US\$50 million (11 percent of annual GDP).

34. The Emergency Management Act 2007, National Emergency Management Plan (2009), and the government's Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010–2015 together provide a framework for emergency management within Tonga. The Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) has an overarching focus on climate resilience and disaster risk management and houses key institutions that are responsible for providing early warnings and response to meteorological, hydrological, and geophysical hazards. It also works closely with the Ministry of Lands, Survey, and Natural Resources. The Tonga Meteorological Service, National Emergency Management Office (NEMO), and Natural Resources Division form the core elements of Tonga's natural hazards forecast, warning, and response system.

35. MEIDECC, "Tropical Cyclone Gita Meteorological Report," February 23, 2018.

Building resilience to natural hazards and climate change is among Tonga's most pressing development challenges. Recovery plans or programs need to include DRM measures to strengthen the new or repaired infrastructure so that when a cyclone hits Tonga again it will do less damage.<sup>36</sup> As part of the recovery efforts, it is recommended that the National Emergency Recovery Committee (NERC) and the clusters develop a Building Resilience into Recovery Plan to identify priority actions (including relevant budget costs) where investments in resilient infrastructure and other activities can be made alongside recovery activities. This step will make Tongan communities more resilient to climate change and disaster risk. Lessons learned from preparing for and responding to TC Gita could feed into this effort. For more information on the DRM background, the performance of the early warning system, and the full assessment of disaster effects on the sector, see the Rapid Assessment.

## **POLICY**

Tonga is gradually working toward becoming a more resilient country through improved DRM initiatives and adaptation to climate change. The government has taken steps to focus on DRM and climate resilience by developing the Tonga Climate Change Policy (2016) and Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management 2010–2015. These follow the development of the National Strategic Planning Framework (2009), which lists resilience to climate change and DRM as high priorities. In addition, the Government of Tonga has made strides in strengthening its financial resilience to natural hazard shocks and has participated in the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) pilot program. Tonga has also participated in the regional Pacific Resilience Program (PREP).<sup>37</sup>

To further advance its DRM agenda, national priorities include the following:

- > Increasing the resilience of populations and sectors vulnerable to natural disasters
- > Exploring additional options to strengthen resilience to financial shocks
- > Strengthening the resilience of infrastructure, including schools

The government recognizes that recovery offers a critical opportunity to build back better and reduce future disaster risks through development measures such as risk-informed land use planning, investment in resilient infrastructure (including hazard protection), and improved building standards and their enforcement. The aim is to minimize fatalities, damages, and losses when the next disaster strikes. Immediate and short-term activities are shown in Table 64.

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- 36. There are different ways to mainstream DRM into policy and action, including risk identification, risk reduction, preparedness, financial protection, and proactive preparation for disaster recovery.
  - 37. Tonga has been part of a PCRAFI pooled insurance pilot program since 2013. Following the devastation of TC Ian in 2014, Tonga received a US\$1.27 million cash payout from this pilot and became the first country to receive a payment under the program. The payment allowed for swift post-disaster, on-the-ground response. PREP will strengthen disaster resilience, early warning and preparedness, and post-disaster response capacity of participating Pacific Island countries. Following TC Gita, Tonga received a US\$12 million cash payout from PCRAFI.

**TABLE 64. Immediate and Short-Term Program Delivery for the disaster risk management and climate change resilience (to June 2019) (T\$ millions)**

<b>ACTIVITY</b>	<b>LEAD</b>	<b>PARTNERS</b>	<b>EXPECTED COST</b>
Building Resilience into Recovery Plan	MEIDECC/MFNP	Consultant NERC and the clusters	To be completed
<b>TOTAL</b>			<b>TO BE COMPLETED</b>

Note: MEIDECC = Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications in Tonga.





Photo: Maleni Wolframm/World Bank. Damage to commercial facility, Tongatapu.



# 5

## FINANCING FOR DRF IMPLEMENTATION

### POST-DISASTER ECONOMIC OUTLOOK

#### GROSS DOMESTIC PRODUCT

The outlook for economic activity over the next two to three years is likely to be significantly affected by TC Gita-related recovery and reconstruction activities and the extent to which losses in the agriculture and tourism sectors persist. Growth is expected to slow to around 1.5 percent in FY18/19, a substantial drop from the mid-year projection of 3 percent and the FY18/19 budget projection of 3.4 percent. This change reflects the impact of the cyclone on agricultural production, tourism, and the commercial sector, which together account for a 2.3 percentage point reduction in FY18/19 growth relative to the pre-cyclone baseline. Losses in these sectors are also expected to be substantial in FY19/20 but diminish rapidly from FY20/21 onwards.

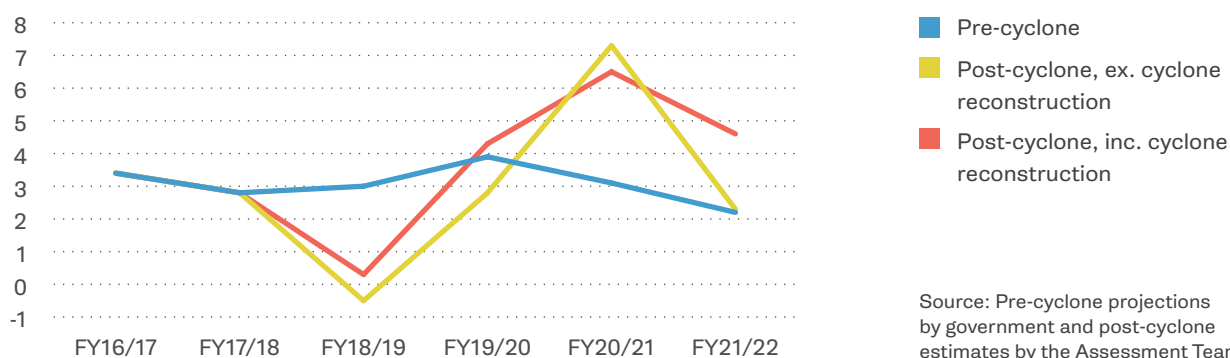
Over the next three to four years, these losses will be partially offset by reconstruction and repair activity for housing, public buildings, and schools, which is projected to begin in the last few months of FY18/19 and ramp up over the next two years before scaling back in FY21/22. The forecast profile depicted in dark blue in Figure 1 accounts for each of these effects.

While reconstruction activities are expected to provide a substantial boost to the economy, they should be carefully sequenced and prioritized given domestic capacity and financing constraints.<sup>38</sup> The forecast profile assumes that the bulk of housing and public building reconstruction activities are completed in FY19/20 and FY20/21, which would be somewhat faster than the historical experience (e.g. after TC Ian), but still possible if sufficient attention is paid to planning and execution.

