

TONGA

Cyclone Gita

Category: Four

On 12 February, Cyclone Gita passed over the Kingdom of Tonga, mainly affecting the islands of 'Eua (pop. 4,950) and Tongatapu (pop. 74,679). Ha'apai (pop. 6,144) was also impacted to a lesser extent. The Category Four cyclone brought heavy rain, strong winds of 230 km/h and storm surge. As the cyclone hit at low tide, the storm surge did not have a major impact. The cyclone caused extensive damage to homes and public buildings, along with the water supply, agricultural fields, and transport and communication infrastructure. Initial assessments suggest some 50,000 people are affected. Some 40 people are injured and at least 3,900 are in evacuation centres in Tongatapu (ECHO 13/02/2018; Oxfam 14/02/2018; NEMO 13/02/2018; RadioNZ 14/02/2018).

Island	Resident population.
Tongatapu	74,679
Vava'u	13,740
Ha'apai	6,144
'Eua	4,950
Ongo Niua	1,232
Tonga total	100,745

Source: StatisticsDept.Tonga 01/2017

NEED FOR INTERNATIONAL ASSISTANCE



IMPACT



Anticipated scope and scale

The scale of the disaster is significant as this is the **worst cyclone** to hit Tonga in 60 years. The islands of **'Eua and Tongatapu** are most affected. Detailed information on Ha'apai is pending but some damage is reported. Based on lessons from previous cyclones, main needs are likely to be **shelter, WASH and food security**. The number of people affected, evacuated, damaged houses, and injuries may increase as access is gained to rural areas and other islands.

Key priorities



+1,000
homes damaged



Disruption to
water supply



Staple food crops
have been destroyed

Humanitarian constraints



Access is hampered by debris and flooding, obstructing roads. Work to clear it is underway and should be completed in the next few days. Power is being restored for essential services such as hospitals. It could take up to five weeks to restore all services.

Limitations

Primary assessments are still ongoing and will likely bring more detailed information on needs.

Crisis impact

Heavy rain and winds caused major damage to houses and infrastructure on Tongatapu (the main island) and 'Eua, and to a lesser extent on Ha'apai. An estimated 50,000 people have been affected ([OtagoTimes 14/02/2018](#)). At least 33 people were injured on Tongatapu and seven on 'Eua. One death has been reported so far ([RadioNZ 14/02/2018](#); [NEMO 13/02/2018](#)).

A state of emergency was declared in Tonga on 12 February before Cyclone Gita made landfall later that day ([Webindia 13/02/2018](#)). 108 evacuation centres were established in Tongatapu with around 3,900 evacuees. Ha'apai has 12 evacuation centres and the number of centres in 'Eua needs to be confirmed. ([NEMO 13/02/2018](#)).

The national Emergency Management Office together with local and international NGOs are working to assess the damage. Assessment teams state that water, shelter and food are the most immediate needs ([Radio NZ 13/02/2018](#)).

WASH: Water supply networks sustained damage on the island of Tongatapu ([OtagoTimes 14/02/2018](#)). There is no information regarding water supply on the other islands as of yet. The lack of power means that water pumps have no pressure and there is a shortage of piped water supply ([RadioNZ 14/02/2018](#)). The Tonga Water Board said supply would be operational by the evening of 14 February ([Matangi 14/02/2018](#)). This would help those who source water from a piped system. While at least 78% of households in Tonga have access to piped water sources, studies suggest that in urban areas, only 25% use piped water for drinking with the remainder using rainwater or bottled water ([SPC 2012](#); [ADB 02/05/2011](#)). Problems of water accessibility may remain for those who collect rainwater if their tanks or equipment for catching water has been damaged. Flooding is increasing the risk of water contamination.

Shelter and NFIs: Extensive shelter damage has occurred. In Tongatapu, initial estimates reported 969 houses were partially damaged and 95 completely damaged ([NEMO 13/02/2018](#)). Later but still preliminary assessments suggested up to 2,760 buildings could be damaged on Tongatapu, including 217 destroyed ([PacificDisasterCenter 14/02/2018](#)). Houses in the capital of Nuku'alofa have lost their roofs. A church and the parliament building have been destroyed. Fallen trees, debris and flooding are obstructing roads. ([Radio NZ 13/02/2018](#)). In 'Eua, the town hall was damaged along with at least 52 houses. Some homes in Ha'apai were also damaged but assessments are still needed ([NEMO 13/02/2018](#); [Matangi 15/02/2018](#)).

