

# Kingdom of Tonga



## NATIONAL EMERGENCY MANAGEMENT PLAN

*Prepared by*  
National Emergency Management Office,  
Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and  
Communications (MEIDECC)  
*Under the provisions of the*  
*Emergency Management Act 2007*

September, 2020

## Foreword

Tonga is susceptible to a range of hazards, both natural and technological, which have the capacity to impact significantly on the country.

This National Emergency Management Plan has been developed by National Emergency Management Office (NEMO) on behalf of the National Emergency Management Committee, and provides a framework through which holistic and comprehensive emergency management can be undertaken within the Kingdom.

The focus, as required by the Emergency Management Act 2007 is on minimising the effects of hazards on Tonga by ensuring a co-ordinated effort in risk management within the community utilising partnerships of Government and Regional agencies, and non-government bodies with a responsibility or capability in emergency risk management and emergency response.

The plan identifies the risk environment for the Kingdom and outlines the key institutional and programming components relative to effective risk management and emergency response.

The Plan is not designed to usurp the incident management responsibilities of the various emergency services or other organisations within the community that respond to events which fall within their normal daily activities. Instead the plan is designed to enhance the capacity of Government to more effectively plan for and respond to emergency situations. This is achieved through the combined processes of hazard and risk analysis, which provides a more realistic base of information upon which to frame operational plans and procedures.

The Plan is a dynamic document which may be extended in the future to incorporate any additional risk treatment options as they are identified following formal hazard and risk analysis. The Plan will also be amended in line with changes in legislation and current best practice, and to reflect lessons learned from the impact of hazards and other emergency situations that may arise.

It is to note that Tonga Emergency Management Act, 2007 is currently under revision. National Emergency Management Office (NEMO) on behalf of lead Ministry, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication (MEIDECC) is aiming to present it before the parliament by end of this year. The National Emergency Management Plan will then be revised and adapted to reflect the new Act as passed by parliament.

### **Authority of Planning**

This National Emergency Management Plan has been developed on behalf of the National Emergency Management Committee, under Section 28 (1) of the Emergency Management Act 2007, by the National Emergency Management Office and is submitted for approval.

Director, National Emergency Management Office

Date.    /    /

This National Emergency Management Plan has been reviewed by the National Emergency Management Committee, complies with Section 28 (1) (a) – (g) of the Emergency Management Act 2007 and is endorsed for adoption.

Chair, National Emergency Management Committee

Date    /    /

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## **Aim and structure of the National Emergency Management Plan**

The aim of this plan is to outline government arrangements for coordination of all disaster risk management related activities in Tonga.

Tonga is one of the high risk country in the world in respect of the risk of disaster in consequence of extreme natural events due to its exposure (to natural events), susceptibility and vulnerability. As per the World Risk Report 2020, it is ranked 2<sup>nd</sup> most at risk country, Vanuatu, another pacific country from the region, topping the list.

Tonga has been hit hard by tropical cyclone in recent past one after another, actually not allowing time to fully recover from one before facing another. This situation has demanded a systemic approach in managing the risk as well as preparing well to respond to emergency as it happens. The aim of this Plan is not to detail out all the activities which Tonga will be doing in future years but to lay out operation framework, institutional arrangement and approach in managing disaster risk and responding to future emergency.

Part A of the Plan presents the country profile of Tonga, also includes the potential hazard and historical data on hazards/disaster Tonga faced in the past. Part B describes the existing Emergency Governance Mechanism in Tonga and also put forward the approach Tongan government is taking and this Plan will emphasise on in managing emergency and disaster in Tonga. Part C talks about how Tonga is planning to mitigate the risk and Part D lays out operational arrangement for the emergency management in Tonga. Finally, Part-E presents a table of key actions Tonga is planning to progress on by 2023 and planning to national capacity building.

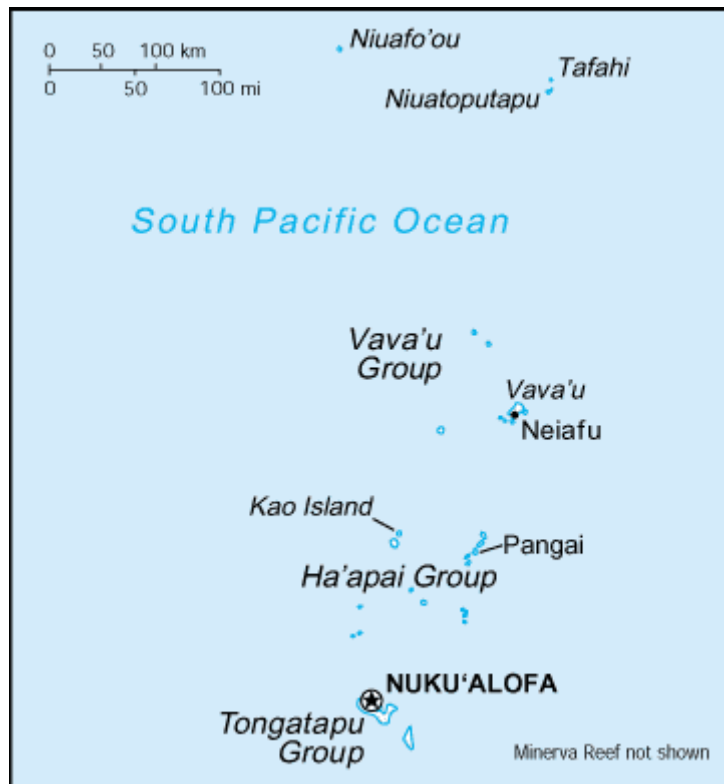
As indicated elsewhere, this Plan is a live document, aimed to review every year. When new Emergency Management Act will be promulgated, it will become more necessary and pertinent to review the Plan to reflect the changes or new arrangement put in place through the Act.

## PART A

### Country Profile

#### Geography

The Kingdom of Tonga is located in the South Pacific Ocean, between latitudes 15 S and 23.5 S; Longitude 173 W and 177 W, south of Samoa and southeast of Fiji. The total land area is 747.34 sq. km. spread over 700,000 sq. km. of territorial sea. Tonga consists of 171 islands, 36 of which are inhabited. The capital Nuku'alofa is located at the main island of Tongatapu. Tonga is 13 hours ahead of Greenwich Mean Time.



#### Climate

The climate is pleasant, slightly cooler and less humid than most tropical areas. The temperature ranges between 18-25C during May through September and 24-32C between October and April. Trade winds blow a constant 13-18 knots all the year round. The mean annual temperature in Nuku'alofa is 24.7C, with mean humidity of 76.9%. Average rainfall is 1775.5mm.

#### Terrain

Many of the islands are coralline with a covering of volcanic ash, comparatively flat and often encircled by fringing reefs. There also some islands of volcanic origin such as 'Eua and Niuafo'ou, with high cliffs and deep forests. The highest point in the Kingdom (186.5 metres) is in Vava'u.

## Vegetation

The islands are covered with plant life and the soil is very fertile but not more than four metres in depth. Coconut palms cover the islands except where areas have been cleared for crops of bananas, pumpkins and tropical crops.

## Population

The population of approximately 100,651 (based on last national census in 2016) is distributed throughout the islands of Tonga with a 3:1 Rural/Urban disbursement. The islands are in five main groups of Tongatapu, Vava'u, Ha'apai, 'Eua and Ongo Niua (Niuatoputapu and Niuafu'ou). The main island of Tongatapu has a population of approximately 74611.

Table G 1: Total Population by sex, division and district (2006, 2011 and 2016)

Division/District	2016 Population & Housing Census			2011 Population & Housing Census			2006 Population & Housing Census		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
<b>TONGA</b>	<b>100,651</b>	<b>50,255</b>	<b>50,396</b>	<b>103,252</b>	<b>51,979</b>	<b>51,273</b>	<b>101,991</b>	<b>51,772</b>	<b>50,219</b>
<b>Tongatapu</b>	<b>74,611</b>	<b>37,135</b>	<b>37,476</b>	<b>75,416</b>	<b>37,833</b>	<b>37,583</b>	<b>72,045</b>	<b>36,372</b>	<b>35,673</b>
Kolofo'ou	18,064	8,992	9,072	18,957	9,526	9,431	18,463	9,273	9,190
Kolomotu'a	17,120	8,498	8,622	17,088	8,574	8,514	15,848	7,894	7,954
Vaini	12,999	6,490	6,509	12,949	6,500	6,449	12,594	6,397	6,197
Tatakamotonga	7,043	3,491	3,552	7,233	3,657	3,576	6,969	3,618	3,351
Lapaha	7,117	3,507	3,610	7,380	3,678	3,702	7,255	3,676	3,579
Nukunuku	8,001	4,032	3,969	7,733	3,861	3,872	6,820	3,462	3,358
Kolovai	4,267	2,125	2,142	4,076	2,037	2,039	4,096	2,052	2,044
<b>Vava'u</b>	<b>13,738</b>	<b>6,866</b>	<b>6,872</b>	<b>14,922</b>	<b>7,559</b>	<b>7,363</b>	<b>15,505</b>	<b>7,897</b>	<b>7,608</b>
Neiafu	5,251	2,624	2,627	5,774	2,893	2,881	5,787	2,929	2,858
Pangaimotu	1,242	598	644	1,325	675	650	1,412	716	696
Hahake	2,021	1,011	1,010	2,297	1,154	1,143	222	1,234	1,188
Leimatu'a	2,489	1,257	1,232	2,436	1,252	1,184	2,742	1,387	1,355
Hihifo	1,990	1,011	979	2,105	1,079	1,026	2,267	1,175	1,092
Motu	745	365	380	985	506	479	875	456	419
<b>Ha'apai</b>	<b>6,125</b>	<b>3,118</b>	<b>3,007</b>	<b>6,616</b>	<b>3,406</b>	<b>3,210</b>	<b>7,570</b>	<b>3,911</b>	<b>3,659</b>
Pangai	2,205	1,118	1,087	2,410	1,234	1,176	2,967	1,512	1,455
Foa	1,392	694	698	1,359	684	675	1,479	765	714
Lulunga	923	483	440	1,055	561	494	1,075	586	489
Mu'omu'a	432	219	213	609	316	293	630	321	309
Ha'ano	478	241	237	511	250	261	619	307	312
'Uiha	695	363	332	672	361	311	800	420	380
<b>'Eua</b>	<b>4,945</b>	<b>2,486</b>	<b>2,459</b>	<b>5,016</b>	<b>2,514</b>	<b>2,502</b>	<b>5,206</b>	<b>2,702</b>	<b>2,504</b>
Eua Motu'a	2,795	1,419	1,376	2,852	1,446	1,406	2,949	1,562	1,387
Eua Fo'ou	2,150	1,067	1,083	2,164	1,068	1,096	2,257	1,140	1,117
<b>Ongo Niua</b>	<b>1,232</b>	<b>650</b>	<b>582</b>	<b>1,282</b>	<b>667</b>	<b>615</b>	<b>1,665</b>	<b>890</b>	<b>775</b>
Niuatoputapu	739	386	353	759	390	369	1,019	526	493
Niuafu'ou	493	264	229	523	277	246	646	364	282

## Education

Free and compulsory education is available for all children between the age of six and eighteen years. Tonga boasts a 95% literacy rate. The high degree of literacy in Tonga means that the workforce is well educated. Most people have attended secondary school and they have reasonable access to skill training or tertiary qualification.

## Language

Tongan and English are official and spoken languages.

## Government

The Government of this Kingdom is divided into three Bodies – 1st The Cabinet; 2nd The Legislative Assembly; 3rd The Judiciary. The executive authority of the Kingdom shall vest in Cabinet, which shall be collectively responsible to the Legislative Assembly for the executive functions of Government.



Consequently, the Monarch now appoints as prime minister the elected member of the Assembly who is recommended by the Assembly under a selection procedure provided in the Constitution, and the monarch will appoint as ministers those members who are nominated by the prime minister.

## **Infrastructure**

### **Communications:**

#### Telecommunications:

Tonga has access to international communications through satellite systems. Access to domestic communication systems, including land-line and mobile telephone, facsimile, e-mail, internet, services is readily available. The two service providers, Tonga Communication Corporation and Digicel operate throughout the Kingdom and provide telephone, radiotelephone and satellite telephone services. The telephone systems have alternative power supply in place. The service providers have their own emergency communication system throughout the Kingdom, and are well prepared to respond to any major loss of service.

