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1.1 ICG/IOTWMS Capacity Assessment of Tsunami Preparedness in the Indian Ocean: 2018 and beyond

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Background of the Capacity Assessment of Tsunami Preparedness in the Indian Ocean



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The 2018 Capacity Assessment is a follow-on study to the 2005 assessment where missions were conducted to 16 countries affected by the 2004 Indian Ocean Tsunami.

The ICG/IOTWMS at its 11th session in Putrajaya, Malaysia (2017) decided to establish a Task Team to design and conduct an extensive online survey covering all aspects of the end-to-end tsunami warning and mitigation system.

The 2018 assessment provides a new baseline of the status of tsunami preparedness capacity in the region.

The online survey forms the dataset for the 2018 Status Report on Capacity Assessment of Tsunami Preparedness in the Indian Ocean.

20 Indian Ocean countries have provided input to the Capacity Assessment

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Task Team on Capacity Assessment of Tsunami Preparedness (2017-2019)



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Chair: Dr. Harkunti Pertiwi Rahayu (Indonesia)

Vice-Chair: Ms. Vijaya Sunanda Manneela (India)

Members:

Mr. Ardito Kodijat (IOTIC)

Dr. Yuelong Miao (Australia)

Mr. Al-Yaqdan Al-Siyabi (Oman)

Mr. Budiarta (Indonesia)

Mrs. Eny Supartini (Indonesia)

Mr. Saw Bun Liong (Malaysia)

Invited Experts:

Prof Dilanthi Amaratunga (GDRC - University of Huddersfield)

Mr. Rick Bailey (Resource Person from ICG/PTWS)

Prof. Richard Haigh (GDRC - University of Huddersfield)

ICG/IOTWMS Secretariat:

Dr. Srinivasa Kumar Tummala and Ms. Nora Gale

TT-CAPT Intersessional Meetings



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First meeting held at BMKG, Jakarta, September 2017



Second meeting held at INCOIS, Hyderabad, July 2018

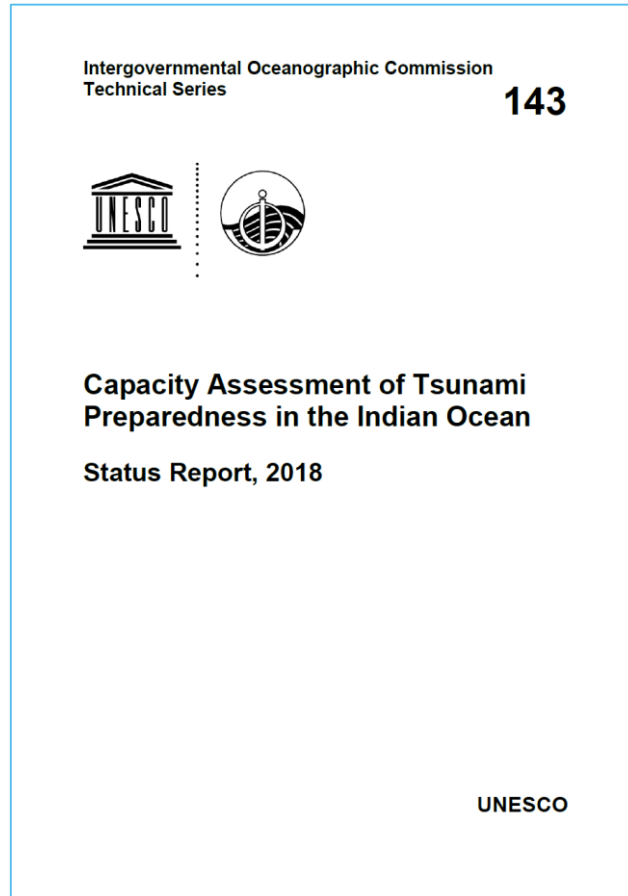
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IOC Technical Series 143: Capacity Assessment of Tsunami Preparedness in the Indian Ocean (2018)