Food security and livelihoods: Damage to crops and vegetation has been reported in both Tongatapu and 'Eua. Root crops and fruit trees are damaged. This will impact on food security for people who engage in subsistence agriculture. Staple foods of kava, cassava and yam crops in 'Eua have been damaged and this will be a significant blow to the local

agricultural sector and livelihoods ([Radio NZ 13/02/2018](#); [Unicef 13/02/2018](#); [RadioNZ 14/02/2018](#)). The loss of shops and goods will also impact on livelihoods ([RadioNZ 14/02/2018](#)).

Health: Power has been restored to the hospital in Tongatapu and it is functional. Some medical equipment was damaged during the storm. There is a need for an additional ECG machine and a CT machine as the one that is currently there is not working at full capacity ([RadioNZ 15/02/2018](#)).

Education: There are unconfirmed reports schools in Tongatapu and 'Eua are damaged but further assessments are needed ([Matangi 15/02/2018](#)).

Impact on critical infrastructure

Airport: The airport in Tongatapu has reopened as of 14 February ([Matangi 14/02/2018](#)).

Electricity: Power lines were turned off before the cyclone. 80% of the electricity network was severely damaged. While power has been restored to essential services such as the hospital and the water network, as of 14 February the priority is returning power to other essential services such as the National Emergency Management Office and Fire Services. Work will then commence on other public services. It will take five weeks for power to be fully restored according to the power company ([Matangi 14/02/2018](#)).

Mobile and internet: Phone networks continue to operate in Tongatapu. In Ha'apai and 'Eua telecommunication providers are operating but with intermittent service ([ASB 13/02/2018](#); [UNICEF 13/02/2018](#)).

Humanitarian and operational constraints

Roads on the two islands of Tongatapu and 'Eua have been affected by debris and flooding, which the military are working to clear ([ECHO 13/02/2018](#)). Damaged power lines and blocked roads will likely disrupt assessments and impact on the ability of humanitarians to respond. Depending on the progress of road-clearing, access could improve relatively quickly ([Radio NZ 13/02/2018](#)).

Vulnerable groups affected

In Tonga, about one-quarter of households are female headed. In Nuku'alofa the proportion is almost 30% ([SPC 04/10/2011](#)). Female headed households (FHH) are at risk of being overlooked in the response, as has happened in previous responses when larger families were prioritised for receiving tents and some FFH missed out on the distribution. There is also a strong reliance on men to engage in shelter reconstruction activities and this puts FHH at a disadvantage when it comes to repair of homes ([MoIA 02/2014](#)).

Aggravating factors

Reliance on livelihoods vulnerable to natural disasters

63% of households participate in agriculture. About 95% of these engage in agricultural activities for subsistence or part-subsistence, while only about 5% households engage in it for commercial purposes. Households commonly grow cassava, yam and taro (MAFFF 2010). The cyclone impact is likely to lead to food and livelihood difficulties for households who engage in agriculture. While some crops were immediately damaged or destroyed, others are likely to sustain further damage due to the flooding (FAO 31/12/2015; TongaStat.Dept.10/2017).

Dengue fever

An outbreak of dengue was declared in February in Nuku'alofa, the capital of Tonga, located on Tongatapu island (Traveldoctor 2/02/2018). 24 cases have been identified since the beginning of 2018. Cleaning up excess water is needed to avoid an escalation of the outbreak, as stagnant water will provide a breeding ground for mosquitoes (Radio NZ 13/02/2018).

Cyclone season

Tropical cyclone season in Tonga runs from November to April, however, cyclones have occasionally occurred outside of this period, such as cyclone "Keli" which occurred in June 1997. The peak time for cyclones is between January and March, with the most cyclones occurring in February. While it is a possibility that another cyclone could affect Tonga this year, there are currently no forecasts to suggest that it will occur (Dept.Meteorology 16/10/2018).

Key characteristics

Demographic profile: The population is 100,745 and the average household size is 5.5 people. Median age of the population is 22, 46% are less than 20 years old. 77% of Tongatapu's population live in rural areas (TongaStat.Dept.10/2017).

Food security figures: 63% of households engage in agricultural activities and the majority rely on this for their food (TongaStat.Dept.10/2017).

Nutrition: Children under five affected by wasting 5%, stunting 2%, overweight 17% (IFPRI 2015).

Health statistics: Infant mortality rate is 16 per 1,000 births (Worldbank 2016). There is over 99.5% immunisation coverage (TDoS 2010).