#### Radio & Television:

There are FM radio stations covering Tongatapu, Vava'u and Ha'apai and AM radio station with national coverage. Three free to air television services operate on Tongatapu, along with a subscription-driven satellite television service. Weekly newspapers are printed in Nuku'alofa and Vava'u.

#### Power:

Reticulated power is provided by diesel generation on the main islands of Tongatapu, 'Eua, Ha'apai and Vava'u. Recently Tonga has started generating solar power and connecting it to the national power grid system. The smaller, less populated islands have no reticulated power service. Limited power supply from portable generator and isolated solar panel existed though. Gas power (e.g. for cooking purposes) is provided via a decanted cylinder service only.

#### Water:

Reticulated water supply is provided on the main islands of Tongatapu, Vavau, Ha'apai and 'Eua groups under the Tonga Water Board. Other outer islands are still to be covered by piped water but are being fetched by rain water catchment and underground water sources through boring. The Ministry of Health assumes the responsibility of water supply and management in rural areas where there is no piped water supply.

### **Transportation**

#### Road:

Most roads within the major centres of population and between those centres are sealed. Outside those areas, and particularly in the outer island groups, many roads are unsealed. Tonga has a very high level of vehicle ownership, and particularly on Tongatapu, traffic congestion is beginning to be experienced.

Sea:

Regular international shipping services link Tonga through the ports of Nuku'alofa and Neiafu. Internally, there are regular ferry services from the capital to the outlying island groups. There is a substantial port complex at Nuku'alofa, including a container dock facility, and smaller facilities on the outer islands. International cruise liners also use Nuku'alofa as a port of call.

Air:

Air New Zealand, Fiji Air, Virgin Airlines operate direct air services to Tonga from Suva, Auckland, Sydney and Los Angeles and Honolulu. Real Tonga, a private company manages domestic flights. There are six (6) operational airports in the Kingdom namely Fua'amotu at Tongatapu (international and domestic), Lupepau'u at Vava'u (international and domestic), Salote Pilolevu at Ha'apai, Kaufana at 'Eua, Mata'aho at Niuatoputapu and Lavinia at Niuafu'ou. All airports are administered by the Civil Aviation Authority.

**Industry**Agriculture:

Crops are grown for subsistence, sale on the local market and increasingly for export. The most successful export crops are squash pumpkin, sold exclusively to Japan and South Korea, and vanilla, purchased by France, Japan and the United States. Traditional root crops and vegetables such as taro, kumara, cassava, watermelon and yams are exported to Tongan communities in New Zealand, Australia and the United States.

Fishing:

There is a significant international fishing fleet based in Tonga, with long line tuna fishing as the main activity. There is also a substantial reliance on local fisheries, both for subsistence and for local trade.

Tourism:

The tourism industry contributes a major share of the economy with foreign exchange earnings reaching up to 20% of the GDP contribution. Tonga is becoming recognised as a prime tourist destination, particularly in relation to diving and sport fishing.

**Commercial Services**Banking:

Three private banking companies provide full commercial facilities namely ANZ, BSP and MbF. In addition, the Tonga Development Bank, established and backed by Government, provides term loans and financial services to industry and entrepreneurial ventures. It can and does provide equity participation in approved commercial projects.

## **Emergency Services**

### Health:

There is one main Hospital in Tongatapu (Nuku'alofa) and smaller hospitals on Vava'u (Neiafu) and Ha'apai (Pangai) and 'Eua ('Ohonua). Other islands and the outlying areas of the main islands are serviced by medical clinics. A basic ambulance service is provided on Tongatapu, Vava'u and Ha'apai.

### Police:

Tonga has around 500 police personnel with the presence in all main islands, 85% of them are deployed for Tongatapu and around 15% are distributed throughout the outer islands. Through Ministry of Internal Affairs and with the lead of respective Town Officers in villages, Tonga is maintaining safety and security of the areas through 'Community Policing' by nominating youths on voluntary basis to safe guard the community especially in the night time. In October 2009, Tonga Police developed 'Tonga Police Community Policing Strategy' to formally link and mainstreamed community policing arrangement into national police operation and response. Now, 'Community Policing' exists in many villages in Tongatapu as well as in outer islands.

### Fire Service:

Fire Service presence on Tongatapu, Vava'u, Ha'apai and 'Eua. Plans are in place to have additional fire appliances spread throughout the Kingdom.

## Hazard Analysis

### Cyclone

The tropical cyclone season in Tonga is from November to April, although tropical cyclones have been known to occur outside this period (e.g. TC Keli, June 1997).

Since 1960, Tonga has averaged about one tropical cyclone per year, with four (4) events recorded in the year 1990. Severe tropical cyclones have occurred in 1961 (TC Flora), 1982 (TC Isaac) and 2001/2002 (TC Waka).

### List of Tropical Cyclones that have affected at least a part of Tonga from 1960 – present

Name	Active Date	Min P	Area	Extreme Wind	Centre
<b><u>1981-1982</u></b>					
Issac	27Feb-5Mar	930	Hp/ TBU	90kt gust 130kt(Hurricane)	Eye passed over Hp
<b><u>1983-1984</u></b>					
Lance	3-8Apr	985	Tonga, Wallis	Hurricane	
Un-named	22-30 Mar		Tonga	40kt gust 53kt	
<b><u>1984-1985</u></b>					
Drena	11-14 Jan	987	Niuatoputapu	Est. 50kt gust 70kt(Storm)	20 miles West of NTT
Eric	14-20Jan	955			
<b><u>1985-1986</u></b>					
Keli	8–12Feb	987	Tonga, Fiji, Vanuatu	50kt gust 70kt(Storm)	
Lusi	2-10Mar	990	Tonga, Vanuatu, N/C	Storm	
Martin	10-14 Apr	970	Ha'apai, Fiji	40kt gust 60kt (Hurricane),	Eye passed over Kia Is.
<b><u>1988-1989</u></b>					
Un-named	7-14 Feb	987	Tonga, Fiji	35kt gust 50kt (Storm),	
Kerry	29 Mar-3Apr	985	Tonga, Fiji	50kt gust 65kt(Hurricane)	
<b><u>1989-1990</u></b>					
'Ofa	30Jan- 10Feb	987	Tonga(Ntt), Niue, Samoa	Est. gust 140kts(Hurricane)	
<b><u>1990-1991</u></b>					
Sina	24-Nov -4Dec	960	Tonga(TBU/ HP), Niue, Fiji,	65kt gust 100kt(Hurricane)	
<b><u>1991-1992 (El-Nino)</u></b>					
Val	4-13 Dec	940	Tonga(NTT), Samoa, Tokelau	Est. 50kt (Hurricane)	Close to Savai'i
<b><u>1992-1993</u></b>					

Joni	6-13 Dec	940	Tongatapu,Fiji,Tuvalu	Hurricane	Lau group
Nina	23Dec-5Jan	955	Nfo/Ntt/Vv,Fiji(Rotuma)	Hurricane	N/A
Kina	26Dec-5Jan	955	Tongatapu,Fiji	gust 120kt(Hurricane)	Southern Lau
Mick	5-9 Feb	987	Vv/Hp, Fiji		Storm
<b><u>1996-1997</u></b>					
Hina	12 -21Mar	970	TBU/'Eua	50kt gust 90kt(Hurricane),	West of Fua'amotu
Keli	10-15 Jun	955	Nfo, Ntt, Fiji, Tuvalu	Est. gust 100kt(Hurricane)	300km East of Lakeba, FJ
<b><u>1997-1998 (El-Nino)</u></b>					
Ron	1-8 Jan	900	Niuafo'ou,Samoa,Wallis	Est. gust 125kt(Hurricane),	eyes passed NFO
<b><u>1998-1999</u></b>					
Cora	23-30Dec	960	Tt/Hp/'Eua, Fiji,Wallis	47kt gust 73kt(Hurricane)	19 miles East of TBU
<b><u>1999-2000</u></b>					
Mona	8-10Mar	960	Tt/Hp/'Eua	44kt gust 65kt(Hurricane)	30 miles West of TBU
<b><u>2000-2001</u></b>					
Paula	26Feb-8 Mar	930	Tt/Hp/'Eua, Fiji, Vanuatu,	40kt gust 60kt(Hurricane)	200 miles SW of TBU
<b><u>2001-2002</u></b>					
Waka	29Dec01-1Jan02	930	Nfo/ Ntt/ Vv,	100kt gust 140kt(Hurricane)	eye passed over VV
<b><u>2002-2003 (El-Nino)</u></b>					
Yolande	5-Dec-02		Tonga waters, no land areas	gale	
Ami	11-15 Jan2003	950(FJ),994(TBU)	TT/EUA, Fiji	40kt gust 60kt(Hurricane)	120 miles SW of TT
Cilla	27-28 Jan2003	993(Hp)	Tonga(Ha'apai)	28kt gust 58kt(Gale)	eye passed over Lifuka
Eseta	13-14 March03	994(TBU)	TT/Hp	40kt gust 60kt(Gale)	eye passed 60 miles
Fili	16-Apr-03		Tonga Waters,	Gale	
<b><u>2003-2004</u></b>					
Heta	5-6 Jan2004		Nfo/Ntt,Niue, Samoa	Est 80kt gust 100kt	eye passed east of NTT
<b><u>2004-2005</u></b>					
Lola	30Jan05-1Feb05	997(Tbu)	Tbu & 'Eua	26kts gust 47kts	

<b>2005-2006</b>					
Tam	12-13 Jan2006	991(Nfo)	Niuafou'ou	40-45kts gust 50kts	
Urmil	14-15 Jan2006	994(Ntt)	Niuatoputapu	40-45kts gust 60kts	
Vaianu	11-15 Feb2006		All of Tonga	35kts gust 54kts	
<b>2009-2010 ( El Nino)</b>					
Mick (Cat 2)	Dec 3-15, 2009	975	Fiji, Tonga		
Rene (Cat 4)	Feb 9-17, 2010		Samoa, Tonga (Most damage to vegetation, fruit trees etc, rain)		
Tomas (Cat 4)	Mar, 9-18, 2010	930	(Fiji most affected, Tonga only strong winds mainly affects vegetation, few buildings)		
<b>2010-2011</b>					
Wilma (Cat 4)	Jan 19-28, 2011	930	(Samoa, Fiji , Tonga)	185km/hr	
<b>2011-2012</b>					
Cyrill	6 – 7 Feb, 2012		Vv, Hp, TBU, 'Eua	50kts gust to 60kts	
Jasmine	13-16 Feb, 2012		Vv, Hp, TBU, 'Eua	Gust up to 50kts, (recorded at Fua'amotu on the 14 <sup>th</sup> Feb)	
<b>2013-2014</b>					
Ian	6 – 12 Jan 2014		Ha'apai	Max wind was up to Cat 5	
<b>2015-2016</b>					
Tuni-	27 - 29 Nov - Dec,		NTT		
Ula	31Dec- 02 Jan 2016		Vv		
Victor	20- 23 Jan 2016		Tbu & 'Eua		
Winston	15 Feb – 20 Feb 2016		Vv	Cat 1 when it reached Vava'u	
Zena	6-7 April 2016		TBU, 'Eua	Cat 2	
<b>2016 - 2017</b>					
Ella	9 – 11 May 2017	977	NTT & NF	Cat 1 (110 km/hr)	
<b>2017 - 2018</b>					
Gita	10 – 13 Feb. 2018		TBU & 'Eua	Cat 4 with average	Eye passed over

				wind speed of 130km/h and gust up to 195km/h	Tongatapu and 'Eua
<b>2018 - 2019</b>					
Sarai	27 – 31 Dec. 2019		TBU & Hp	Cat 1	
<b>2019 - 2020</b>					
Tino	18 – 19 Jan 2020		TBU, Hp & Vv	Cat 3 maximum wind 110 – 120km/hr and gust up to 140km/hr	
Harold	7 – 9 Apr 2020		TBU, 'Eua, Hp & Vv	Cat 4	

### **Tropical Cyclone rendering significant damage in Tonga in recent history:**

Tonga has been continuously hit by tropical cyclones almost each year in recent history and some greater than category-3 strength as measured. In 2015, Tonga was hit hard by TC Ian, impacting mainly Ha'apai Island groups. Despite the low casualty rate, the cyclone caused significant damage to homes, infrastructure and vegetation in 18 villages across six islands in Ha'apai: 'Uiha, Uoleva, Lifuka, Foa, Ha'ano and Mo'unga'one. The recovery cost was estimated to be around TOP 90 mil. In 2018, high strength Tropical Cyclone Gita of cat-4 hit directly Tongatapu and 'Eua, the most powerful felt after at Tonga's land after the TC Isaac in 1982. The overall cost for recovery was estimated around the line of TOP300 mil. This year, in 19 April, 2020, Tonga was again hit by TC Harold, of Cat-4 and damaged properties and livelihood mainly of Tonga mainly in 'Eua and Tongatapu. The recovery cost from TC Harold was estimated to be over TOP200 mil (US\$100 mil).