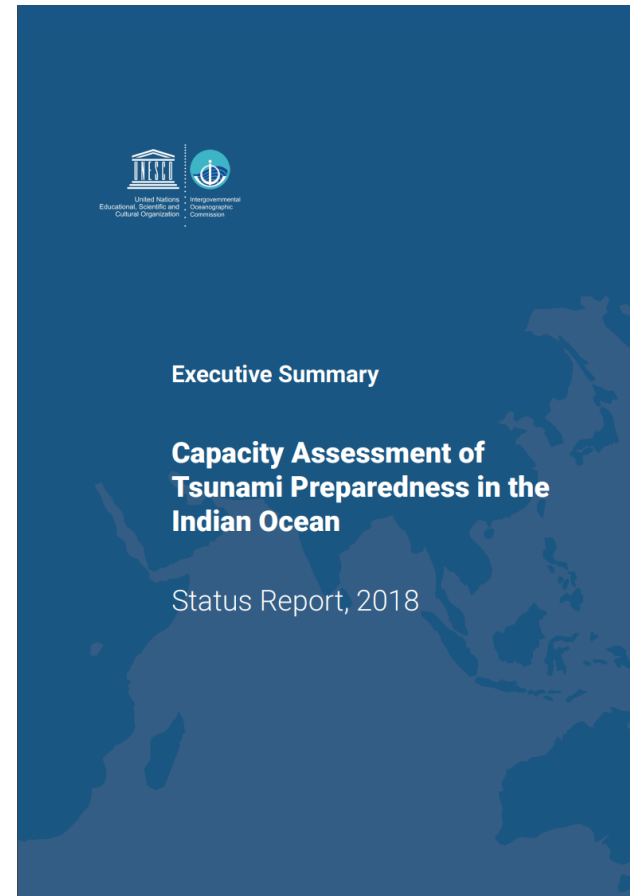


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Status Report



Executive Summary

1.1 ICG/IOTWMS Capacity Assessment of Tsunami Preparedness in the Indian Ocean: 2018 and beyond

2018 Capacity Assessment Report

The report address the areas:

- 1) Policies, plans and guidelines;
- 2) Risk assessment and reduction;
- 3) Detection, warning and dissemination;
- 4) Public awareness, preparedness and response;
- 5) Recommendations to address policy gaps and support requirements.

It also identifies specific gaps and prioritises capacity development requirements at both regional and national levels.

A summary of each responding country (20) is provided in Annex IV.