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38. For more information on pre- versus post-cyclone GDP projections and contributions to growth, see the Rapid Assessment.

**FIGURE 1. Pre - versus Post-Cyclone GDP Growth Projections (%)**



Source: Pre-cyclone projections by government and post-cyclone estimates by the Assessment Team.

Overall, the projections for domestic economic activity should be treated with a substantial degree of caution, with wide error bands around these central estimates. Given the limited information collected during the Rapid Assessment, the economic impacts of the cyclone are quite difficult to estimate with any degree of certainty, particularly in the service sector industries.

### **PRICES**

Over the short to medium term, TC Gita is likely to put upward pressure on food prices in particular; there is anecdotal evidence of local market shortages of some fruits and vegetables. While inflation should eventually return to more modest rates as domestic production picks up, year-end inflation may remain somewhat faster than the National Reserve Bank's inflation reference rate of 5 percent a year over the coming quarters, particularly if the prices of imported food and fuel continue to rise relatively quickly.

### **TRADE AND BALANCE OF PAYMENTS**

Compared with the pre-cyclone forecasts, imports will rise markedly in the wake of TC Gita, while exports of agricultural produce will likely decline, in line with the projected effects on economic activity in the agricultural sector. In the near term, imports of building materials will pick up to meet the most urgent repair and reconstruction needs, and imports of food will increase in response to shortages of locally produced fruit and vegetables. Looking forward, imports will likely remain higher than previously expected in line with the additional reconstruction activity now forecast to take place over the next three to four years. With foreign exchange reserves projected to decline in the medium term even prior to the impact of TC Gita, this could put some additional pressure on the balance of payments, to the extent that foreign currency needs are not met by increased aid and remittance flows.

### **FISCAL POSITION**

In the immediate aftermath of the cyclone, donor contributions and insurance payouts enabled substantial contributions to the government's Emergency Fund (around T\$23 million); these were used to finance many of the most urgent recovery needs in the first three months. The cabinet has approved exemptions to various excise taxes and consumption tax for those individuals and businesses affected by the cyclone, though the fiscal cost of these measures (in terms of reduced revenue collection) is not yet clear. Some government ministries have also reallocated some resources to cyclone recovery activities, and there may therefore be a need for additional spending to ensure the continued delivery of some important services.

In FY18/FY19 and over the next few years, the budget position will be critically affected by the total cost of cyclone recovery and reconstruction needs, the proportion of these needs that are financed by government, and the extent of financial assistance from development partners. Assuming that around half the projected T\$317 million in recovery needs is ultimately financed through the government budget, there could be an additional fiscal need of up to 5 percent of GDP over the next three fiscal years (FY18/FY19 to FY20/FY21). At the same time, domestic revenue collection is likely to be lower than previously thought, in line with the projected decline in economic activity (relative to pre-cyclone forecasts) and given the tax exemption measures described above.

Considering this situation, it will be important for the government to do the following:

- Prioritize recovery and reconstruction activities based on needs, given limited financial resources and domestic capacity
- Transparently account for the projected cost of these activities in the budget projections (in part to send a clear message to donors on the scale of cyclone-related financing needs)
- Seek support from development partners to cover these needs, to the extent possible on grant terms to avoid adding to Tonga's already substantial public debt burden
- Preserve fiscal space for critical social spending, including in health and education
- Ensure that any policy responses that have the potential to negatively impact revenues are carefully targeted at those affected by the cyclone and are time-bound to contain their fiscal impact

## **FINANCIAL NEEDS AND POST-DISASTER BUDGET REVIEW**

Financial needs for recovery and reconstruction are based on the Rapid Assessment and priority interventions defined through consultation with national sectors and stakeholders. Disaggregated at the sector level, needs have been prioritized and phased over a three-year period. It should be noted that these progressive efforts will contribute toward rebuilding lost assets and restoring production rather than adding to the stock of assets and productive capacity.

To determine financial gaps, financial needs were analyzed against recovery commitments from NGOs, development partners, bilateral donors, international financial institutions, and the government. Identifying clear financial gaps help to ensure recovery financing is properly allocated cross-sectorally and geospatially. A comprehensive gap analysis will support targeted investments and the equitable allocation of public sector resources while avoiding the concentration of resources in a particular sector.

Total recovery and reconstruction needs is estimated at T\$347.2 million (US\$160 million). Of this amount, T\$72.8 million (US\$33.2 million) is required for immediate recovery (to June 30, 2018), T\$96.1 million (US\$44.3 million) is required for short-term recovery (FY18/19), and T\$178.3 million (US\$82.2 million) is required for medium-term recovery (FY19/20–FY20/21).

Working within the constraints of prudent public financial management, the government currently plans to allocate T\$11.3 million from government resources and draw on donor support of approximately T\$131.4 million. Hence, a financing gap of approximately T\$62.5 million will urgently need to be addressed to implement the recovery programs and move Tonga toward the recovery vision of “recovery with greater resilience.” Table 65 gives the breakdown of the financial requirement to fund the recovery programs.

**TABLE 65. Recovery Needs by Sector (T\$ millions)**

CLUSTER	SECTOR	TOTAL EFFECTS	TOTAL NEEDS	OF WHICH PUBLIC	TC GITA RECOVERY FUNDS	GOT RECURRENT	POTENTIAL DEVELOPMENT FUNDS	COST ASSIGNED	FINANCIAL GAP
	<b>PRODUCTIVE</b>	<b>193.4</b>	<b>54.6</b>	<b>23.5</b>	<b>1.3</b>		<b>3.3</b>	<b>4.6</b>	<b>18.9</b>
Food security	Agriculture	97.5	9.4	8.8	1.3	0.3		1.3	7.5
Econsoc recov	Commerce and Industry	55.3	9.8	9.8		0.0			9.8
Econsoc recov	Tourism	40.6	35.4	4.9		0.0	3.3	3.3	1.6
	<b>SOCIAL</b>	<b>134.2</b>	<b>143.4</b>	<b>48.3</b>	<b>11.0</b>		<b>61.6</b>	<b>72.6</b>	<b>-24.3</b>
Shelter	Housing	111.6	118.4	26.0	4.8	2.0	21.7	28.5	-2.5
Education	Education	22.0	22.0	22.0	3.8	0.6	39.9	44.3	-22.3
WASH	Health	0.6	3.0	0.3	2.4	1.6		4.0	-3.7
	<b>INFRASTRUCTURE</b>	<b>28.5</b>	<b>128.6</b>	<b>128.6</b>	<b>8.9</b>		<b>54.1</b>	<b>63.0</b>	<b>65.6</b>
Essential	Energy	17.1	99.6	99.6	7.7	0.4	31.6	39.8	59.8
Shelter	Public and Community	6.5	21.0	21.0	1.0	0.4	20.0	21.4	-0.4
Essential	Transport	3.1	3.1	3.1					3.1
WASH	Water and Sanitation	1.9	3.3	3.3			2.5	2.5	0.8
Telecom	Telecommunications		0.5	0.5	0.2	0.2		0.4	0.1
Essential	Waste Management		1.1	1.1				0.0	1.1
<b>SAFETY AND PROTECTION</b>	<b>EMPLOYMENT, SAFETY, GENDER AND SOCIAL PROTECTION</b>	<b>20.6</b>	<b>20.6</b>	<b>0.3</b>			<b>0.3</b>	<b>20.3</b>	<b>20.3</b>
<b>ECONSOC RECOV</b>	<b>RECOVERY</b>	<b>5.6</b>	<b>12.4</b>	<b>18</b>	<b>0.0</b>				
	<b>TOTAL</b>	<b>356.1</b>	<b>347.2</b>	<b>221.0</b>	<b>21.5</b>	<b>11.2</b>	<b>131.4</b>	<b>158.5</b>	<b>62.5</b>



