



# *(Mauritius)* Tsunami Ready Report

**Shivane Appadoo**

*Coordinator for Community Mobilisation  
National Disaster Risk Reduction and Management Centre  
shappadoo@govmu.org*

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# National Disaster Risk Reduction and Management Centre

Acts as the main institution for the Republic of Mauritius for **planning, organizing, coordinating and monitoring** disaster risk reduction and management activities.

- **Vision:** A safe, adaptive and resilient nation
- **Mission:** To proactively reduce disaster impacts to the lowest possible level with available local and external resources.
- **Core Values:** Commitment; Coordination, Innovation; Partnership; Shared Responsibility; Timeliness

# Community Tsunami Preparedness Programme



- **What is your country's ongoing community tsunami preparedness programme?**

## Situation in Mauritius regarding Tsunamis

- ❑ Following the Indian Ocean-wide disaster caused by the December 26, 2004 Tsunami, it became evident that any country in the Indian Ocean could be under the potential threat of such a natural hazard at any time.
- ❑ For tsunami hazard, the arrival time of the tsunami on Mauritius is about 6 to 7 hours (duration for earthquakes happening in Indonesia or in Makran).
- ❑ In case of a tsunamigenic earthquake has occurred, there are 3 Tsunami Service Providers (TSP) namely India, Indonesia and Australia which issue earthquake information bulletins and advisories.

# Community Tsunami Preparedness Programme



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## Preparedness Programme

### **Tsunami Warning System in Mauritius – Watch, Warning and Termination**

- ✓ The Mauritius Meteorological Services is designated as the National Tsunami Warning Centre for the Republic of Mauritius. It is responsible for Earthquake and Tsunami monitoring and issuance of warning.
- ✓ Apart from an MRIV (seismometer) station at Vacoas, monitoring is done through USGS and CISN websites. Earthquake and tsunami monitoring is done on a 24/7 basis by the staff of the Mauritius Meteorological Services (MMS). Once an earthquake of magnitude 5.0 or above has occurred, the MMS is notified through an alarm system in place.

# Community Tsunami Preparedness Programme



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## Preparedness Programme

### ❑ **Tsunami Warning System in Mauritius – Watch, Warning and Termination**

- ✓ The Tsunami Warning System in Mauritius has taken into consideration the degree of risk as well as the time factor. In virtue of its geographical location, Mauritius and Rodrigues have a lead-time of 5-7 hours before tsunami waves are likely to reach their coasts from either the Sumatra or the Makran source.
- ✓ The Tsunami Warning System consists of:

#### **1. Tsunami Watch**

This bulletin implies that a strong earthquake, generally of the magnitude greater than or equal to 7.0 on the Richter Scale, has occurred in a region adjacent to the Indian Ocean and the likelihood of a tsunami being generated is evoked. The bulletin is issued as a means of providing an advance alert to areas that could be impacted by destructive tsunami waves. At this stage, the public, sea-goers and fishermen in particular will be advised not to venture out at sea or on the beach, boats to be secured ashore and vessels to proceed off lagoon.



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## Preparedness Programme

- **Tsunami Warning System in Mauritius – Watch, Warning and Termination**

### **2. Tsunami Warning**

This bulletin confirms that a destructive tsunami will affect Mauritius / Rodrigues within the next 5-7 hours. In case the incident point is closer to Mauritius / Rodrigues, the lead-time will be correspondingly lesser. Plan for the evacuation of vulnerable coastal areas will be implemented.

### **3. Termination Bulletin**

This bulletin will be issued after information from the Police, Fisheries post, Environment Officials, observations from tide gauges at Port Louis and Port Mathurin and general sea state observation confirm that significant tsunami waves are no longer being noted

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### ❑ **NDS 2015: Tsunami Emergency Scheme**

The National Disaster Risk Reduction and Management Centre (NDRRMC) stands guided by the National Disaster Scheme (NDS) 2015 which is a functional document to support agencies and stakeholders in understanding and undertaking their roles, responsibilities and actions in emergencies before, during and after. Provision was made in this document for a Tsunami Emergency Scheme to:

- a) Ensure co-ordination of the standing procedures of concerned stakeholders in the event of an emergency situation,
- b) Save life and protect property in coastal regions and other vulnerable areas of Mauritius, Rodrigues, Agalega and St. Brandon
- c) Provide recovery assistance to the affected local communities.