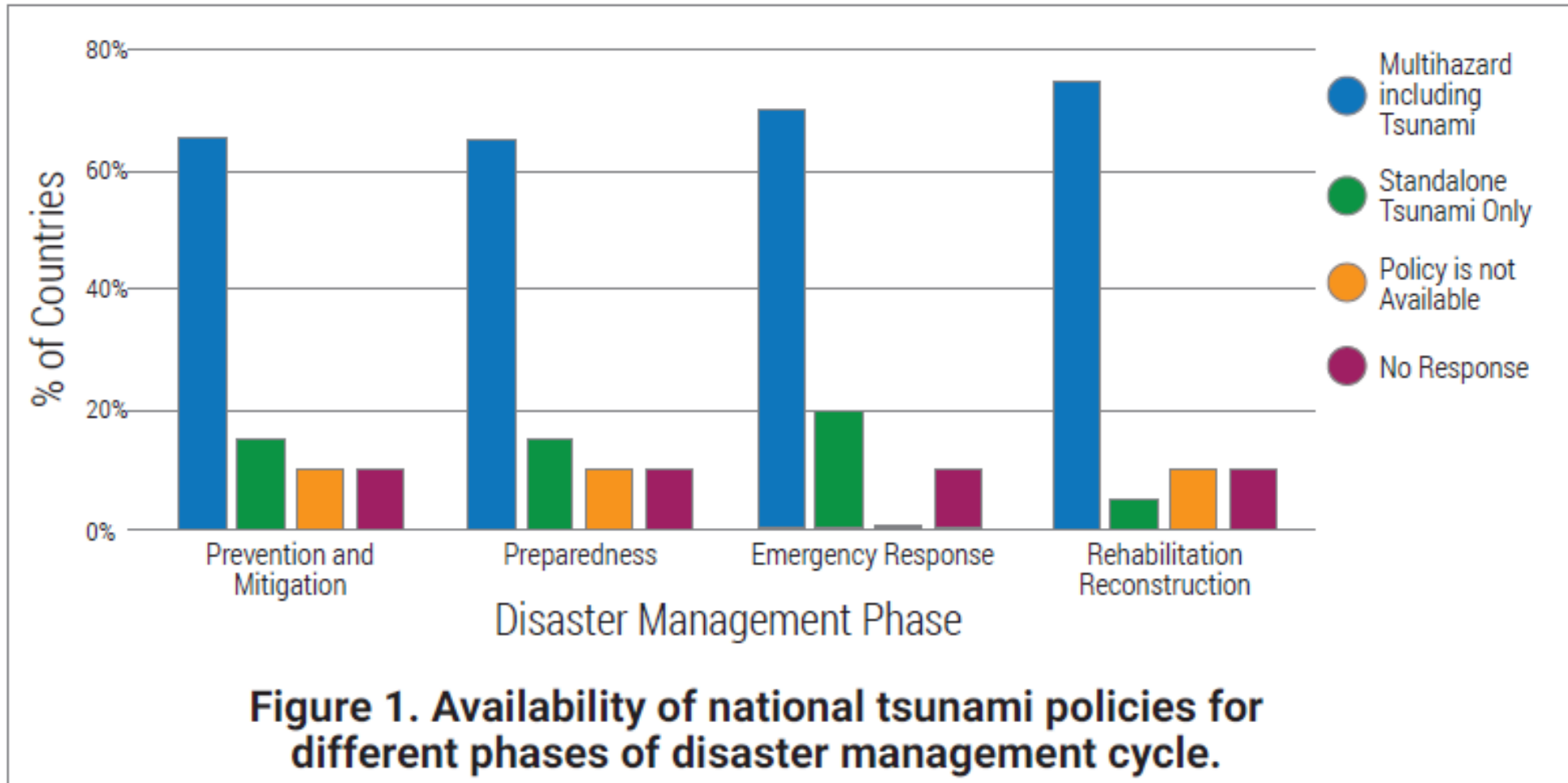
The results indicate that there has been considerable improvement across all components of the IOTWMS since 2005.