### **Storm Surge and Storm Wave**

The report from Landcare Research New Zealand states that there are few comprehensive records of coastal inundation events in Tonga, but many low-lying areas have a high exposure to inundation. The most severe inundation in living memory occurred during Cyclone Isaac in 1982 where a storm surge of about 1.6m acted on top of a high spring tide. It was estimated that approximately 30% of Tongatapu inundated (not all of this would have been by seawater - flooding due to heavy rainfall would also have inundated many areas).

The most severe inundation during a tropical cyclone occurred during Isaac in March 1982. On Tongatapu, the passage of the cyclone coincided with a high spring tide, which was about 1.39 m above Chart Datum (1990). The worst affected areas were at Sopu, localised areas to the west (e.g. Kolovai) and to the east of Manuka. The water level observed across the Vuna Road at Queen Salote wharf was about 0.5 to 0.75 m above the level of the road. All houses fronting the road were moved off their foundations a distance of about 10 m. Based on observed debris lines, the storm tide level reached approximately 3.05 m above Chart Datum resulting in a storm surge magnitude of about 1.66m. At Manuka further west the storm surge was estimated at 1.5 m. In Sopu, water depths were up to 1.5 m but more generally about 1 m in low-lying property behind the coast road in Nuku'alofa. Inundation extended around 300 m inland, except at Sopu where it reached 1 km inland. There is almost certainty that Tonga is impacted by storm surge and storm wave when there is cyclone.

**Tornado/Severe Storm:**

Do not appear to impact the Kingdom very often; however there have been recorded occurrences. A tornado on Tongatapu in 2004 affected four villages and inflicted several hundred thousand pa'anga in damage to homes, buildings and crops.

**Flood/Water Inundation:**

There have been no records obtainable on (rainfall instigated) floods but recent events have identified that many low-lying areas are subject to severe ponding of water when large rainfall occurs. These events flood homes and commercial buildings, and severely curtail transportation systems. The water usually dissipates within in 48 – 72 hours once the rain ceases.

While surface flooding may affect agriculture and some infrastructure it is not considered to pose high risks as the land mass is relatively small with subdued topography and the soils for the most part are relatively free-draining. Heavy rainfall is known to cause flooding, notably at Pea, Fanga, Halaleva and Manuka (Kula 2003).

Flooding in Tonga is not common but when it occurs it is mainly due to prolonged heavy rain, storm tides and heavy sea swell. These flooding often occur during the wet season (November-April) and are mostly associated with the passage of a tropical cyclone or a tropical low. However, periods of abnormally high rainfall persisting for more than three months are rare. The areas mainly affected are the coastal low-lying areas which are mainly the southern Tonga and the Ha'apai group of islands. ([http://www.met.gov.to/index\\_files/climate\\_summary\\_tonga.pdf](http://www.met.gov.to/index_files/climate_summary_tonga.pdf))

**Earthquake:**

Tonga lies very close to the subduction zone of the Australian Tectonic Plate and the Pacific Tectonic Plate, one of the most seismically active areas in the Pacific.

The last two major earthquakes recorded (with a severe effect on the community) was on 23 June 1977 and 4 May, 2006. The tremor registered at 7.2 and 7.8 respectively on the Richter scale and impacted Tongatapu and 'Eua and Ha'apai. The first one caused damages to many buildings, Angaha Hospital, electricity and water supplies, cracks occurred in Queen Salote Wharf, Vuna Wharf and the yellow pier. There were only two injuries reported. The 2006 quake had its epicentre very close to Pangai, Ha'apai and caused a lot of structural damages to the Ha'apai hospital, the wharf and many private and church buildings. One injury was reported.



The Ministry of Lands Survey and Natural Resources operates a seismic recording station at Vaololoa, Tongatapu. Further stations are planned.

**Table 18: Historical Large earthquakes (Magnitude 8 plus) in the Tonga region**

Year	Month	Day	Time (UTC)	Latitude	Longitude	Depth (km)	Magnitude
1902	2	9	735	-20	-174	60	8
1903	1	4	507	-20	-175	400	8
1909	2	22	921	-18	-179	550	8
1913	6	26	457	-20	-174	60	8
1917	6	26	549	-15.5	-173	25	9
1919	1	1	259	-19.5	-176.5	180	8
1919	4	30	717	-19	-172.5	25	8
1937	4	16	301	-21.5	-177	400	8
1948	9	8	1509	-21	-174	25	8
1949	8	6	0	-20	-175	-	8
1949	8	6	35	-18.5	-174.5	70	8
1950	12	14	152	-19.2	-175.7	200	8
1956	5	23	2048	-15	-179	430	8
1956	1	10	0	-20	-175	-	8
1957	9	28	1420	-20.4	-178.5	549	8
1957	4	14	1918	-15.5	-173	60	8

### Volcanic Eruption:

Tonga has a history of volcanic activity, recorded from 1839. There is an active volcano on the island of Niuafo'ou. The last major eruption was in 1946, when the island was completely evacuated.

Table 22: Active volcanic centres and historically recorded volcanic activity, Tonga

Volcano	Year(s) of eruption	Effects/Consequences
Curacao Reef	1973 <sup>1</sup>	Submarine volcano
	1979 <sup>1</sup>	
Fonuafo'ou (Falcon Is)	1781? <sup>5</sup>	Island breaks ocean surface
	1885 <sup>1,4,5</sup>	
	1877 <sup>5</sup>	
	1885 - 1886 <sup>1,2,4,5</sup>	100 m high cone recorded
	1894 <sup>1,5</sup>	Eruption raised an island 16 m high and 11.5 km <sup>2</sup> , which disappeared by 1898
	1921 <sup>5</sup>	
	1927 <sup>1,3,5</sup>	100 m high cone with 5 km diameter recorded
	1928 <sup>5</sup>	
	1933 <sup>5</sup>	
	1936 <sup>5</sup> - 1937 <sup>1</sup>	Island formed, last seen 1941
	1970 <sup>1,5</sup>	Report of activity, possibly nearby
Fonualei	1791 <sup>1,5</sup>	Numerous lava flows and much fumarole activity
	1848-7 <sup>1,4,5</sup>	
	1900 <sup>1</sup>	
	1906 <sup>5</sup>	
	1939 <sup>1</sup>	
	1943 <sup>1</sup>	Minor eruption. Fumarole activity continuing since.
	1951 <sup>5</sup>	
	1957 <sup>5</sup>	
	1974? <sup>5</sup>	
	2001? <sup>5</sup>	Possible eruptions on Sep 27, 28, 30, 2001
Home Reef	1852 <sup>5</sup>	
	1857? <sup>5</sup>	
	1984 <sup>1</sup>	Island 30 m high, 1.5 km <sup>2</sup>
Hunga Group (Hunga Tonga & Hunga Ha'apai)	1911 <sup>1</sup>	
	1912 <sup>5</sup>	
	1937 <sup>1,5</sup>	
	1959? <sup>1</sup>	Underwater fumarole activity
	1988 <sup>1,5</sup>	New Island formed for a short period

### Droughts

During a normal year rainfall in the dry zone of Tonga mainly Ha'apai group of islands and Southern Tonga are lower than normal during the Dry Season but especially towards the latter part of the season. A few months of below average rainfall can cause drought effect. The persistence of prolonged droughts in Tonga is also associated with the El Nino event which also results in below average rainfall for Tonga. These conditions can be severe if the event is strong and particularly if the precipitation during the wet season has been lower than usual. The 1997/1998 strong El Nino event caused drought condition in Tonga especially affecting Tongatapu and Ha'apai groups.

## Tsunamis

Historical accounts show that some 20 tsunamis have affected many islands in Tonga. Most tsunami waves have been small (< 1 m) with little recorded damage. An earthquake in 1919, located close to Tonga, apparently caused tsunami waves of 2.5 m in the Ha'apai Group. Three tsunami waves caused by the 1977 earthquake were recorded. An estimation of the annual probability of tsunami waves for NZ and Tonga indicate that a 10 m run up related to a tsunami wave is approximately 1 chance in 500 for Tonga.

The probability of a 10 m tsunami wave affecting Tonga is about 10% chance in 50 years (475 year return period). However, given that much of the Tongan land mass is low lying and that most of the population live by the coast, Tonga is vulnerable to tsunami.

The latest recorded Tsunami impacting Tonga was on 30th September 2009. Niuatoputapu Island, one of the two northernmost islands of Tonga, was struck by an 8.3 earthquake that generated a tsunami with a 17 meter (estimated) flow depth. There were 9 deaths recorded. Up to 60% of houses were destroyed and seawater inundated 50% of the island. There was also extensive damage to infrastructure and coastal environment.

**Table 21: Near-source Tsunami generating earthquake events that have affected Tonga**

Year	Date	Hmax (m)	Damage <sup>1</sup>	Cause <sup>2</sup>	Source	Comment
1853	24 Dec			T	Tonga, Tongatapu Island	Report of earthquake on Tongatapu with changes in land level and flooding, at night on Christmas Eve
1865	17 Nov	2		T	Tonga Islands	Reached a height of 1 m at Tau near Tongatapu, sea flooded land and washed away everything in its path
1881	24 Nov			T	Tonga Islands	On Tongatapu, land subsided, but report does not mention tsunami
1901	Fri, 9 Aug	1.2	S	T	Tonga Islands	No information on extent of damage
1908	Wed, 1 Jan			V	Tonga Islands	Several km south of Tongatapu, a submarine eruption occurred which was accompanied by a strong earthquake and tsunami (year may be 1907)
1917	Tue, 26 Jun	12	L	T	Samoa Islands (TONGA ISLANDS)	
1917	Fri, 16 Nov			T	Kermadec Islands, vicinity	Reported from Apia for earthquake origin south of Tonga
1919	Wed, 30 Apr	2.5	S	T	Tonga Islands	Tsunami 2.5 m high on Ha'apai 0.6 hr after earthquake, no comments about tsunami damage, earthquake triggered landslides in Tonga and Samoa
1928	Tue, 18 Mar			M	Tonga Islands	1 person perished and all buildings washed away (except church) on Palmerston Is, considered to be most likely a storm-generated wave
1928	Fri, 18 May			V	Tonga, Ha'apai Island	An earthquake was felt. A tsunami appeared, and pumice was cast upon the shore
1948	Wed, 8 Sep	0.1	N	T	Tonga Islands	Small Pacific-wide tsunami recorded
1958	Tue, 7 Oct			V	Tonga Islands	
1963	Wed, 18 Dec			T	Tonga Islands	Strong swell reported in Tahiti
1968	Thu, 25 Jul	0.1		T	Kermadec Islands	0.1 m tsunami recorded in Suva from earthquake in Kermadecs
1975	Fri, 26 Dec	0.75	N	T	Samoa Islands	No damage reported in Tonga
1977	Sat, 2 Apr	0.1	N	T	Tonga Trench: SAMOA ISLANDS	No damage reported in Tonga
1977	Wed, 22 Jun	0.3	N	T	Tonga Trench	No damage reported in Tonga
1977	Mon, 10 Oct	0.02	N	T	Tonga Trench	No damage reported in Tonga

Year	Date	Hmax (m)	Damage <sup>1</sup>	Cause <sup>2</sup>	Source	Comment
1982	Sun, 19 Dec	0.2	N	T	Kermadec I., South of Tonga Is.	No damage reported in Tonga
1988	Mon, 20 Oct	0.2	N	T	Kermadec Islands: Raoul Is	No damage reported in Tonga
1987	Tue, 8 Oct	0.1	N	T	Tonga Islands	No damage reported in Tonga
1995	Fri, 7 Apr	0.1	N	T	Tonga, Samoa Islands	No damage reported in Tonga
1997	Tue, 14 Oct		N	T	Tonga Islands	No damage reported in Tonga

<sup>1</sup>Damage: N = non-damaging event, S = slight damage, M = moderate damage, L = large (severe) damage).