It is to be noted that the National Disaster Scheme 2015 is actually under review.

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## Preparedness Programme

### **☐ Sensitisation/Community Disaster Response Programme/Simulation Exercises**

Since 2019, the NDRRMC has organised a total of 78 sensitisation programmes aimed at educating and preparing the general public for potential disasters, with a particular focus on tsunami preparedness. In addition, through the Community Disaster Response Programme which fundamentally rest on the concept of 'Self Help and Mutual Help', tsunami awareness programs are also included

An annual simulation calendar is prepared by the NDRRMC after consultation with the Local Authorities whereby each Municipal and District Council plans for simulation exercise for the communities within their jurisdiction. Simulation exercises for tsunami preparedness are being conducted in vulnerable coastal regions namely Quatre Soeurs, Grand Gaube, Belle Mare, amongst others, which aims at enhancing community resilience and response capabilities.



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## Preparedness Programme

### **Indian Ocean Wide-Tsunami Wave Exercise (IOWAVE)**

The purpose of the IOWAVE exercise is to simulate Indian Ocean countries being put in a tsunami warning situation and require National Tsunami Warning Centres (NTWCs) and the National and/or Local Disaster Management Offices (NDMO/LDMO) in each country to activate their Standard Operating Procedures (SOPs). The primary motive for IOWave exercise is also to enhance tsunami preparedness at community level. Other benefits include strengthening coordination throughout the region and evaluate response capabilities of our country.

NDRRMC, Local Authorities, public and private organisations including hotels and schools also participated in the Regional Exercise which was carried out in 2014, 2016, 2018, 2020 and 2023. The exercise also aims to test operational lines of communications at national, local and community levels and as well promote Tsunami emergency and community preparedness. During the previous exercises in which Mauritius participated, real evacuations have been carried out during the simulation exercises at the level of local authorities.

# Community Tsunami Preparedness Programme



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## Preparedness Programme

### **Contingency Plans**

Contingency Plans for evacuation of coastal areas in case of a Tsunami have also been prepared at the level of Local Authorities found in coastal areas. These plans comprise of evacuation procedures such as identification of vulnerable persons who will need assistance for evacuation, identification of assembly points and procedures to reach the Safe Haven.

These Plans are regularly tested through Simulation Exercises involving the vulnerable communities and are updated accordingly, if required.

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## Preparedness Programme

### **Communiqués**

At each stage of a tsunami warning—watch, warning, and termination—the National Disaster Risk Reduction and Management Centre (NDRRMC) will issue timely and detailed communiqués to a broad range of stakeholders. These stakeholders include the Press, Social Media platforms, Police Departments and Divisions, the Mauritius Ports Authority, leisure and tourist operators, the fishermen community, Local Authorities, and Smart Mobile Applications such as Emergency Alert and My.T Weather. The communiqués are comprehensive and encompass precautionary measures that need to be taken during the watch, warning, and termination of the tsunami.

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## Preparedness Programme

### **The National Multi-Hazard Emergency Alert System (NMH-EAS)**

The National Multi-Hazard Emergency Alert System (NMH-EAS) undertaken by the NDRRMC in line with Sendai Framework and by virtue of Section 9(2) (f) of the NDRRM Act 2016 consists of a high-performance system using a Common Alert Protocol (CAP) standard to disseminate alert messages to targeted stakeholders.

During Tsunami warning, alert messages will be sent to specific targeted stakeholders including but not limited to Police Information Operation Room, Police Divisions & Police Stations, National Coast Guard Ops Room, SMF Ops Room, MFRS Main Control Room, & MFRS All Stations, Officials from the Ministry of Blue Economy, Fisheries Protection Service Posts, Ministry of Tourism, , Beach Authority and District Councils responsible for coastal districts such as Pamplemousses, Riviere du Rempart, Flacq, Grand Port, Savanne, Black River, Port Louis).