The financial gap analysis of cross-sectoral priority interventions shows that financial resources are available and/or committed to priority sectors for recovery and reconstruction. District financial recovery and reconstruction needs strongly align with the most affected districts, as outlined in the Rapid Assessment. Efforts should be made to direct uncommitted resources to prioritized sector interventions and locations.

Recovery and reconstruction needs refer to both public and private sectors; both have been affected by the impacts of TC Gita. However, this does not imply that the government should or will finance recovery and reconstruction for all stakeholders. Rather, the identification of these needs facilitates the process by which the government can identify, quantify, and finance the needs that are within its purview, while at the same time accounting for other recovery needs to be financed by other means, including through the public sector or self-recovery.

## **DONOR CONTRIBUTIONS**

There have been some generous donor contributions to support recovery activities from TC Gita. These are summarized in Table 66 and are considered accurate as of June 25, 2018.

Table 67 shows the summary of all development partners' contributions per financial year.

## **RESOURCE MOBILIZATION STRATEGY**

A financial gap of T\$62.5 million has been identified for recovery and reconstruction needs in all sector interventions. The greatest financial gaps for reconstruction and recovery needs are within the housing sector, the tourism sector, and the social protection, safety, gender, and livelihoods sector. Strategies to mobilize resources should prioritize financial investments and budgetary allocation within these sectors.

Where financial gaps are minimal or a surplus in financial resources exists, efforts should be made to reallocate resources toward sectors with the greatest financial needs. Additionally, strategies to acquire new resources should focus on mobilizing investments for underfunded districts and sectors to ensure recovery and reconstruction are equitable and inclusive. New investment for recovery and reconstruction should be pursued through standard mechanisms, as well as through donor conferences, public-private partnerships, and strengthened donor coordination.

The financing plan will be subject to a weekly review by the MFNP to ensure that recovery is progressing efficiently and effectively.

**TABLE 66. Donor Contributions by Sector (in millions)**

CLUSTER	SECTOR	DEVELOPMENT PARTNER	CURRENCY	IN ORIGINAL CURRENCY	T\$ MILLIONS	OF WHICH CASH FY18/19, T\$ MILLIONS	OF WHICH IN-KIND FY18/19, T\$ MILLIONS
	<b>PRODUCTIVE</b>				<b>3.3</b>		<b>3.3</b>
Food security	Agriculture						
Econsoc recov	Commerce and Industry						
Econsoc recov	Tourism	Australia	\$A	2	3.3		3.3
	<b>SOCIAL</b>				<b>61.6</b>	<b>21.7</b>	<b>39.9</b>
Shelter	Housing	World Bank	US\$	10	21.7		21.7
Edu	Education	World Bank	US\$	14.4	31.2		31.2
		Australia	\$A	3	5.0		5.0
		New Zealand	\$NZ	2.4	3.7		3.7
WASH	Health						
	<b>INFRASTRUCTURE</b>				<b>54.1</b>		<b>54.1</b>
Essential	Energy	Asian Development Bank	US\$	6.8	14.8		14.8
Essential		New Zealand	\$NZ	11	16.9		16.9
Shelter	Public and Community buildings	China			20		20
Essential	Transport						
WASH	Water and Sanitation	Australia	\$A	1.5	2.5		2.5

**TABLE 66. Donor Contributions by Sector (in millions) (Continued)**

CLUSTER	SECTOR	DEVELOPMENT PARTNER	CURRENCY	IN ORIGINAL CURRENCY	T\$ MILLIONS	OF WHICH CASH FY18/19, T\$ MILLIONS	OF WHICH IN-KIND FY18/19, T\$ MILLIONS
	<b>INFRASTRUCTURE</b>				<b>54.1</b>		<b>54.1</b>
WASH	Water and Sanitation	Australia	\$A	1.5	2.5		2.5
Telecom	Tele-communications						
Essential	Waste Management						
<b>Safety and Protection</b>	<b>EMPLOYMENT, SAFETY, GENDER AND SOCIAL PROTECTION</b>						
<b>Econsoc recov</b>	<b>RECOVERY</b>				<b>12.4</b>	<b>5.3</b>	<b>7.1</b>
		New Zealand	\$NZ	4.6	7.1		7.1
		EU	€	2	5.3	5.3	
	<b>TOTAL</b>				<b>131.4</b>	<b>27.0</b>	<b>104.4</b>
	GOVERNMENT FUNDS	Government recurrent				1.3	
	<b>TOTAL ESTIMATED CASH ON HAND LIKELY TO BE RECEIVED</b>					<b>28.3</b>	

Information correct as of April 2018

**TABLE 67. Distribution of the Recovery Funds by Donor, in T\$ million, unless otherwise stated.**

DEVELOPMENT PARTNER	IN ORIGINAL CURRENCY	FY18/19	FY19/20	FY20/21	TOTAL
World Bank	Budget Support for Recovery and Education sector reconstruction	26	26	-	52
Asian Development Bank	US\$6.8	4.6	4.5	4.5	13.6
New Zealand	\$NZ21	12.8	5.6	5.6	24
European Union (others)	€2	5.5	-	-	5.5
<b>TOTAL CASH</b>		<b>48.9</b>	<b>36.1</b>	<b>10.1</b>	<b>95.1</b>
China (others)		10	10	-	20
Australia (Education, WASH, Private Sector)	\$A10.5	5.9	5.9	5.9	17.7
<b>TOTAL IN KIND</b>		<b>15.9</b>	<b>15.9</b>	<b>5.9</b>	<b>37.7</b>
Total Cash and In Kind		64.8	52	16	132.8
TC Gita Response Fund		13	-	-	13
<b>GRAND TOTAL</b>		<b>77.8</b>	<b>52</b>	<b>16</b>	<b>145.8</b>

Note: NUDSP = Nuku'alofa Urban Development Sector Project.