<sup>2</sup>Cause: T= tectonic, V = volcanic, M = meteorological

### **Transportation Event:**

There have been several marine incidents over the years, with multiple loss of life. The international airport services aircraft up to and including Boeing 737-800, and there are regular international and domestic flights. Any serious incident involving either international or domestic aircraft would severely stretch the Kingdom's capacity to respond within its own resources.

### **Hazardous Material Event:**

The bulk fuel depots and high pressure gas transport ships are the source of the biggest hazardous material threat in Tonga. There is no record of any major incident in Tonga resulting from either petroleum or gas products.

### **Human Disease/Epidemic:**

The Ministry Of Health staff advised that there were six deaths from Dengue Fever in 2003 and 38 cases of typhoid previously recorded. In 2018 there was another Dengue outbreak in Tongatapu declared by Ministry of Health. Though Tonga didn't have the case of Measles when there was outbreak in Samoa in 2019, given its environment and climatic similarities as well as close ethnic tie to Samoa, Tonga is also susceptible to measles as well. As it's been the case for all countries in the world, Tonga can't be spared from viruses like COVID-19 which survives in every climates. Given the Tonga's existing weak health system and countries demography-the bigger population with existing health conditions, Tonga will suffer greatly when and if the pandemic like COVID-19 make to Tonga.

### **Oil Spill at Sea**

This is a matter adequately addressed by other arrangements. The consequences of an oil spill at sea may require support from the emergency management system, and will be addressed using the concept of the "All Hazards Approach" to emergency management.

### **Terrorist Activity**

While this has been included as a hazard for the purposes of this Plan, it is not addressed with a view to its mitigation, but purely as to its consequences. The consequences of a terrorist event will be similar to the consequences of many other events outlined in this document, and will be addressed using the concept of the "All Hazards Approach" to emergency management.

## PART B

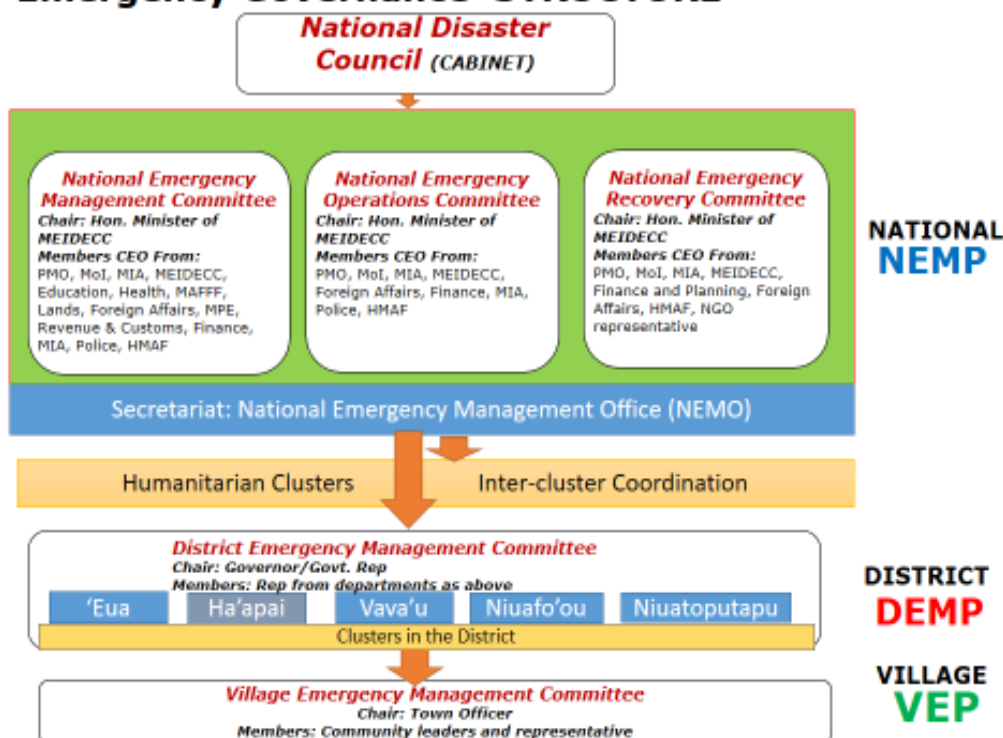
### Emergency Management Governance in Tonga

Emergency Management in Tonga is guided by Tonga Emergency Management Act, 2007 (EMA). The Cabinet of Tonga acts as National Disaster Council and holds all the power to decide, approve and endorse the policy and procedure. There are 3 tiers of execution, National Emergency Committees, District/Islands Emergency Committees and Village Emergency Committees. As per the EMA, at national level there are 3 committees, National Emergency Management Committee (NEMC); National Emergency Operation Committee (NEOC); and National Emergency Recovery Committee (NERC). National Emergency Management Office (NEMO) plays a secretariat role for all of these committees.

Similarly all the emergency management governance at districts/islands resides on District Emergency Management Committee (DEMC) which reports to NEMC. Village Emergency Management Committee (VEMC) is the emergency governing body at village level recognised through the Act.

In Feb 2015, Government of Tonga introduced the Humanitarian Cluster System to increase the effectiveness and coordination between and among the agencies participating in emergency preparedness and response in Tonga. The Clusters are now integral part of national emergency response in Tonga since then.

### Emergency Governance STRUCTURE



## Structure of Emergency Management Committees

### National Emergency Management Committee

Chair	Minister, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)
Members	<p>Chief Executive Officer of the Ministry;          Director;          Chief Secretary and Secretary to Cabinet;          Chief Executive Officer of the Ministry responsible for finance;          Chief Executive Officer of the Ministry responsible for agriculture;          Chief Executive Officer of the Ministry responsible for lands;          Chief Executive Officer of the Ministry responsible for health;          Chief Executive Officer of the Ministry responsible for education;          Chief Executive Officer of the Ministry of Foreign Affairs;          Chief Executive Officer of the Ministry responsible for public enterprises;          Chief Executive Officer of the Ministry responsible for infrastructure;          Commissioner of Police;          Commissioner for fire and emergency services;          Commander of His Majesty's Armed Forces;          Government Statistician; and          Secretary General of the Tonga Red Cross Society.</p>

### National Emergency Recovery Committee

Chair	Minister, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)
Members	<p>Chief Executive Officer of the Ministry;          Director;          Chief Secretary and Secretary to Cabinet;          Chief Executive Officer of the Ministry responsible for finance;          Chief Executive Officer of the Ministry responsible for internal affairs;          Chief Executive Officer of the Ministry responsible for infrastructure;          Chief Executive Officer of the Ministry responsible for public enterprises;          Secretary for Foreign Affairs;          Commander of His Majesty's Armed Forces;          Police Commander; and          Commissioner for Tonga Fire and Emergency Services.</p>

### National Emergency Operations Committee

Chair	Minister, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC)
Members	<p>Chief Executive Officer of the Ministry;          Director;          Chief Executive Officer of the Ministry responsible for internal affairs;          Chief Executive Officer of the Ministry responsible for infrastructure;</p>

	Commissioner of Police Commissioner for fire and emergency services; and Commander of His Majesty's Armed Forces.
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#### **District Emergency Management Committee**

Chair	Governor/Government Representative
Members	Appointed by Chair with the approval of the Minister of Works

#### **Village Emergency Committee**

Chair	Town Officer
Members	Appointed by the town officer with the approval of the Minister of Works

**Note:** All Committees have power to co-opt.

### **Role of the Committees**

#### **Function of National Emergency Management Committee**

- (a) make policy decisions of national significance relating to emergency management for the Kingdom;
- (b) coordinate the development and implementation of effective emergency management for the Kingdom;
- (c) approve and regularly review the National Emergency Management Plan;
- (d) ensure that operational procedures in the National Emergency Management Plan are regularly exercised;
- (e) have in place arrangements with other nations and relevant bodies to provide support to the Kingdom during major emergencies;
- (f) provide support to District Emergency Management Committees; and
- (g) coordinate effective emergency management and emergency response in communities before, during and after the impact of an event.

#### **Function of National Emergency Recovery Committee**

- (a) coordinate the recovery phase following any event that may impact on the Kingdom of Tonga;
- (b) carry out detail damage assessments in partnership with the District Emergency Management Committees;
- (c) coordinate the provision of emergency relief to those areas that have been affected by an event;
- (d) coordinate all recovery and rehabilitation works that are carried out in the affected area.

### **Functions of National Emergency Operation Committee**

- (a) activate ministries and organizations in response to an event that may happen, is happening or about to happen;
- (b) liaise with ministries , non government organizations and community groups in the execution of their emergency management roles and responsibility
- (c) carry out initial damage assessment;
- (d) collate and prioritize disaster relief requirements; and
- (e) manage the distribution of immediate relief supplies.

### **Functions of District Emergency Management Committee**

- (a) to prepare, and regularly review, a District Emergency Management Plan;
- (b) to develop and implement effective emergency management in the district in accordance with any relevant policies issued by the National Emergency Management Committee;
- (c) to provide reports and make recommendations to the National Emergency Management Committee about disaster risk reduction and emergency management activities in the district;
- (d) to regularly conduct exercises of operational procedures documented in the District Emergency Management Plan;
- (e) to provide support to communities to ensure effective emergency management in communities before, during and after the impact of an event;
- (f) to ensure community awareness of emergency management, including ways of mitigating, preparing for, responding to and recovering from an emergency;
- (g) to identify and coordinate the use of resources for emergency operations in the district;
- (h) to manage emergency operations in the district in accordance with any policies and procedures issued by the National Emergency Management Committee;
- (i) to establish and review communications systems in the district for use when an event threatens or an emergency happens; and
- (j) to ensure information about an event or an emergency in the district is promptly provided to the National Emergency Management Committee.

### **Functions of Village Emergency Management Committee**

- (a) to develop and implement effective emergency management in the village in accordance with any relevant policies issued by the National Emergency Management Committee;
- (b) to provide reports and make recommendations to the District Emergency Management Committee about disaster risk reduction and emergency management activities in the village;
- (c) to provide support to communities to ensure effective emergency management in communities before, during and after the impact of an event;
- (d) to ensure community awareness of emergency management, including ways of mitigating, preparing for, responding to and recovering from an emergency;
- (e) to identify and coordinate the use of resources for emergency operations in the Village
- (f) to manage emergency operations in the village in accordance with any policies and procedures issued by the National Emergency Management Committee;
- (g) to establish and review communications systems in the village for use when an Event that threatens or an emergency happens; and



(h) to ensure information about an event or an emergency in the village is promptly provided to the District Emergency Management Committee.

### **Frequency of Meetings**

The committees should meet on a regular basis, at least once each quarter in accordance with Section 25 of the Emergency Management Act 2007.

Administrative requirements for the National Emergency Management Committee and will be the responsibility of the National Emergency Management Office.

### **Reporting Requirements**

The National Emergency Management Committee will report annually (and at other times as may be directed) regarding its activities to the Cabinet. The annual report shall include such content as required by the Emergency Management Act 2007 and copies thereof shall be furnished to all members of the National Emergency Management Committee.

## **Emergency Management Plans**

### **National Emergency Management Plan (NEMP)**

It is the responsibility of the National Emergency Management Office, on behalf of the National Emergency Management Committee, to maintain the National Emergency Management Plan

### **District Emergency Management Plan (DEMP)**

It is the responsibility of the various District Emergency Management Committees to develop and maintain a District Emergency Management Plan, in accordance with Section 29. (1) of the Emergency Management Act 2007.

Copies of District Emergency Management Plans (along with any amendments made from time to time) are required to be submitted to the National Emergency Management Office for ratification, and are to be maintained as annexes to the National Emergency Management Plan.

### **Village Emergency Management Plan (VEMP)**

It is the responsibility of Village Emergency Management Committee (VEMC) and respective town officers in his/her capacity as a Chair of VEMC to develop and update VEMP as required and submit it to DEMC for the endorsement.