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### **Quatre Soeurs Refuge Centre**

As part of the Adaptation Fund Project, a dedicated Refuge Centre, first in its kind of an approximate area of 1000 m<sup>2</sup> resilient to flooding and coastal inundation has been constructed in the village of Quatre Soeurs in 2018. The hi tech, user-friendly, eco-friendly and sustainable building will serve as an emergency escape haven from coastal inundation, Tsunami, storm surges and other natural calamities to demonstrate infrastructure alternatives to minimize flooding risk in the future.

The Quatre Soeurs Refuge Centre is the sole shelter found in a tsunami prone area which can be used due to its elevated structure. However other shelters not found in the coastal regions could be used to accommodate evacuees. The objective is to increase climate resilience of communities and livelihoods in coastal areas around Quatre Soeurs region through the application of adaptation measures to protect vulnerable coastal ecosystem and community features.

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### **Vulnerability Maps for Coastal Areas**

The Mauritius Oceanography Institute (MOI) was mandated by the Prime Minister's Office to develop a tsunami preparedness map to identify areas of the coastal zones that would be at risk in the event of a tsunami. In this context, the MOI worked on model estimating inundation due to a tsunami and developed a tsunami inundation map for Mauritius and Rodrigues.

The Maps are used during Tsunami SIMEX



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- Operational Study on Coastal Risks Assessment for Mauritius and Rodrigues (Coastal Erosion and Marine Flooding)**

BRGM (the French Geological Survey) carried out a study on the vulnerability of the 'Republic of Mauritius to Earthquake and Tsunami hazards' in 2019, in close cooperation with the NDRRMC. The objective of the study was to carry out a desktop study on the vulnerability of the Republic of Mauritius to Seismic Hazards and Tsunami to identify potential seismic hazards and tsunamic activities in the SWIO region and their impacts on the Republic of Mauritius and recommend measures to strengthen the resilience of the population.

Many recommendations have resulted from this work. Among them, the need for the Republic of Mauritius to conduct an in-depth study of the coastal risks to which its islands are exposed, as the country's maritime borders are the site of many social and economic challenges. It is in this context this project has been contextualised. The Leading Agency for this project is the Ministry of Environment, Solid Waste Management and Climate Change.

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- World Tsunami Awareness Day**

In December 2015, the UN General Assembly designated 5 November as World Tsunami Awareness Day, calling on countries, international bodies and civil society to raise tsunami awareness and share innovative approaches to risk reduction.

The National Disaster Risk Reduction and Management Centre with the support of the United Nations Office for Disaster Risk Reduction organised a symbolic march involving the participation of some 250 persons comprising of local inhabitants, UNDRR participants, Officers from NDRRMC as well as Local Authorities, the Police, persons with disabilities, Senior Citizens, Community Disaster Response Team, the Mauritius Fire and Rescue Service, the Mauritius Red Cross Society and Officers from different Ministries such as Environment, Education, Blue Economy amongst others, from Deux Freres to the Quatre Soeurs Refuge Centre in the context of World Tsunami Awareness Day. The aim was to increase access to early warning systems to the community vulnerable to tsunami under the hashtag **#reachforhighground**. The walk was an engaging event in order to raise awareness of tsunami risk and what to do in case of an emergency.

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# Technical Support Requirements

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- **What kind of technical support is required to implement the UNESCO-IOC Tsunami Ready Recognition Programme (TRRP) in your country?**
  - **Maps for dissemination of Tsunami Information to the general public, especially in coastal areas**
  - **Capacity Building with regards to Sensitise the vulnerable communities with regards to Tsunami**
  - **Capacity Building and Technical Assistance for all concerned actors regarding Tsunami**
  - **Regional exchange programmes for sharing of experiences and best Practices**



# “Thank You”



**National Disaster Risk Reduction & Management Centre (NDRRMC)**

Corner Louis Pasteur, Sir Virgil Naz and Eugene Laurent Streets,  
6<sup>th</sup> Floor, Citadelle Mall, Port Louis  
Republic of Mauritius

**Phone:** (+230) 2073900

**Fax:** (+230) 2073927

**Email:** [disaster@govmu.org](mailto:disaster@govmu.org)

**Website:** <https://ndrrmc.govmu.org>

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