WASH statistics: 100% of the population have access to improved water sources while 91% have access to improved sanitation facilities (Worldbank 2016).

Electricity and cooking sources: 92% of households are connected to the public electricity grid. A gas stove is the main source of cooking fuel (64%), followed by open fire (33%). In Ha'apai, 'Eua and Ongo Niua, cooking is done predominantly with an open fire (TongaStat.Dept.10/2017).

Literacy levels. 95% literacy rate (KoT 2009).

Response capacity

Local and national response capacity

The National Emergency Management Office (on behalf of the National Emergency Management Committee) is mandated to coordinate response according to the national emergency management plan (KoT 2009). Red Cross volunteers in collaboration with the government are conducting assessments, including in remote areas.

Preparedness measures put in place prior to cyclone season have improved response capacity. In anticipation of cyclone season, aid supplies were pre-positioned across Tonga's islands in shipping containers by the Red Cross (IFRC 13/02/2018; IFRC13/02/2018). The readiness of stocks enabled distribution of basic supplies including tarpaulins and water purification tablets to commence in the immediate aftermath of the crisis (ABC 13/02/2018). Emergency preparations were disrupted by shops being closed on Sunday (Matangi 11/02/2018).

International response capacity

Australia and New Zealand have pledged to support the response and are flying emergency aid supplies to Tonga. New Zealand plans to send 12 metric tons of aid supplies and a 10-member team to assess the damage while Australia is sending life-saving equipment, emergency shelter, kitchen and hygiene kits (ABC 13/02/2018). The government of China has also offered support (Xinhuanet 13/02/2018). UNOCHA are monitoring the situation, but a request for pre-positioning an UNDAC team has not yet been made. (Gdacs 13/02/2018).

Information gaps and needs

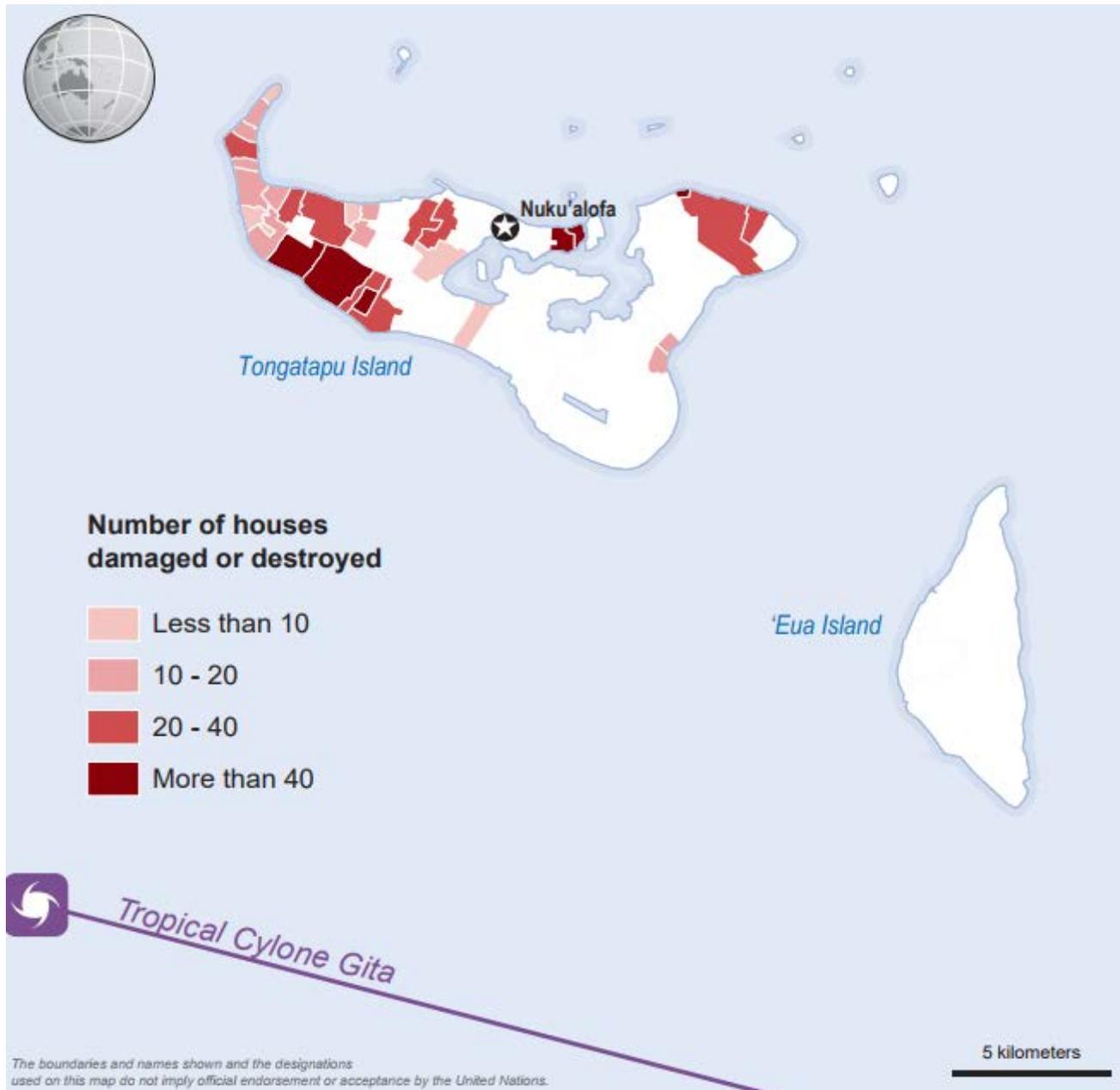
Primary assessments have not yet been published, so detailed information on damage or needs of the population is limited. Information is lacking regarding water supply for people on 'Eua and Ha'apai islands. Information on shelter damage in 'Eua and Ha'apai still has to be released. Information on crop damage per island is needed to better assess the impacts on food security and livelihoods.