## Review of the Plan

The National Emergency Management Plan should be reviewed by a working group from the National Emergency Management Committee as follows:-

May-	NEMO (or Working group as formed) reviews and amends (as required) the main plan
June-	Draft plan submitted to full National Emergency Management Committee for acceptance/amendment
July-	Reviewed plan submitted to Cabinet for endorsement

The master contact list for all organisations/persons involved in the Kingdom's emergency management arrangements should be updated at each National Emergency Management Committee meeting and will be held by the National Emergency Management Office.

## Emergency Management Approach in Tonga

Although this plan has been named as National Emergency Management Plan as called by EMA, the Plan has taken comprehensive disaster risk management approach to combine both disaster risk reduction and emergency/disaster management activities in Tonga.



Disaster risk reduction refers to 'the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to 11 hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events'.

Emergency management refers to 'the organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps'.

Disaster risk management refers to 'the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster'.

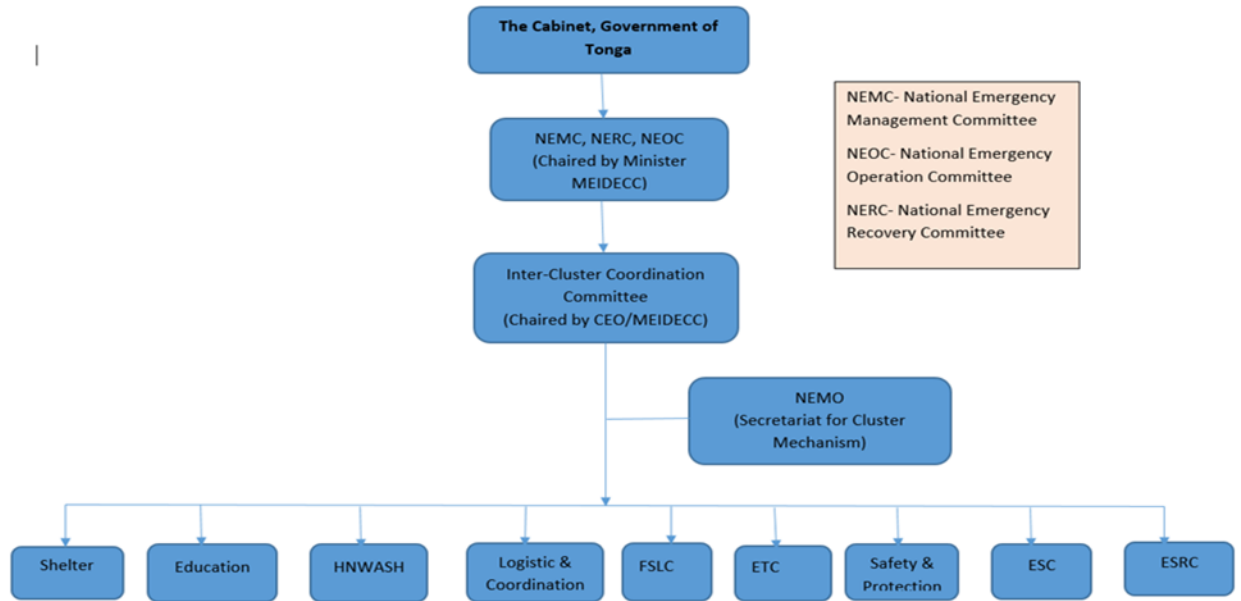
(Note: Definition/concept taken from 2009 UNISDR Terminology on Disaster Risk Reduction. [https://www.unisdr.org/files/7817\\_UNISDRTerminologyEnglish.pdf](https://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf))

**Cluster Approach:**

Government of Tonga through her Cabinet decision in Feb 2015 has established ten Cluster to increase the effectiveness and coordination for disaster preparedness and response in Tonga. Clusters are led by sectoral government Ministries/departments but represented by the agencies and organisation both government and non-government who are engaged and active in the sector. The table shows the name of cluster and respective lead agency.

Clusters	Lead Agencies	UN Agencies and External Support
Logistic and Coordination	NEMO/MEIDECC	WFP
Education	Ministry of Education	UNICEF
Health, Nutrition, Water, Sanitation and Hygiene (HN WASH)	Ministry of Health	WHO
Shelter and Non Food Items (NFIs)	NEMO/MEIDECC	IFRC
Safety and Protection	Ministry of Internal Affairs	UNICEF, UNWOMAN
Emergency Communication Cluster	Communication Department/MEIDECC	WFP
Food Security and Livelihood Cluster	Ministry of Agriculture, Food and Forestry	WFP
Essential Services	Ministry of Public Enterprises	WB, ADB
Economic & Social Recovery	Ministry of Finance	UN, WB, ADB

The Clusters are now integral part of any disaster preparedness and emergency response activities in Tonga. The Clusters are also increasingly working to mainstream disaster risk reduction and climate change adaptation into their regular program and budgetary framework. The chart below shows the governance structure for cluster system in Tonga.



### Cross cutting issues:

Government of Tonga has ratified many international and regional conventions and treaties which addresses specific needs of groups of people. Disaster affects everyone but generally have disproportionate impact to some groups of people for example women and children, people with disability, elderly people, people with some chronic diseases, people who are below poverty line etc. The disaster risk reduction and emergency management activities in Tonga put these groups of people in priorities in providing support and responding to the need. For the same purpose, the Safety and Protection cluster has been established to ensure the participation and engagement and hence safety and security of the groups with special needs.

### Emerging trends:

Climate change is no more a new trend for the region and Tonga. Tonga has duly recognized its exposure to the adverse impact of climate change and also recognized the overlap and inter linkages of climate change and disaster risk. Tonga has developed Joint National Action Plan (JNAP-II) on Climate Change and Disaster Risk Management and implementing the plan through different working groups formed under the plan. The JNAP and its implementation will remain a key priority for Tonga in coming years too.

Non Communicable Diseases (NCD) and Communicable Diseases (CD) both are prevalent in Tonga. From one of the report, over 90% of male adult in Tonga are either obese or overweight. NCDs and so-called 'lifestyle diseases' – particularly diabetes and associated cardiovascular and pulmonary diseases – account for 74 per cent of all deaths in Tonga. Tonga is prone to Dengue and other CDs too. Measles though didn't enter Tonga, but challenged the health system and capacity of nearby and most ethnically similar country, Samoa in year 2019. The global world has now been engulfed by COVID-19 and the life has been limited to the confinement of their home cell for global population. Though Tonga is fortunately COVID-19 free as of now but not so of the impact of COVID-19. Its economic and social impact is huge, more to be realized in future days. In all disaster risk management attempt, Tonga will take consideration of these both endemic and pandemic health risks and aim to put system and procedure in place to effectively respond to the crises.

Urbanization is another global trend as more than 50% world population are already living in urban space and figure will rise to 68% by 2050. While because of small population size, Tonga has not felt so much of urbanization but it is very likely that the capital cities will grow, especially Nuku'alofa to stretch its capacity to support the increase in population and to meet their needs. When the population is concentrated in one areas, then there is increase risks to life and livelihoods when disaster happens to that areas. Tonga will take this issue in consideration and will work on developing an appropriate land use as well as urban development strategy to ensure the safety and security of population in place.

## PART C

### Plan for Disaster Risk Reduction

#### Introduction

The purposes of this Part of the National Emergency Management Plan are to:

- a. establish an institutional strategy and program for reducing risks to national sustainable development, sustainable living, poverty alleviation and sound environmental management within the Kingdom of Tonga
- b. integrate *disaster risk reduction* into that strategy and program.

#### National Risk Reduction Strategy

A separate document to fully spell out National Risk Reduction Strategy for the Kingdom of Tonga will be developed following this Plan and will take an approach to mainstream disaster risk reduction and climate change in all aspects of Government Agency planning and operations. The National Disaster Risk Reduction Strategy to be developed and the Plan laid out here will follow the Sendai Framework for Disaster Risk Reduction (2015-2030) (SFDRR) and four Priority Action as laid out by SFDRR.

##### The Priority 1. Understanding disaster risk

Disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be used for risk assessment, prevention, mitigation, preparedness and response.

##### Priority 2. Strengthening disaster risk governance to manage disaster risk

Disaster risk governance at the national, regional and global levels is very important for prevention, mitigation, preparedness, response, recovery, and rehabilitation. It fosters collaboration and partnership.

##### Priority 3. Investing in disaster risk reduction for resilience

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

##### Priority 4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

The growth of disaster risk means there is a need to strengthen disaster preparedness for response, take action in anticipation of events, and ensure capacities are in place for effective response and recovery at all levels. The recovery, rehabilitation and reconstruction phase is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures.

## **National Risk Reduction Program**

The National Risk Reduction Program will accordingly be based upon and guided by SFDRR.

### **Implementing the Strategy and Program**

The introduction of the National Risk Reduction Strategy and Program requires the establishment of institutional arrangements within the Ministries to manage their development and implementation.

The development and implementation of the Kingdom of Tonga National Risk Reduction Strategy and Program shall be coordinated through National Disaster Risk Reduction Platform to be formed following this Plan.

### **The National Risk Reduction Process**

Includes instituting a program for developing a national risk reduction philosophy and awareness of 'risk' at senior officer levels in all government departments and agencies. As part of this program, those agencies with primary responsibility for the management of risks to national sustainable development, sustainable living, poverty alleviation and sound environmental management within the Kingdom of Tonga need to be identified.

The National Emergency Management Office is to establish a group to include senior members of those agencies, under a working group attached to the National Emergency Management Committee.

This group is to develop for Cabinet approval, the proposed National Risk Reduction Strategy and Program, to include as appropriate, the necessary information required for implementation of the strategy and

The group is also required to develop proposals for communicating the strategy and program. The group is also responsible for the ongoing monitoring and review of the strategy and program and for making regular reports to the NEMC on national risk reduction progress and issues.

### **Implementing the Program at National, District and Village Levels**

Guidance on the implementation of the National Risk Reduction Program at National, District and Village levels is included in this Part.

At national level the **National Risk Reduction Group**, in consultation with the **National Emergency Management Committee** in relation to disaster risk reduction issues, is responsible for the implementation of the program and for monitoring and reviewing its progress and regular reporting to Cabinet.

At District and Village levels the following are responsible for the implementation of the program and for its ongoing monitoring and review:

- at District level, the **District Emergency Management Committee**, reporting regularly to the National Emergency Management Committee, and
- at village level, the **Village Emergency Committee**, reporting regularly to its District Emergency Management Committee.

Within the Kingdom of Tonga, the National Emergency Management Office has specific responsibility for emergency management. In the performance of its emergency management role and tasks, however, it needs to be informed by:

- the outcomes of risk management assessments of risks from ‘natural hazards and related environmental and technological disasters’ which will allow the NEMO to develop programs for ‘minimizing vulnerabilities and disaster risks to lessen the adverse impacts of hazards within the broad context of sustainable development’ and
- national risk reduction strategy, and the implementation of national risk reduction programs, to allow the NEMO to address potential disaster risks which are unable to be avoided or satisfactorily mitigated through such national risk reduction programmes.

### **Developing and Implementing National Disaster Risk Reduction Program in Tonga**

The following steps will be followed in developing and implementing disaster risk reduction program in Tonga.

#### **Step 1: Support of National Government**

Develop a national risk reduction philosophy and awareness of ‘risk’ at senior officer levels in all government departments and agencies. This is facilitated through training, education and briefing of senior management.

- The active ongoing support of Cabinet is necessary.
- A senior minister or similar ‘champion’ and a Group need to sponsor the initiative.
- All senior officers shall give full support.

#### **Step 2: Develop the National Program**

Develop and document the National Risk Reduction Program integrated with relevant national sustainable development, sustainable living, poverty alleviation, and sound environmental management policies and programs. This program should be endorsed by the NEMC and implemented throughout all levels of government. The strategy for implementation may include information such as:

- the objectives of the program and the rationale for managing risk;
- the links between the program, government objectives and other relevant policies;
- the guidance on what may be regarded as acceptable risk;
- who is responsible for managing risks;
- the support/expertise available to assist those responsible for managing risks;
- the extent to which donors, non-government and civil society agencies can contribute to program development and implementation;
- the level of program documentation required; and
- the plan for reviewing program performance.