National Tsunami Policies



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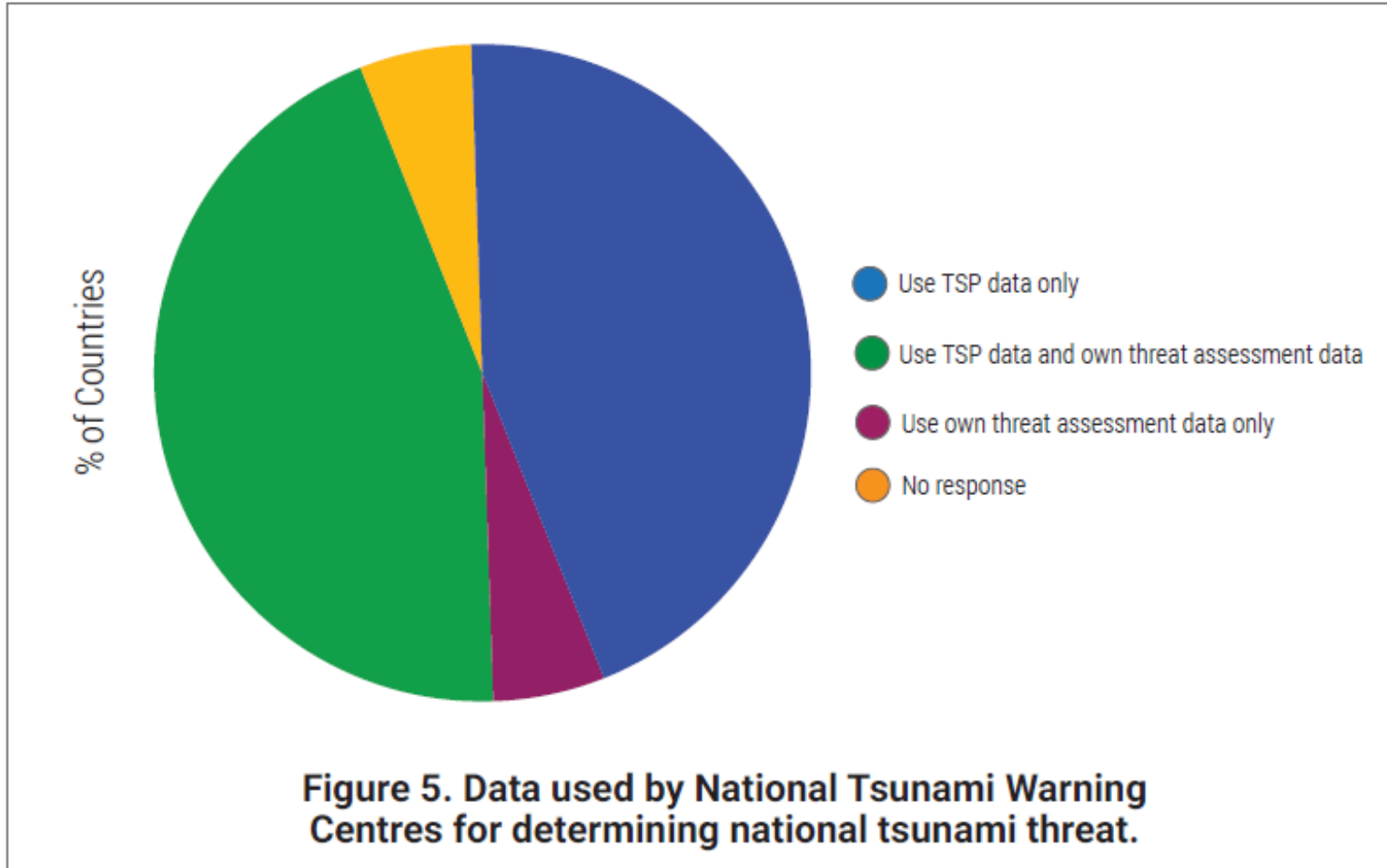


Detection, Warning and Dissemination



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Detection, Warning and Dissemination

- All countries reported they have the capacity to assess and/or receive potential tsunami warning threat information and provide advisories or warnings to their coastal communities.
- 18 of 20 countries reported they have access to seismic network data.
- 12 of 20 countries reported having the capacity to use tsunami models using a variety of software tools.
- Countries use a wide range of media to disseminate tsunami information. Email is the most widely used followed by SMS and television.



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Standard Operating Procedures (SOPs)

The IOTWMS Secretariat and IOTIC have worked with the IOTWMS Member States since 2008 to assist them to develop their **tsunami warning and emergency response SOPs**.

The 2018 Capacity Assessment of Tsunami Preparedness, found that **despite SOPs being widely available for most aspects of upstream and downstream early warning operation, many countries have requested further support to develop them**.

The 2018 Sulawesi (Palu) and Sunda Strait tsunamis have highlighted the need to develop **SOPs that are appropriate for such near-field rapid onset events**.



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SOPs Recommendations

1. Provide support for countries *to improve their SOPs at the interface between upstream and downstream*, including the operation of a 24/7 emergency operation center, receiving information from the NTWC, and response criteria and decision making, as well as the associated human resources and infrastructure
2. Provide support for countries *to improve their SOPs to address warning dissemination, communication with the NTWC, communication with other stakeholders, evacuation call procedures, communication with local government and media arrangements, as well as the associated human resources and infrastructure*
3. Provide support for the development of *community level evacuation SOPs*
4. Capitalize on the willingness of countries *to share* their SOPs to share *good practices across Member States*