## RESOURCE MOBILIZATION STRATEGY

A financial gap of T\$62.5 million has been identified for recovery and reconstruction needs in all sector interventions. The greatest financial gaps for reconstruction and recovery needs are within the housing sector, the tourism sector, and the social protection, safety, gender, and livelihoods sector. Strategies to mobilize resources should prioritize financial investments and budgetary allocation within these sectors.

Where financial gaps are minimal or a surplus in financial resources exists, efforts should be made to reallocate resources toward sectors with the greatest financial needs. Additionally, strategies to acquire new resources should focus on mobilizing investments for underfunded districts and sectors to ensure recovery and reconstruction are equitable and inclusive. New investment for recovery and reconstruction should be pursued through standard mechanisms, as well as through donor conferences, public-private partnerships, and strengthened donor coordination.

The financing plan will be subject to a weekly review by the MFNP to ensure that recovery is progressing efficiently and effectively.

# RECOVERY COORDINATION AND IMPLEMENTATION MECHANISM

No one agency or group will be able to achieve recovery alone, so collaboration will be essential for all who have a role in recovery, including government, business, and cultural and other nongovernment sectors.

There are a variety of possible recovery and reconstruction modalities that could be used, including a combination of the following:

- A program of recovery and reconstruction activities for key infrastructure, led by the government in collaboration with various stakeholders, including donor partners and NGOs
- Direct assistance from the government to the poorer strata of the population, using cash grants and in-kind donations for recapitalization and reconstruction purposes
- Provision of softer-term credit (using lower interest rates and longer repayment periods) through the banking system to creditworthy private individuals and businesses for both working capital replenishment and reconstruction expenditures

Tonga has a structure set up to coordinate recovery activities—in particular, to develop, implement, and monitor sector-based recovery programs and plans. Under the cabinet is the National Emergency Recovery Committee, which according to the Emergency Management Act 2016 has the following functions:

- > Coordinating the recovery phase following any event
- > Carrying out detailed assessments in partnership with the relevant committee
- > Coordinating the provision of emergency relief
- > Coordinating all recovery and rehabilitation works.



## IMMEDIATE AND SHORT-TERM RECOVERY

For the immediate recovery (first three months till June 2018) and then the short-term recovery phase (FY18/19), MEIDECC (Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications) and NERC are responsible for policy direction and oversight of the recovery.

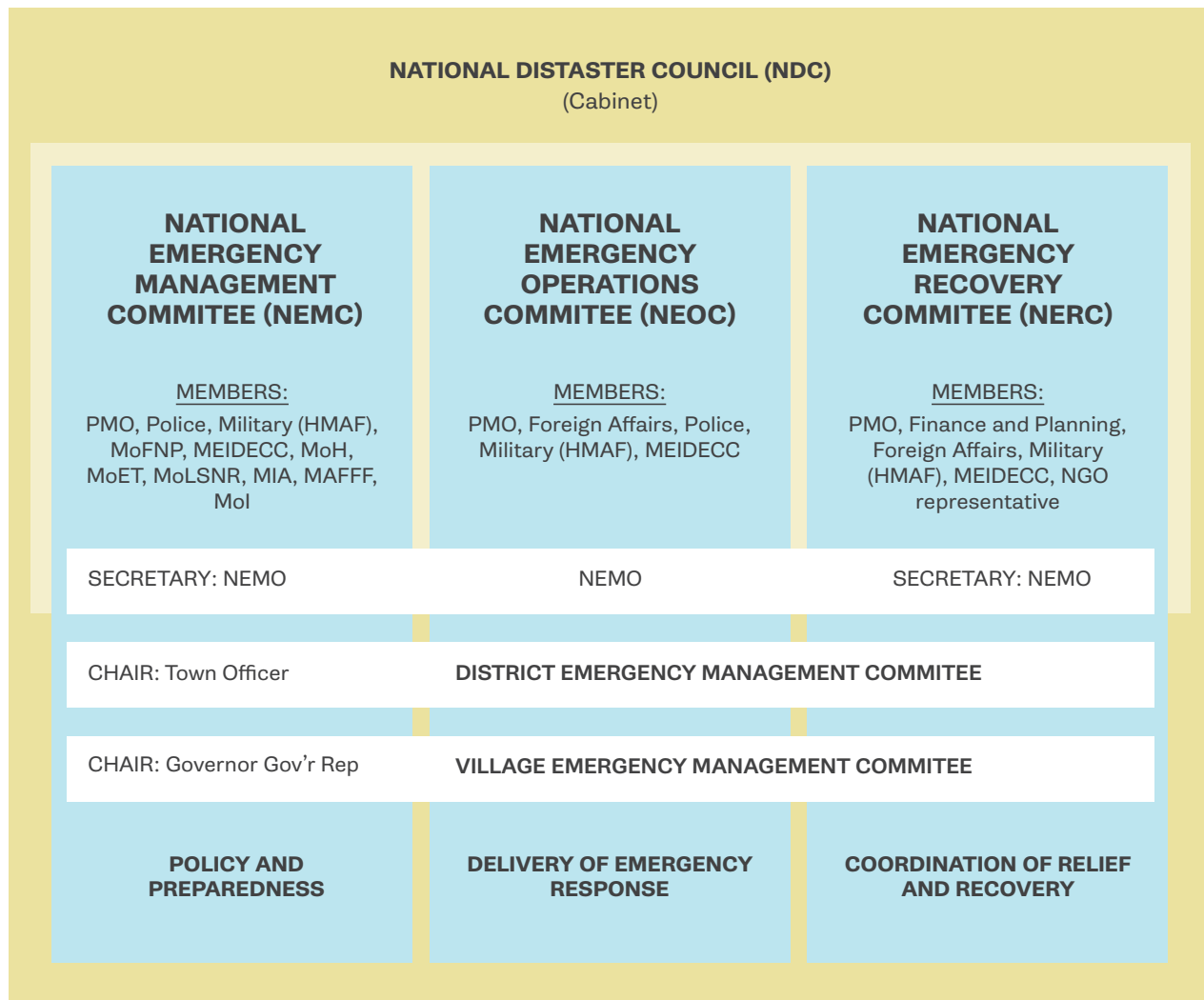
The minister of MEIDECC has the responsibility under this structure to coordinate, implement, and monitor the DRF on behalf of the clusters, with line ministries taking the lead role in the development, implementation, and monitoring of programs that fall within their portfolios via the cluster arrangements. Under the Emergency Management Act 2016, NERC consists of the following members:

- The Minister of MEIDECC, who serves as chair
- Chief Secretary and Secretary to Cabinet
- Chief Executive Officer responsible for finance and national planning
- Chief Executive Officers of all relevant ministries
- Secretary of Foreign Affairs
- Chief of the Defence Staff of His Majesty's Armed Forces
- A representative of nongovernmental organizations, who may be co-opted as required
- A Manager who serves as Secretary

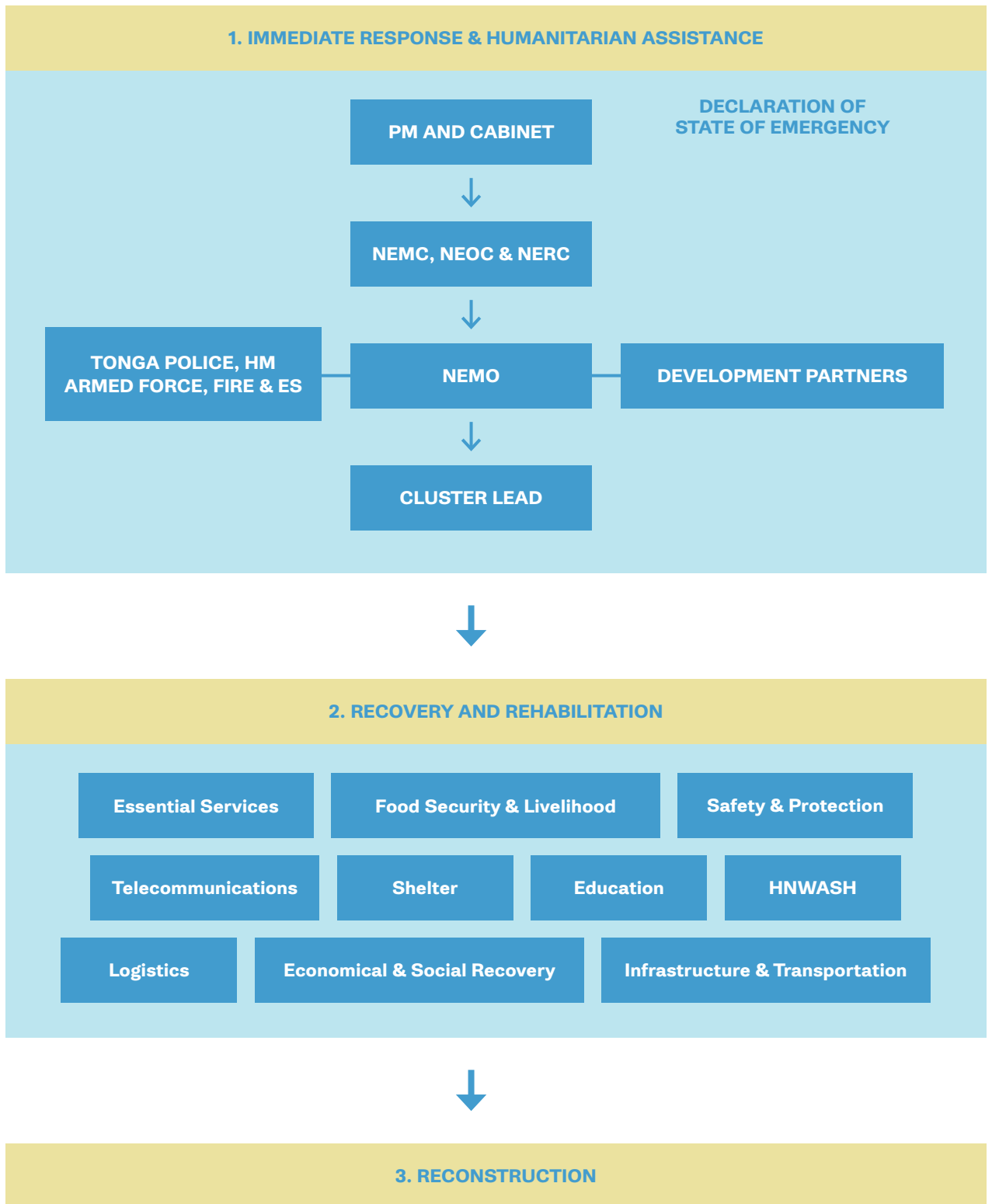
Other members can be co-opted when required. The minister of MEIDECC is the disaster controller; he or she is responsible for managing emergency operations and has direct access to the cabinet through the chair. The National Emergency Management Office (NEMO) serves as secretariat to NERC. The MFNP and the Planning Division within the Prime Minister's Office will coordinate the monitoring, evaluation, and reporting of the DRF. The minister of MEIDECC will report to the cabinet on progress gathered from these reports.

Through the MFNP and the Planning Division, NERC will ensure that all recovery activities maintain their momentum as focus shifts toward budget priorities in the subsequent fiscal years. The link between relief and recovery will be ensured through continued involvement of the National Emergency Management Committee (NEMC) along with the NERC in both relief and priority recovery activities. The full emergency management, operations, and recovery structure is illustrated in Figure 2 and Figure 3.

**FIGURE 2. Emergency Management, Operations, and Recovery Structure**



**FIGURE 3. Structure of the TC Gita Operation**



Source: National Emergency Management Office.

NOTE: PMO = Prime Minister’s Office; HMAF = His Majesty’s Armed Forces; MOET = Ministry of Education and Training; MOLSNR = Ministry of Lands, Survey and Natural Resources; MIA = Ministry of Internal Affairs; MAFFF = Ministry of Agriculture, Food, Forests, and Fisheries; MOI = Ministry of Infrastructure.

The Minister of MEIDECC, MFNP, and Prime Minister's Office will liaise and coordinate to ensure that all recovery activities maintain their momentum as focus shifts to the medium-term activities. The clusters, led by the appropriate line ministry, will provide the operational coordination for each recovery priority and will include all government, nongovernment, and development partners who have a stake in that priority. Each cluster will support the lead ministries with the further development of the recovery programs, with the implementation of recovery activities, and with monitoring of implementation progress. The clusters will meet on a monthly basis and report to the minister of MEIDECC on a quarterly basis.