Damage to water supplies is reported, but information regarding how many people use piped versus rainwater for drinking is outdated. New information may need to be collected in order to plan an adequate WASH response.

Lessons learned

- The impact of this cyclone coincides with the trends of needs resulting from previous cyclones, and largely concentrate on shelter, WASH and food security.
- Similar to previous disasters such as Cyclone Ian (2014), shelter response will require the distribution of tents, tarpaulins, and shelter kits. Distribution of recovery tools kits will be necessary to enable people begin to salvage and remove storm debris (NEOC 13/01/2014).
- During the aftermath of Cyclone Ian, an estimated 80% of the total population were without access to drinking water source and latrines. It is likely that many people will require alternative sources of drinking water (NEOC 13/01/2014).
- In previous similar disasters, food insecurity occurred in the aftermath of cyclones due to loss of crops. Cyclone Winston in 2016 passed near Tonga's Vava'u island damaging over 85% of the banana and vanilla crops. In 2014, during Cyclone Ian, 95% of crops were damaged on Ha'apai island. In 2010, cyclone Rene caused damage to crops.
- Support is needed for female headed households without men in their immediate families for shelter reconstruction. Culturally there is a strong reliance on male family members for this task and in the past this presented a problem. Also in previous responses, the focus was on providing tents primarily to larger families, resulting in some female headed households missing out on tent distribution (MoIA 02/2014).
- Persons with disabilities are vulnerable in this situation. During Cyclone Ian, no assessment was conducted on the needs of people with mental disabilities, leaving them at a disadvantage in comparison with other groups. This group was also not considered for livelihood opportunities. (MoIA 02/2014)
- Gaps were identified in the past in terms of shelter reconstruction for older people and people with disabilities where the shelter did not should cater to their needs. Specific NFIs may be needed among these groups. This could include mobility devices for people with disabilities; or adult diapers. The previous response did not cater to these needs (MoIA 02/2014).
- While there is a strong sense of community towards caring for older people, during past responses caregivers were identified as very overburdened during this period, and extra support should have been given to them (MoIA 02/2014).
- Following Cyclone Ian in 2014, the Tonga Met found that the warning system worked well to alert people of the cyclone. One area for improvement was to incorporate response information into climate and weather forecasts, to ensure that communities can respond effectively. Humanitarian agencies should work with the Met Service to realise this as it is a platform used by the public to receive information (Sprep 04/04/2014).
- Damaged houses must be rebuilt in a way that can withstand future climatic shocks as Tonga is prone to cyclones, earthquakes and tsunamis. Field assessments following previous cyclones showed that houses constructed according to cyclone standards were untouched by the 2014 disaster, while those that were not were more susceptible to damage and led to more injuries and deaths (Worldbank 01/10/2014).
- The use of hand-held devices with integrated GPS for conducting damage assessments on houses enabled more efficient data collection. Data could be stored and used for reconstruction and future development (Worldbank 01/10/2014).

Map: Shelter Damage, Tongatapu



Source: OCHA 14/02/2018