Tsunami Exercises



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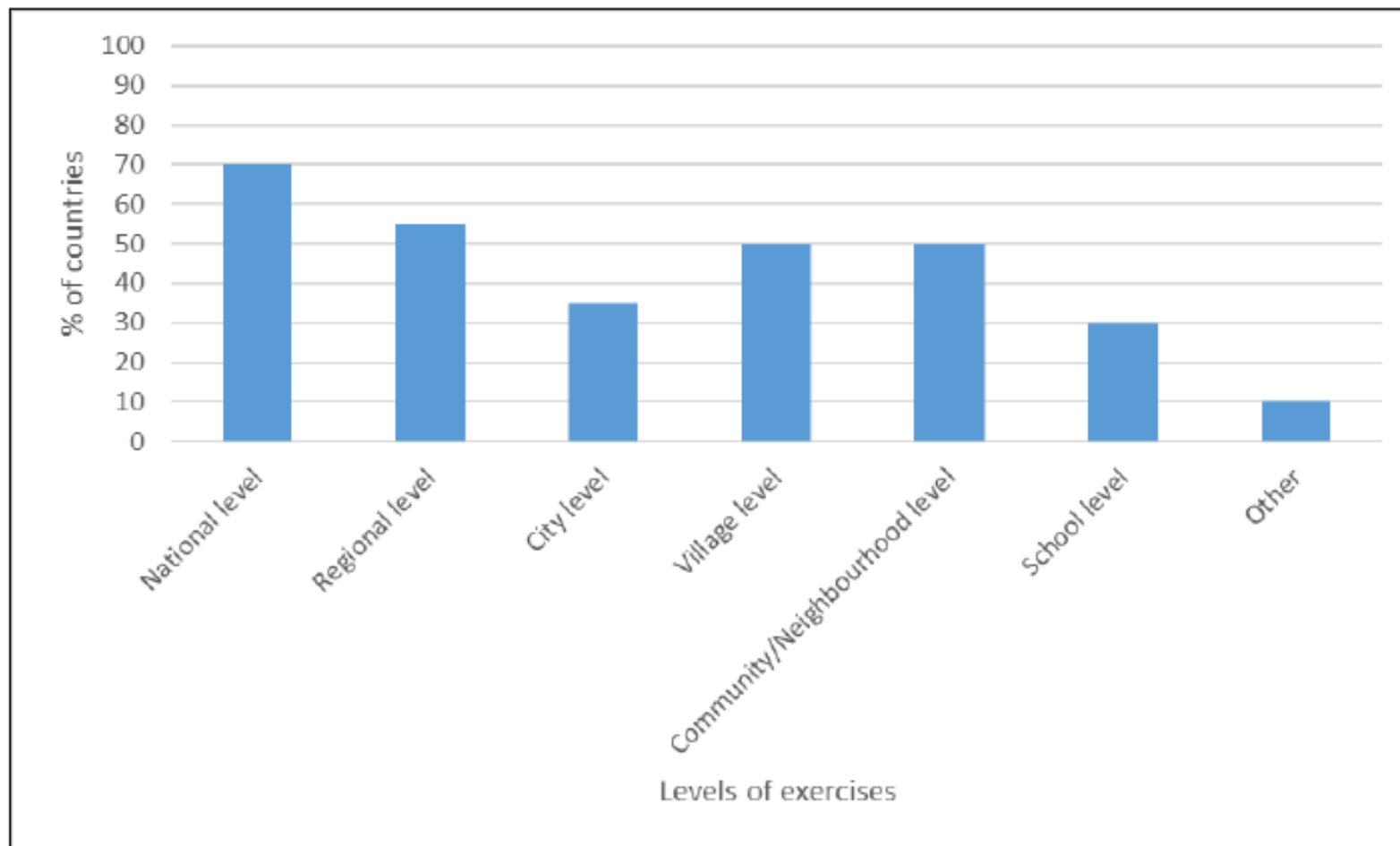
65% of respondent countries reported that they have tsunami exercises incorporated within their national policies and 80% have tsunami exercises incorporated into national guidelines.

All countries reported that they have conducted tsunami exercises during the intersessional period.

The capacity assessment survey revealed the *need to increase the frequency of tabletop or similar tsunami warning exercises to review and test Standard Operating Procedures (SOPs)* and reduce the potential for complacency among countries that have not recently experienced a tsunami event.

There is a need to provide support to *incorporate tsunami exercises into cities, villages, communities and schools.*

Levels of Tsunami Exercise Conducted



All responding countries reported conducting tsunami exercise at one or more levels during the intersessional period.