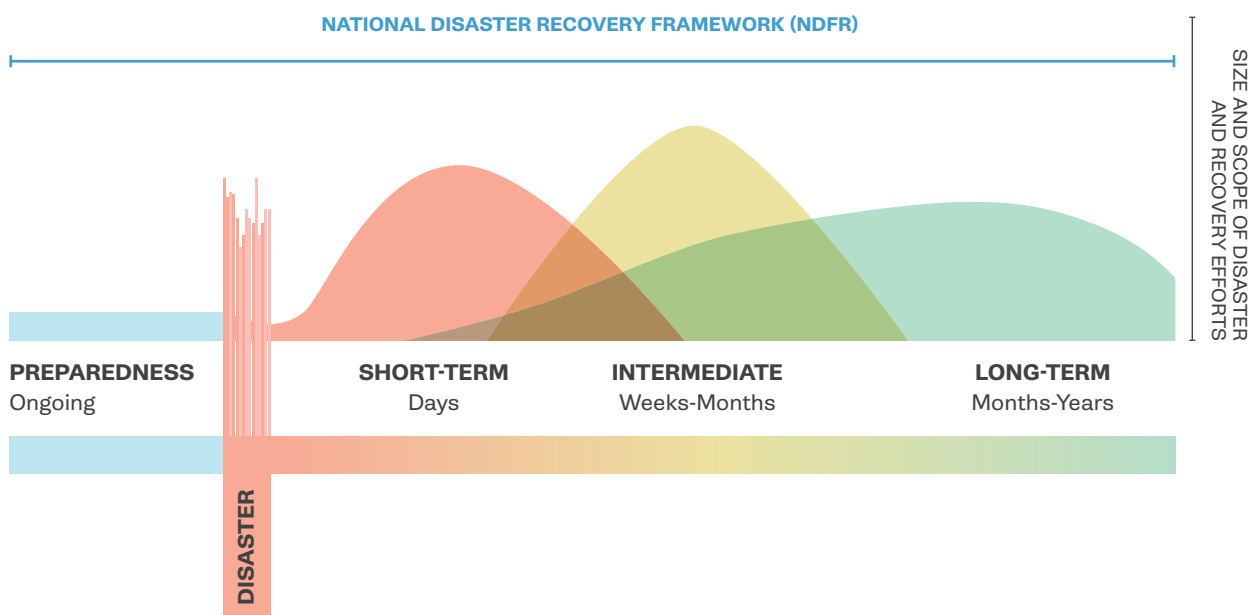
As recovery progresses, it may be necessary to develop and communicate new institutional arrangements, coordination mechanisms, and implementation arrangements, particularly where progress is slow or hindered.

Figure 4 aims to clarify the relationship between the response, recovery, reconstruction, and long-term development phases. Two transition plans will be required in this recovery: one at the end of FY18/19, when the recovery lead moves from MEIDECC and NERC to MFNP, and one when MFNP wants to transition the recovery functions, budget, and remaining activities to the Tonga Strategic Development Framework 2015–2025, to another coordination agency, or to line ministries.

## MEDIUM-TERM RECOVERY

During FY19/20 through to FY20/21, the recovery leadership will move to MFNP. At this time, MEIDECC, NERC, and MFNP will need to develop a transition plan to facilitate the change. This should include a review of the recovery activities to date, identification of new roles and responsibilities, confirmation of recovery activities still to be carried out, and decisions on whether the DRF or sector-based recovery plans need to be amended. Line ministries will still be responsible for the development, delivery, and monitoring of their relevant sector recovery plans; this will not change unless specified in the transition plan.

**FIGURE 4.** Phases of Recovery



## **IMPLEMENTATION AND COLLABORATION**

Recovery programs, developed by responsible ministries with the support of the clusters, will be implemented in a number of ways. Programs may be new initiatives, or they may reorient or adapt existing programs. It will be important to make a smooth transition from the relief and early recovery activities to the larger recovery programs highlighted in the previous section.

The Disaster Recovery Framework and programs are implemented under the government's leadership but carried out in close and collaborative partnership with international donors, the private sector, civil society, and the community. Representatives from relevant development partners will be invited to participate in the NERC. A close collaborative relationship between the two lead ministries—MEIDECC and MFNP—will be important. Collaboration is essential to connect those who have a role in recovery, including those in Nuku'alofa, the 'Eua Governor's Office, and nongovernment sectors. No one agency or group will be able to achieve recovery alone, and agencies will need to coordinate with each other. By clarifying roles and responsibilities, and establishing and maintaining constructive relationships, agencies will be able to carry out initiatives that are coordinated, timely, and enduring. The next section outlines key actors and their roles in the recovery.

It may be worthwhile to establish a Project Management Unit to support line ministries in the development and delivery of recovery programs (for example, by developing program templates or handling risk management and time management). This could help ensure that line ministries are on target in the development of the sector-specific recovery programs.

## **ROLES AND RESPONSIBILITIES**

Achieving recovery will be a joint effort between the public and private sectors, nongovernmental organizations, and the wider community. The Government is expected to outline the roles of line ministries as per each recovery activity. The Prime Minister's Office and MEIDECC are expected to take leading roles in the recovery efforts.

It is also recommended, for future events, to have accountants as dedicated resource for the immediate response and recovery periods. Coordinator for the recovery efforts, as well as a cluster coordinator would also be a useful resource to have.

NEMO will assume dedicated capacity to implement immediate recovery efforts with MoI, MIA and MOFNP supplementing NEMO's capacity.

## **LOCAL AUTHORITIES**

District councils will be responsible for coordinating and implementing the recovery framework; in some cases, they will implement interventions directly.

However, no recovery intervention will be implemented at the district level without going through the normal channels to promote ownership and ensure sustainability at the district level.

The key coordinating structure will be the NERC, clusters, and district level governments. It is critical that no new structures are established parallel to existing coordinating structures solely for the implementation of recovery interventions. However, existing structures may choose to form temporary task forces to achieve particular goals.

## **INTERNATIONAL AGENCIES AND DEVELOPMENT PARTNERS**

These groups are key because they provide not only financial resources but also technical expertise. It is important that international agencies' and development partners' activities be aligned with and reallocated to the priorities identified in the recovery framework to ensure effective recovery and reconstruction.

## **PRIVATE SECTOR**

Some recovery interventions, such as those related to the transport and food security sectors, will require the participation of the private sector. The private sector may also provide both financial and technical support for implementing some of the DRF interventions.

## **CIVIL SOCIETY**

Civil society groups are represented in institutional arrangements for DRM at both national and district level. These nongovernmental organizations, faith-based organizations, and community-based organizations play an important role in implementation of DRM programs in the country, including recovery interventions.