**Step 3: Communicate the Policy, Strategy and Program**

Develop, establish and implement an infrastructure to ensure that managing risk becomes an integral part of the planning, management processes and the general culture of the nation. This may include:

- establishing, under appropriate ministerial direction, a process for internal and external communications about the program;
- raising awareness about managing risks;
- communication/dialogue throughout the public and private sectors and with donors and non-government organizations about managing risk and the national policy;
- acquiring risk management skills, e.g. consultants, and developing the skills of staff through education and training;
- ensuring appropriate levels of recognition, rewards and sanctions; and establishing performance management processes.

**Step 4: Manage risks at national level**

Develop and implement a program for managing risks at national level through the application of the risk management system. The process for managing risks should be integrated with the national strategic planning and management processes. This will involve documenting:

- the national strategic, organizational and risk management context;
- the risks identified for the nation;
- the analysis and evaluation of these risks;
- the treatment strategies;
- the mechanisms to review the program; and
- the strategies for awareness raising, skills acquisition, training and education.

**Step 5: Manage risks at District and Village levels**

Develop and implement a program to manage the risks for each District area and Village activity through the application of the risk management process as outlined. The process for managing risks should be integrated with other planning and management activities. The process followed, the decisions taken, and the actions planned, should be documented.

**Step 6: Monitor and review**

Develop and apply mechanisms to ensure ongoing review of the risks at national, District and Village levels. This will ensure that the risk management program and its implementation remain relevant, as circumstances change over time and review of previous decisions is vital. The effectiveness of the risk management process itself should also be monitored and reviewed.

## **Organizational Arrangements for Disaster Risk Reduction**

At a meeting of the **National Emergency Management Committee**, the committee is to designate a **National Risk Reduction Working Group** composed of designated senior members of all the agencies represented on the Committee, including the NEMO. Working Group members should be agency representatives with responsibility for hazard/risk management within that agency.

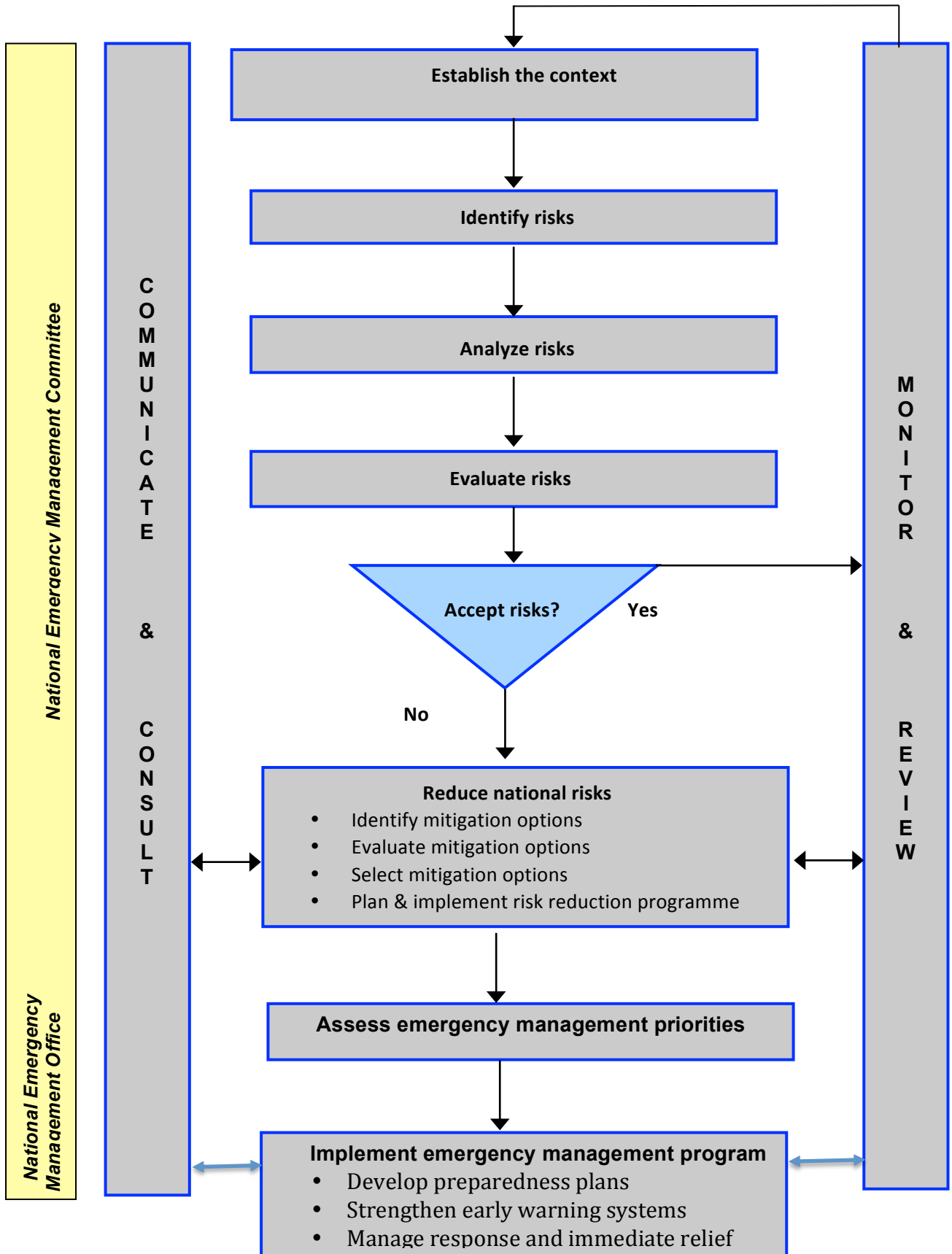
The role of the National Risk Reduction Working Group is to:

- develop for the National Emergency Management Committee a draft National Risk Reduction Program for the Committee's consideration and subsequently
- provide continuing support to the Committee, in particular by monitoring and reviewing the implementation of the National Risk Reduction Program.

After its development of the draft national risk reduction program and the implementation of the initial program, the National Risk Reduction Working Group is to meet regularly (and at least once each quarter) to undertake its monitoring, review and NEMC support tasks.

**Cluster System** as has been established in Tonga will play a pivotal role in driving the disaster risk reduction program and planning through their regular budget and planning processes.

**Logical Flow of Decision Making Processes for Disaster Risk Reduction and Emergency Management in Tonga**



## Part D

### Plan for Emergency Management

#### Introduction

This part of the plan replaces the existing 'National Disaster Plan and Emergency Procedures (1999)' and all preceding plans, and will establish comprehensive, integrated and whole-of-government institutional practices within the Kingdom of Tonga for undertaking emergency management activities.

Essentially, such activities are required to monitor and address risks which have been unable to be addressed or have been insufficiently addressed within existing or planned programmes or activities for the reduction of risks, as detailed in Part A - Disaster Risk Reduction, of this plan, and which are evaluated as having the potential to create an emergency.

Resulting preparedness, response and relief arrangements are also required to be flexible enough to cope with emergency situations which may arise from unexpected and/or unanticipated hazards that may not be addressed in the Preparation and Preparedness part of the plan.

It is for this reason that the document utilises an '*All Hazards*' or '*Functional*' approach to emergency management, where the focus is on the emergency support function to be performed, rather than the specific hazard being prepared for or responded to.

#### Role of National Emergency Management Office

As the lead agency for the co-ordination of the emergency management system in the Kingdom, the National Emergency Management Office has a responsibility to provide a 24 hour, 7 day response capacity.

Accordingly, staff from the National Emergency Management Office will provide a 'Duty Officer' service, whereby a member of staff will be rotated "on call" for a period to be determined by the Director.

The staff member on call will be required to be available to respond to any event immediately, and shall be provided with the Duty Officer mobile telephone and contact lists, and the National Emergency Management Office vehicle.

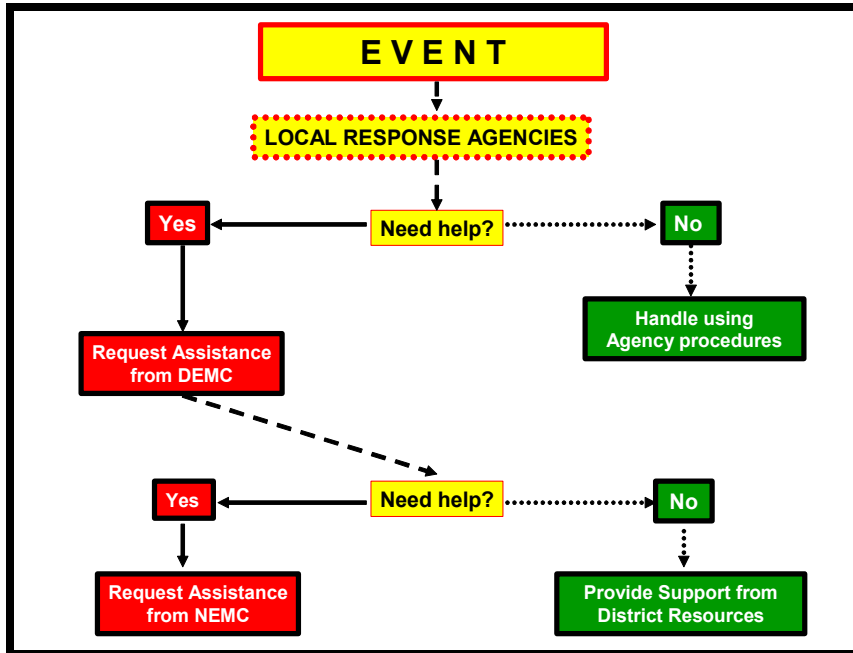
#### Assistance to Responding Agencies

Should the operational event be one which can be readily dealt with by the responding agencies, using the resources normally available to them, then there will be no necessity to activate the emergency management system operationally.

Activation of the emergency management system can occur when there is a need for:

- monitoring of potential threats or response operations;
- coordination of support to response operations being conducted by a response agency;
- coordination of resources in support of emergency response and recovery operations.

The emergency management system is designed in order that support can be provided from the lowest possible level. If the responding agencies need resource assistance, the emergency management system will provide it. A request from the lead responding agency will be made to the National Emergency Coordination Centre (NECC) housed at NEMO office.

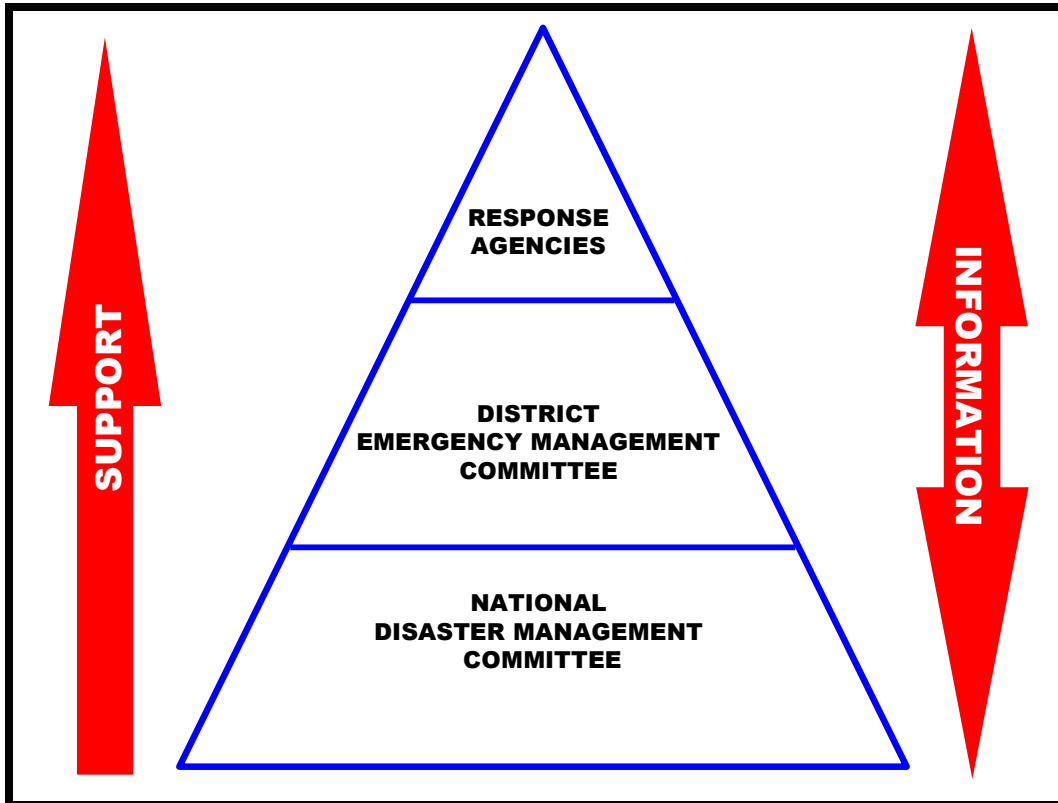


### Information and Support

This graphic depicts the support function of the emergency management system, and also the linkages from the responding agencies in the field to the National Emergency Operations Centre.