## **THE WIDER COMMUNITY**

Spontaneous or self-recovery efforts by a community should be acknowledged and supported to the extent possible. The initiative represented by these efforts is empowering and may be replicable in other communities as part of the range of relevant actions.

## **BARRIERS TO RECOVERY**

The barriers to recovery—overall and in each sector—should be considered and analyzed. These could include funding shortfalls, a lack of staffing capacity, and a failure to monitor compliance with building standards, as well as specific policies or regulations (or lack thereof) that hinder progress toward recovery.



# 7

## **COMMUNICATIONS AND MONITORING**

### **COMMUNICATIONS STRATEGY**

The government, through MEIDECC in partnership with MFNP, will develop and implement a communication strategy to ensure that all stakeholders are kept well informed of progress. This strategy will address how MEIDECC, MFNP, NERC, the clusters, and the responsible line ministries communicate on sector-specific and overarching recovery matters to the wider community, development partners, and within government to support integration of recovery activities and reduce duplication or inefficient/ineffective use of resources.

Communication must be transparent and clear; it must stick to the facts and manage expectations externally (i.e., in the community) and internally. It must give landowners, residents, businesses, local authorities, and ministries the information they need to support their recovery efforts. For example, all progress reports to the cabinet should be published so that stakeholders can monitor the progress of recovery. The goal should be to communicate and engage with communities, including women, the elderly, those with a disability, and youth, so that they understand, contribute to the development of, and participate in recovery activities.

The government recognizes the critical importance of keeping those affected by TC Gita well informed of progress and targets in the recovery activities and ensuring that program beneficiaries can access necessary information through popular media channels. The communications strategy will set out how the community will be engaged in, and consulted about, recovery activities—particularly those activities that will impact them, such as repair of housing and public buildings or social protection payouts. The strategy will outline which communication mediums and tools will be used and how. Methods of communication will include monthly updates distributed to households, presentations at community workshops and schools, radio programming, social media, posters, brochures and leaflets, media releases, public notices, email updates, and the MEIDECC website.

Communications about the network infrastructure repairs will need to provide information about the program in communities.

## MONITORING, EVALUATION, AND REPORTING

MEIDECC (and subsequently MFNP, in FY19/20–FY20/21) will review and report publicly on the implementation of the DRF, recovery programs, and progress toward milestones. Reporting will show where outcomes are, or are not, being achieved and where conditions have changed—for example, because knowledge has changed or there is another disaster event. Reports will be posted and updated on the MEIDECC and MFNP websites. MEIDECC and MFNP will also provide available research and information on their websites and post updates via social media.

The Prime Minister’s Office, in consultation with the line ministries, NERC, and the sector clusters, will capture recovery activity indicators based on the DRF and sector recovery programs within an existing monitoring and evaluation framework to gauge recovery progress.

Since the line ministries will take a lead role in developing and implementing the recovery programs that fall within their portfolios, they will also be responsible for submitting twice-yearly reports on the DRF and their respective recovery programs or plans to the NERC and subsequently MFNP. The NERC (and MFNP) will be at liberty to co-opt a designated senior official from any line ministry to provide clarity on the issues associated with implementation. Line ministries may also be asked to provide partner support to complement the government’s coordinated efforts in recovery.

The DRF and sector recovery programs will be reviewed as necessary to keep them current and relevant. In particular, reviews may be required for any of the following reasons:

- Another significant cyclone or event forces changes to the longer-term approach to recovery.
- Monitoring shows a need to change the approach or to address an ongoing market failure.
- Other influences or risks have a significant impact on recovery activities, such as changes in the availability of finance or in global conditions that negatively impact on Tonga.

A mid-term review of recovery efforts—including the implementation of the DRF and sector-led recovery programs—will occur in late 2019 (barring any hazardous disturbance) to gauge implementation progress, track challenges, and provide further direction on effective implementation.

Monitoring of the DRF will feed into the existing National Monitoring System (NMS). The NMS is a relational database that links outcomes to indicators, highlighting both vertical and horizontal coherence. This vertical and horizontal coherence is crucial

because government, donors, development partners, and the community at large are interested in outcomes resulting from TC Gita relief efforts, through cash and in-kind contributions.

The NMS is made up of Sustainable Development Goal targets and indicators, Tonga Strategic Development Framework 2015-2025 outcomes and indicators, and outcomes of international and regional frameworks such as the Sendai Framework, SAMOA Pathway, and IOM, as well as sector and community plans, the Government Priority Agenda 2018-2021, corporate plan outputs, and budget estimates. DRF targets and indicators will also be integrated into the NMS once approved. Relevant indicators to measure DRF performance can be either newly crafted or selected from existing indicators in the NMS. As a relational database, the NMS makes it possible to query elements in each of the tables or components listed above. The NMS also has a data collection template setup that can be used to collect data related to disaster recovery.

A useful perspective is offered by the monitoring and evaluation framework for disaster recovery of the Australia–New Zealand Emergency Committee’s Recovery Subcommittee, which lists key evaluation questions addressing the effectiveness, efficiency, and implementation of the recovery program. Evaluating recovery efforts through these three lenses will provide a clear picture of the results and allow adjustments to be made early on, rather than late in the process when negative impacts are irreversible.

The National Planning Division of the Prime Minister’s Office is the custodian and the administrator of the NMS. Since there are various components involved in implementing the DRF, it is important that responsibilities be clearly demarcated and defined from the beginning of the process. The overall administration of the DRF must be executed in accordance with the timeline, and at the same time the monitoring and evaluation framework needs to be closely tracked.

Reporting on results of ongoing monitoring of recovery should take place in a consistent and transparent way. A clear timeline must be established to guide this work so that both producers and users of information will know when to expect the information to be disseminated. Having consistent reporting will also build trust in the system, fueling progress and speeding up the recovery process.

# 8

## **CONCLUSION AND WAY FORWARD**

TC Gita has had a devastating impact on the people of Tonga living in Tongatapu and 'Eua. The government led a swift and effective humanitarian response to the disaster, with welcome support from the National Emergency Management and cluster structure, development partners, civil society, and communities. Recovery needs have been further elaborated and prioritized in this DRF.

Individual recovery programs have been identified, and it is now up to MEIDECC (for the first fiscal year; MFNP after that point) and the responsible ministries to develop, implement, and monitor sector-specific recovery plans, and to confirm more accurate assessment data and costing for their sectors. NERC and the cluster groups will be utilized by the lead ministries to support the development and delivery of these recovery programs and plans.

Policy and institutional gaps for the implementation of recovery and reconstruction can cause challenges for agencies involved in recovery in affected communities. These gaps will need to be identified immediately by the government and addressed to support an efficient and effective recovery. Currently, there is the need to

- Finalize the housing policy/strategy and other recovery-related policies that have yet to be finalized
- Confirm coordination mechanisms on the ground among ministries, divisions, the private sector, development partners, communities, and civil society organizations to reduce duplication and encourage integration
- Ensure that recovery programs and plans developed by ministries in coordination with the clusters reflect the DRF recovery activities
- Ensure the availability and on-time release of funds to line ministries for implementing projects
- Increase implementation capacity within ministries to support reconstruction activities

Given the scale of the recovery needs, strong coordination will be required to develop and refine the recovery programs, develop projects and activities, monitor implementation and take corrective action, and keep all stakeholders well informed of progress. The NERC will ensure the involvement and support of all stakeholders, particularly those from communities most affected by TC Gita. Good communication will be essential to ensure this involvement and support.

For the government, a key challenge will be mobilizing the necessary capacity to implement recovery programs alongside regular development programs in a complementary fashion. Government has limited resources available from domestic revenue and modest support from development partners but will devote a sizable portion of the budget envelope, currently in preparation, to recovery programs. A few development partners are already financing parts of these programs.

However, given the size of the financing needed for the recovery programs over the next three fiscal years, the government will be seeking additional financing from donors and development partners. To support these activities, a resource mobilization strategy will be developed and implemented to source much needed resources from donors and development partners.

At the three-year mark (FY20/21) there will need to be a review of the DRF, associated recovery plans, and financing plans to reassess recovery needs, assess progress, identify gaps and opportunities, and confirm the next stage of recovery. At this point, either an updated DRF will be developed for another two years or recovery needs will be incorporated into the Tonga Strategic Development Framework 2015–2025 with the assistance of a transitional plan. The relationship between the Rapid Assessment, DRF, and the Tonga Strategic Development Framework is shown in Figure 5.

It will be important to learn from this disaster—and from the response and recovery efforts—so that when another cyclone or other hazard event occurs, Tongans will be better prepared, with less risk of loss of life or significant damages and losses. With this intention, NERC will coordinate the delivery of key lessons from this event and the recovery and provide a report to the cabinet with key recommendations on moving forward as a more resilient Tonga.

Items such as extending the emergency period to more than 6 months, and the strengthening of disaster fiscal management, processes and putting in place simplified procedures are all lessons learnt from Tropical Cyclone Gita that should be considered for future events.

**FIGURE 5.** Relationship between the Rapid Assessment, Disaster Recovery Framework, and Tonga Strategic Development Framework 2015–2025

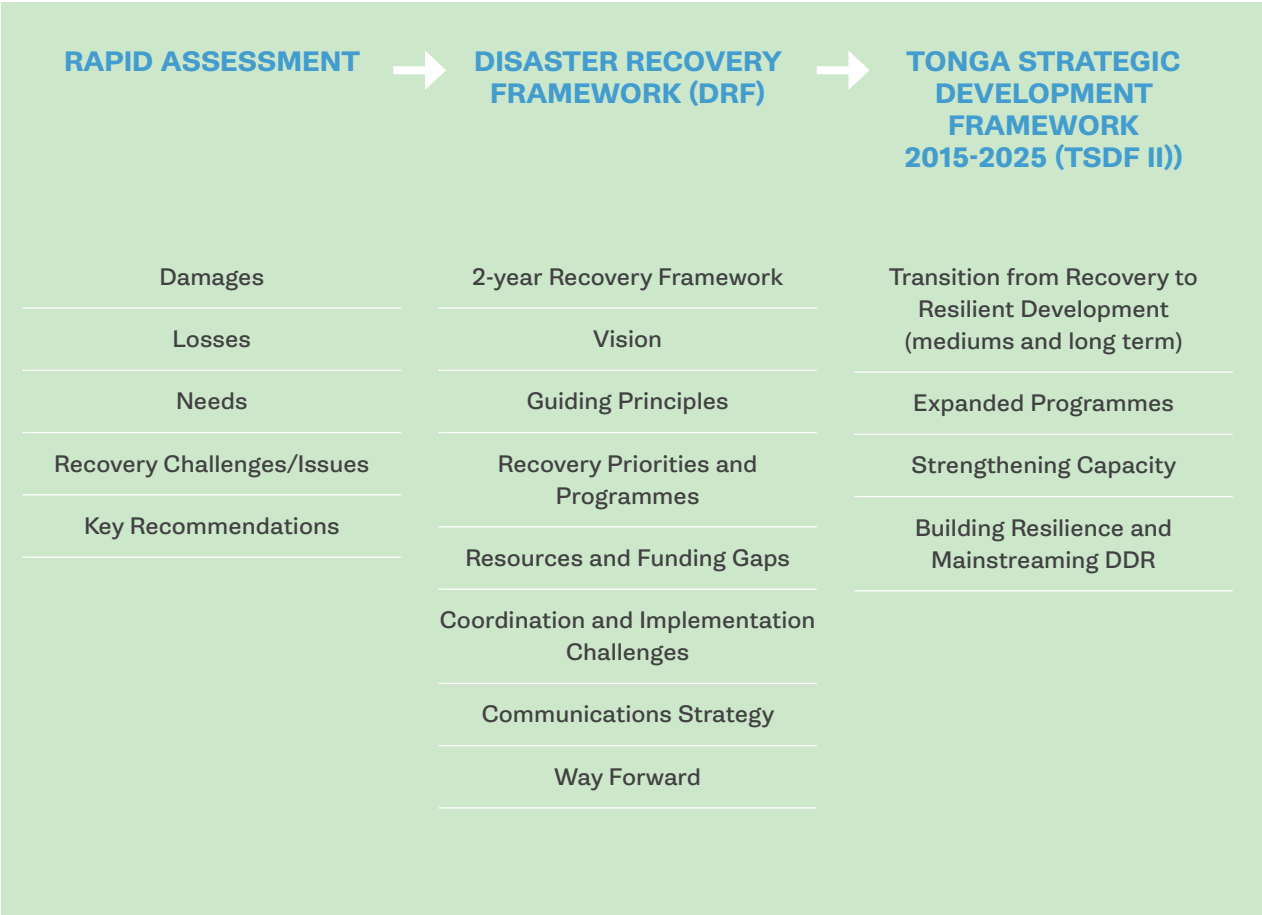






Photo: Malian Wolframm/World Bank. Aerial view of solar farm, Tongatapu.





Photo: IMagera/Waifgja @améWáirhb Baitar Following TC Gita. The hospital maintained continuous operation throughout the storm. Photo World Bank.