The graphic depicts “**support**” as being one-way – to the responding agencies.

It also depicts “**information**” as being a two-way process.



### Operation Roles of the Committees

#### Operational Function of the National Emergency Management Committee

- to make policy decisions of national significance relating to emergency management for the Kingdom;
- to have in place arrangements with other nations and relevant bodies to provide support to the Kingdom during major emergencies;
- to provide support to District Emergency Management Committees; and
- to ensure effective emergency management and emergency response in communities before, during and after the impact of an event.

#### Operational Function of National Emergency Recovery Committee

- to coordinate the recovery phase following any event that may impact on the Kingdom of Tonga;
- carry out damage assessments in partnership with the District Emergency Management Committees;
- coordinate the provision of emergency relief to those areas that have been affected by an event;
- coordinate all recovery and rehabilitation works that are carried out in the affected area.

### **Operational Function of National Emergency Operation Committee**

- activate departments and organizations in response to an event that may happen, is happening or about to happen;
- liaise with and guide departments, non government organizations and community groups in the execution of their emergency management roles and responsibilities;
- activate disaster assessment systems;
- collate and prioritize disaster relief requirements; and
- manage the distribution of immediate relief supplies.

### **Operational Function of District Emergency Management Committee**

- to provide support to communities to ensure effective emergency management in communities before, during and after the impact of an event;
- to ensure community awareness of emergency management, including ways of mitigating, preparing for, responding to and recovering from an emergency;
- to identify and coordinate the use of resources for emergency operations in the district;
- to manage emergency operations in the district in accordance with any policies and procedures issued by the National Emergency Management Committee;
- to establish and review communications systems in the district for use when an event threatens or an emergency happens; and
- to ensure information about an event or an emergency in the district is promptly provided to the National Emergency Management Committee.

### **Operational Function of Village Emergency Management Committee**

- to provide support to communities to ensure effective emergency management in communities before, during and after the impact of an event;
- to ensure community awareness of emergency management, including ways of mitigating, preparing for, responding to and recovering from an emergency;
- to identify and coordinate the use of resources for emergency operations in the village;
- to manage emergency operations in the village in accordance with any policies and procedures issued by the National Emergency Management Committee;
- to establish and review communications systems in the village for use when an event threatens or an emergency happens; and
- to ensure information about an event or an emergency in the village is promptly provided to the District Emergency Management Committee.

**Individual Clusters/Agency ToR, SOP and Business Continuity and Emergency Response Plans,**

It is the responsibility of individual clusters to develop and maintain their respective ToR, SOPs and Business Continuity and Emergency Response Plans.

Copies of individual Clusters ToR, SOPs and Emergency Response Plans (along with any amendments made from time to time) are required to be submitted to the National Emergency Management Office for ratification, and are to be maintained as annexes to the National Emergency Management Plan.

**Threat Specific Plans****National Oil Spill Response Plan**

The Ministry of Marine and Ports maintains a National Oil Spill Response Plan, which is linked to international planning arrangements, to deal with the response to an oil spill at sea.

The Ministry operates independently of the national emergency management system in relation to oil spills, but the national emergency management system will provide support as required to the Ministry's efforts, utilising the functional, or all hazards approach to emergency management.

**Airport Emergency Plans**

The Ministry of Civil Aviation/Transport maintains Emergency Orders for all airports in the Kingdom, to deal with various aviation and other emergency situations at or near airports.

The Ministry operates independently of the national emergency management system in relation to aviation incidents, but the national emergency management system will provide support as required to the Ministry's efforts, utilising the functional, or all hazards approach to emergency management.



## Capabilities, Roles and Responsibilities of Agencies involved in Emergency Management

The detail Terms of reference and Standard Operating Procedure and Work Plan for each of the cluster will be developed separately. Below table shows indicative areas of engagement for each agencies as listed who take parts in different clusters.

Agency	Capabilities, Roles & Responsibilities
<b>National Emergency Management Office</b>	<ul style="list-style-type: none"> <li>▪ Maintenance of the operational functioning of the National Emergency Management System</li> <li>▪ Development and maintenance of the National Emergency Management Strategies and the National Emergency Management Plan - Part 2: Emergency Management</li> <li>▪ Facilitation of a comprehensive approach to emergency management</li> <li>▪ Maintenance and operation of a National Emergency Co-ordination Centre, including the training of sufficient personnel to operate the Centre</li> <li>▪ Provision of a 24/7 point of contact for emergency management matters</li> <li>▪ Co-ordination of support to response agencies</li> <li>▪ Co-ordination of reconnaissance and post-impact assessment</li> <li>▪ Issuing of public information prior to, during and following emergency event impacts</li> <li>▪ Design and maintenance of a locally-based public education/awareness program, including multi-lingual information as appropriate</li> <li>▪ Membership of and provision of secretariat support to the National Emergency Management Committee</li> </ul>
<b>Ministry of Infrastructure</b>	<ul style="list-style-type: none"> <li>▪ Clearing of roads to enable access to affected areas</li> <li>▪ Maintenance of a transport resource register for the Kingdom</li> <li>▪ Leading the emergency impact assessment process and compilation of a full assessment report for the National Emergency Management Committee and Cabinet</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> </ul>
<b>Ministry of Lands, Survey and Natural Resources</b>	<ul style="list-style-type: none"> <li>▪ Provision of geo-technical information in relation to hazards and vulnerability</li> <li>▪ Provision of GIS (Geographic Information System) mapping</li> <li>▪ Provision of seismic information and warnings</li> <li>▪ Contribute to post-impact assessment processes</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> </ul>
<b>Tonga Water Board</b>	<ul style="list-style-type: none"> <li>▪ Provide and maintain reticulated water supply as installed in urban areas but increasingly need to cover the rural areas as well</li> <li>▪ Provide advice and assistance in relation to water provision in emergency affected areas</li> </ul>
<b>Tonga Police Force</b>	<ul style="list-style-type: none"> <li>▪ Preservation of peace and good order during emergencies</li> <li>▪ Prevention of crime during emergencies and at affected communities</li> <li>▪ Maintenance of any site as a possible crime scene</li> <li>▪ Coronial investigation procedures</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Traffic control, including assistance with road closures and maintenance of road blocks</li> <li>▪ Crowd control</li> <li>▪ Co-ordination of rescue operation</li> <li>▪ Co-ordination of evacuation operation</li> <li>▪ Patrols of evacuated areas for security purposes</li> <li>▪ Tracing, or co-ordination of search for, missing members of the community</li> <li>▪ Contribute to post-impact assessment processes</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> <li>▪ As a member 'First Responder Committee' Tonga Police also provides personnel to man the Emergency Operation Centre in 24/7 basis when there is activation.</li> </ul>
<b>Tonga Fire and Emergency Service</b>	<ul style="list-style-type: none"> <li>▪ Fire control</li> <li>▪ Fire prevention</li> <li>▪ General Rescue</li> <li>▪ Management of hazardous material situations</li> <li>▪ Provision of Material Safety Data Sheet information relative to hazardous materials</li> <li>▪ Advice relative to evacuation requirements as a result of a hazardous material incident</li> <li>▪ Contribute to post-impact assessment processes</li> <li>▪ As a member 'First Responder Committee' Tonga Police also provides personnel to man the Emergency Operation Centre in 24/7 basis when there is activation.</li> </ul>

<b>Ministry of Health</b>	<ul style="list-style-type: none"> <li>▪ Co-ordination of medical resources during emergencies.</li> <li>▪ Provision and maintenance of hospital and clinic facilities</li> <li>▪ Appropriate pre-hospital on-site medical and health response management for casualties</li> <li>▪ Public health advice and warnings to participating agencies and the community</li> <li>▪ Health education programs</li> <li>▪ Immunisation programs</li> <li>▪ Epidemiology/disease surveillance</li> <li>▪ Collection/dissemination of health information</li> <li>▪ Food and water testing capability</li> <li>▪ Psychological and counselling services for Emergency affected persons</li> <li>▪ Ongoing medical and health services required during the recovery period to preserve the general health of the community</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> <li>▪ Lead the health related emergency response in coordination with NEMO</li> </ul>
<b>Ministry of Education and training</b>	<ul style="list-style-type: none"> <li>▪ Provision of schools for temporary shelter as required</li> <li>▪ Promotion of Community Emergency Awareness and Preparedness through subject inclusion in curriculum</li> <li>▪ Contribute to post-impact assessment processes regarding damage to school buildings</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> </ul>

<b>Ports Authority and Marine services</b>	<ul style="list-style-type: none"> <li>▪ Assist in search and rescue operation</li> <li>▪ Maintenance of port areas to ensure minimal disruption to operations resulting from any emergency event.</li> <li>▪ Contribute to post-impact assessment processes</li> </ul>
<b>Ministry of Agriculture, Forestry and Food</b>  <b>Ministry of Fisheries</b>	<ul style="list-style-type: none"> <li>▪ Lead Agency role relative to any outbreak of emergency animal or plant disease</li> <li>▪ Control/containment of emergency animal diseases</li> <li>▪ Provision of temporary animal enclosures</li> <li>▪ Advice relative to stock matters</li> <li>▪ Destruction of stock or plants as required</li> <li>▪ Contribute to post-impact assessment processes</li> <li>▪ Advice to farmers relative to disaster recovery processes</li> <li>▪ Advice to farmers relative to crop protection</li> <li>▪ Link with FAO re immediate aid</li> <li>▪ Support Community Disaster Awareness and Preparedness Program through agricultural extension officers</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> </ul>
<b>His Majesty's Armed Forces (HMAF)</b>	<ul style="list-style-type: none"> <li>▪ Provision of HF Radio network as alternative back-up resource</li> <li>▪ Provision and maintenance of operations room facilities as an alternative National Emergency Co-ordination Centre</li> <li>▪ Provide air support to initial impact assessment</li> <li>▪ Support relief distribution</li> <li>▪ Support search and rescue operations</li> <li>▪ Provision of a representative to the National and District Emergency Management Committees</li> </ul>
<b>District and Town Officers</b>	<ul style="list-style-type: none"> <li>▪ Manage the Community Emergency Awareness and Preparedness program on behalf of the community</li> <li>▪ Disseminate warning messages within the community and ensure community members understand their meaning together with action to take</li> <li>▪ Initiate initial impact assessment within their community</li> <li>▪ Serve as the emergency management link between the community and the District/National Emergency Management Committees and the Government Representatives on the Niua and 'Eua</li> </ul>
<b>Tonga Red Cross</b>	<ul style="list-style-type: none"> <li>▪ Assist in public awareness campaign and Emergency management training activities through national headquarters and branch officials</li> <li>▪ Contribute to post-impact assessment processes</li> <li>▪ Provision of relief supplies, emergency shelter, and first aid service for disaster affected people as appropriate, in co-ordination with Emergency Management Tonga</li> <li>▪ Seek assistance from the International Federation of Red Cross and Red Crescent Societies for international relief when required</li> <li>▪ Ensure adequate supply of blood is available at the Tonga Blood Bank, Vaiola Hospital</li> <li>▪ Assist in tracing of missing persons</li> <li>▪ Provision of a representative to the National Emergency Operation Centre</li> </ul>

<p align="center"><b>Civil Aviation/Transport</b></p>	<ul style="list-style-type: none"> <li>▪ Maintenance of all airports within the Kingdom</li> <li>▪ Provision of operational airports for use as required in emergency response and recovery operations</li> <li>▪ Provision of air traffic co-ordination services to facilitate extra traffic which may be expected during emergency response and recovery operations</li> </ul>
<p align="center"><b>Tonga Meteorological Service</b></p>	<ul style="list-style-type: none"> <li>▪ Provision of public weather forecasting service</li> <li>▪ Provision of meteorological and related environmental services in support of national emergency management requirements</li> <li>▪ Provision of Special Weather Bulletins in relation to severe weather events</li> <li>▪ Provide 24hrs service for weather and tsunami warnings.</li> <li>▪ Assist NEMO with public awareness raising and advice on weather related issues</li> </ul>
<p align="center"><b>Ministry of Foreign Affairs</b></p>	<ul style="list-style-type: none"> <li>▪ Provide the link between the National Emergency Management Committee and the Diplomatic Corps in Tonga</li> <li>▪ Co-ordinate the Kingdom's external relations, and liaise with overseas countries/agencies on aid issues</li> <li>▪ Provision of a representative to the National Emergency Management Committees</li> </ul>
<p align="center"><b>Customs and Quarantine</b></p>	<ul style="list-style-type: none"> <li>▪ Establish procedures for the clearance of personnel, vessels, aircraft and goods during emergency relief operations</li> <li>▪ Develop and enforce procedures to expedite clearance of emergency relief supplies and for reconstruction and rehabilitation purposes</li> </ul>
<p align="center"><b>Ministry of Finance</b></p>	<ul style="list-style-type: none"> <li>▪ Management of the financial aspects of relief operations including the recording of donor contributions</li> <li>▪ Preparation of a financial record of expenditure following major operations</li> <li>▪ Provision of a representative to the National Emergency Management Committee</li> <li>▪ Assistance in the co-ordination of the recovery and reconstruction process</li> <li>▪ Provision of a representative to the National Emergency Management Committees</li> </ul>
<p align="center"><b>Tonga Power Limited</b></p>	<ul style="list-style-type: none"> <li>▪ Maintenance of electrical power supply</li> <li>▪ Advice Government on power related issues during emergencies</li> </ul>
<p align="center"><b>Tonga Communications Corporation (TCC)</b></p>	<ul style="list-style-type: none"> <li>▪ Maintenance of a national telecommunication capacity, including land-line, mobile telephone, satellite telephone and internet services</li> <li>▪ Advice Government on capacity status during emergencies</li> </ul>
<p align="center"><b>Tonga Broadcasting Corporation</b></p>	<ul style="list-style-type: none"> <li>▪ Provision of emergency related public information as advised by NEMO</li> <li>▪ Broadcast of Special Weather Bulletins and other information in conjunction with the Tonga Meteorological Service.</li> </ul>

## Operational Lead Agencies

### Co-ordination of emergency operations

The under mentioned organizations have agreed to assume the Lead Agency coordinating role for the operational response to the following threat situations.

It is stressed that the role is one of co-ordination and not control.

Event	Coordinating Agency
Emergency Animal or Plant Disease	Ministry of Agriculture, Forestry and Food
Fire	Tonga Fire and Emergency Services
Cyclone/Storm/Flood/Landslip/Earthquake/Volcanic Eruption/Tsunami	National Emergency Management Office (on behalf of the National Emergency Management Committee)
Hazardous Material Event	Tonga Fire and Emergency Services
Human Epidemic	Ministry of Health
Major Infrastructure Failure	<u>Power:</u> Tonga Electrical Power Board <u>Communications:</u> Communications Department, Prime Minister's Office and TCC
Major Transportation Event	MOI, Tonga Fire and Emergency Services, Tonga Police Force
Terrorist Activity	Tonga Police Force/ His Majesty's Armed Forces
Water Contamination	Ministry of Health
Oil Spill	Marine and Port & Port Authority/ Ministry of Infrastructure
Plane Crash	Police/Tonga Fire and Emergency Service/Civil Aviation

## National Emergency Response Procedures

Activation of the emergency management system will occur when there is a need for:

- monitoring of potential major threats or response operations;
- co-ordination of support to response operations being conducted by a response agency or agencies;
- coordination of resources in support of emergency response and relief operations.

Event	National Emergency Management Office Action	National Emergency Operations Committee Action
Initial Advice of Impending Hazard Event	<ul style="list-style-type: none"> <li>✓ Receive information requiring activation of the emergency management system.</li> <li>✓ Obtain independent confirmation if practicable.</li> <li>✓ Notify Minister</li> <li>✓ Notify National Emergency Management Committee and National Emergency Operations Committee members and advise members of the Diplomatic Corps</li> <li>✓ Notify NEMC member organisations and remind them about the activation of their business continuity and emergency response plans</li> <li>✓ Ensure that the National Emergency Operation/Coordination Centre is on standby</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure that individual agency Business Continuity and Emergency Response Plans are ready for activation</li> </ul>
For ALL events requiring an activation of the emergency management system	<ul style="list-style-type: none"> <li>✓ Instigate contact with District Emergency Management Committees (DEMC) for the area(s) affected or likely to be affected by the event</li> <li>✓ Check the emergency communications systems for the area(s) affected or likely to be affected by the event</li> <li>✓ Activate Public Information Plan advising public of what to do in preparation for likely impact</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure that District Emergency Committees are aware of the situation and have their Emergency Response Plans ready for activation</li> </ul>
For cyclonic	<ul style="list-style-type: none"> <li>✓ Liaise with TMS on progress of event</li> </ul>	

**events -  
(12-24 hours  
from expected  
impact)**

✓ Maintain contact with relevant DEMC's

✓ With TMS, brief NEOC on current situation and the possible requirement for evacuation.

✓ Liaise with TMS on progress of event

✓ Upgrade activation of NECC to maximum staffing on a 24 hour basis

**For cyclonic  
events -  
(0-12 hours from  
expected  
impact)**

✓ Activate the cluster system

✓ Update Minister and NEOC as appropriate

✓ Maintain contact with DEMC's

✓ Maintain public information, through live radio broadcasts

✓ Maintain liaison with TMS

✓ Maintain contact with DEMC's, if possible

**Cyclone Impact**

✓ Update Minister and NEOC as soon as practicable

✓ Maintain public information, through live radio broadcasts

**Post Impact  
(Within 24-48  
hrs)**

✓ Liaise with TMS as appropriate.

✓ Collect Situation Reports from affected districts

○ Response Agencies to be on stand-by (Police, TDS, NGO's, MOI etc.)

○ Meeting of NEOC (with relevant observers –Diplomatic corps etc.)

○ Assess the likely requirement for an evacuation order

○ Recommend the closure of schools

○ Instigate staged closure of Government offices

○ Activate individual agency business continuity and emergency response plans

○ Monitor event as it approaches the country

○ Monitor situation

○ Ensure public are regularly informed

○ Instigate liaison with District representatives

<b>For ALL events requiring an activation of the disaster management system</b>	<ul style="list-style-type: none"> <li>✓ Maintain public information, through live radio broadcasts</li> <li>✓ Instigate contact with District Emergency Management Committees from affected areas</li> <li>✓ Receive initial situation reports and impact assessment information from District Emergency Management Committees</li> <li>✓ Brief NEOC and NEMC as to overall initial impact assessment</li> <li>✓ Identify whether there is a need to recommend Initial Damage Assessment (IDA) team to conduct formal Initial Damage Assessment</li> <li>✓ Prepare consolidated Initial National Situation Report</li> <li>✓ Distribute Initial National Situation Report to: <ul style="list-style-type: none"> <li>▪ Minister &amp; NEMC</li> <li>▪ Diplomatic Corps and donor partners</li> <li>▪ Media</li> <li>▪ External Stakeholders</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Provide individual agency initial damage impact assessments to the NEOC</li> <li>○ Identify initial relief requirements</li> <li>○ NEMC Meeting</li> <li>○ Activate National Damage Assessment Team to the affected area(s), if required</li> <li>○ Activate emergency relief operations as required</li> <li>○ Provide information relative to the Initial National Situation Report</li> <li>○ Evaluate and/or analyse situation reports to determine extent of damage and decide whether a state of Emergency should be recommended</li> <li>○ Conduct Press release on overall situation</li> </ul>
<b>Post Impact (Within 48-72 hours)</b>	<ul style="list-style-type: none"> <li>✓ Consolidate Situation Reports from all agencies involved in the response to the event.</li> <li>✓ Prepare a formal National Situation Report, and repeat on a daily basis until the event management is ceased.</li> </ul>	<ul style="list-style-type: none"> <li>○ Confirm Situation Report to determine if a State of Emergency should be declared for the affected areas and take necessary steps to that effect.</li> <li>○ National Emergency Recovery Committee activated</li> </ul>
<b>For ALL events requiring an activation of the disaster</b>	<ul style="list-style-type: none"> <li>✓ Provide comprehensive briefing to the Minister, and the NEMC</li> <li>✓ Distribute Formal National Situation Reports to:</li> </ul>	<ul style="list-style-type: none"> <li>○ Co-ordinate emergency relief activities</li> <li>○ Liaise with Foreign Affairs on</li> </ul>



**management system**

- Minister
  - NEMC
  - Diplomatic Corps and donor partners
  - Media
  - External stakeholders
- overseas emergency relief assistance as required
- ✓ Maintain 24 hour NEOCC maximum staffing as required
  - o Provide Customs/Immigration/Quarantine support for any incoming international emergency relief supplies and personnel
  - o Press Release

**Operational Stand Down**

- ✓ Confirmation check of communications systems
- ✓ Conduct NEOC operational de-brief
- o Final NEOC Meeting – Operational Debrief
- o Final NEMC Meeting
- ✓ Complete and submit final National Situation Report
- ✓ Complete any other post-operational reports required.

## PART E

### Priority Actions

#### List of Indicative Priority Areas for NEMO for 2020 - 2023

No	Item	Timeline
1.	Finalized EMA	End of 2020
2.	Finalised Strategic Roadmap for Emergency Management (SREM) in Tonga	End of 2020
3.	Disaster Risk Management Regulation Developed	Mid of 2021
4.	NEMO new office resourced with tools and equipment as required	End of 2021
5.	Emergency Operation Centre established and equipped both at national and districts	End of 2021
6.	Robust Organizational Structure	End of 2021
7.	Well established prepositioning in all district offices	End of 2021
8.	Hazard and vulnerability database for whole of Tonga	End of 2021
9.	Development of National Disaster Risk Management Policy Framework	End of 2021
10.	A clear guidelines on Evacuation Centre Management and disaster displacement is disaster events	End of 2020
11.	Conducting Multi-Hazard Risk Assessment for the whole of Tonga and development of GIS Mapping of risk and vulnerability	End of 2022
12.	Clear linkage established between NEMC, DEMC and VEMC with DEMP and VEMP supported with funding and resources	End of 2022
13.	Strong Organizational Set Up for Cluster Systems with each cluster having designated cluster coordinator and resources to operate	End of 2022
14.	Disaster Risk Reduction and climate change fully mainstreamed through Public Finance Management system in Tonga	End of 2023

### Training Program

The NEMC will ensure that a suitable emergency management training program is designed and implemented, in collaboration with any training provided by/through the National Emergency Management Office. The training program will include specific training, through workshops, discussion forums and formal instruction, in order to maintain the emergency management knowledge and understanding of all participants at the highest possible level.

The NEMO will arrange for members of the NEMC to be made aware of training courses being offered by/through the South Pacific Applied Geoscience Commission (SOPAC) or any other appropriate agency.

### **Public Education**

The community is to be informed of the emergency management arrangements the Kingdom has in place by the conduct of public meetings, information distribution, newspaper articles, advertisements and brochures as follows.

### **Government Offices**

The National Emergency Management Office is to ensure each Government public office has on display any public awareness material available

The current copy of the National Emergency Management Plan is to be available for public viewing in the National Emergency Management Office.

### **Business**

The National Emergency Management Office should ensure all Tourist Information Centres, Resorts and other centres have ample supplies of brochures and information on the Kingdom's emergency management arrangements.

### **Industry**

The National Emergency Management Office will conduct meetings with industry groups to ensure their members are aware of the Kingdom's emergency management arrangements.

### **Community**

The National Emergency Management Office will conduct public information sessions to present the current arrangements in place to assist the community to prepare for potential hazard impacts or threats. Such meetings should be held in all areas of the Kingdom, and should be available in Tongan and English language versions.

### **Media**

The National Emergency Management Committee will provide a media release on the adoption of the new National Emergency Management Plan, and following any subsequent annual updates of the Plan.

The National Emergency Management Office will arrange for a disaster preparedness information page for inclusion in local newspapers at appropriate times.

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