Figure 38. Levels of tsunami exercise conducted

Types of Tsunami Exercise Conducted

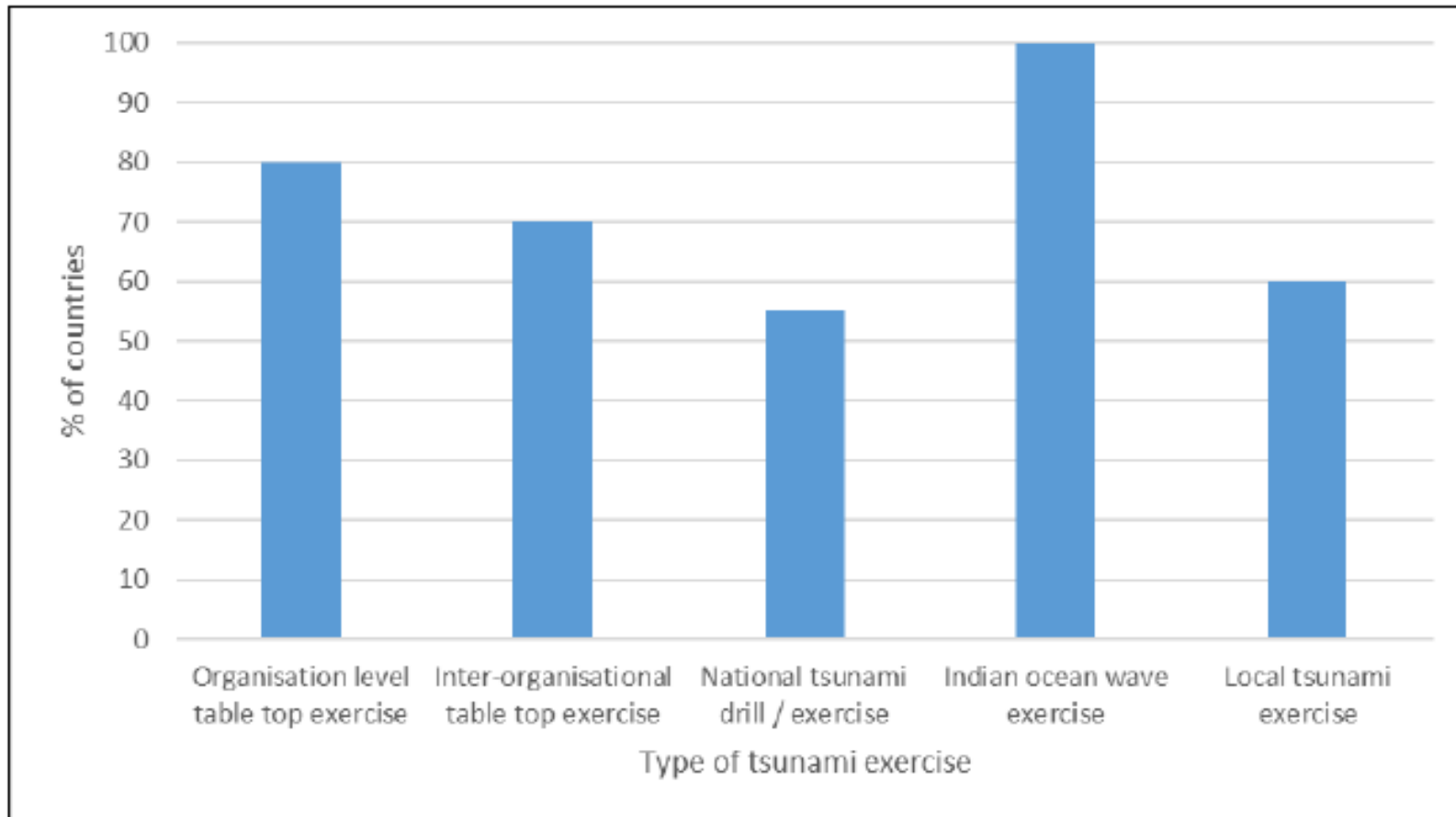


Figure 39. Types of tsunami exercise conducted

All countries took part in the Indian Ocean Wave (IOWave) exercise.

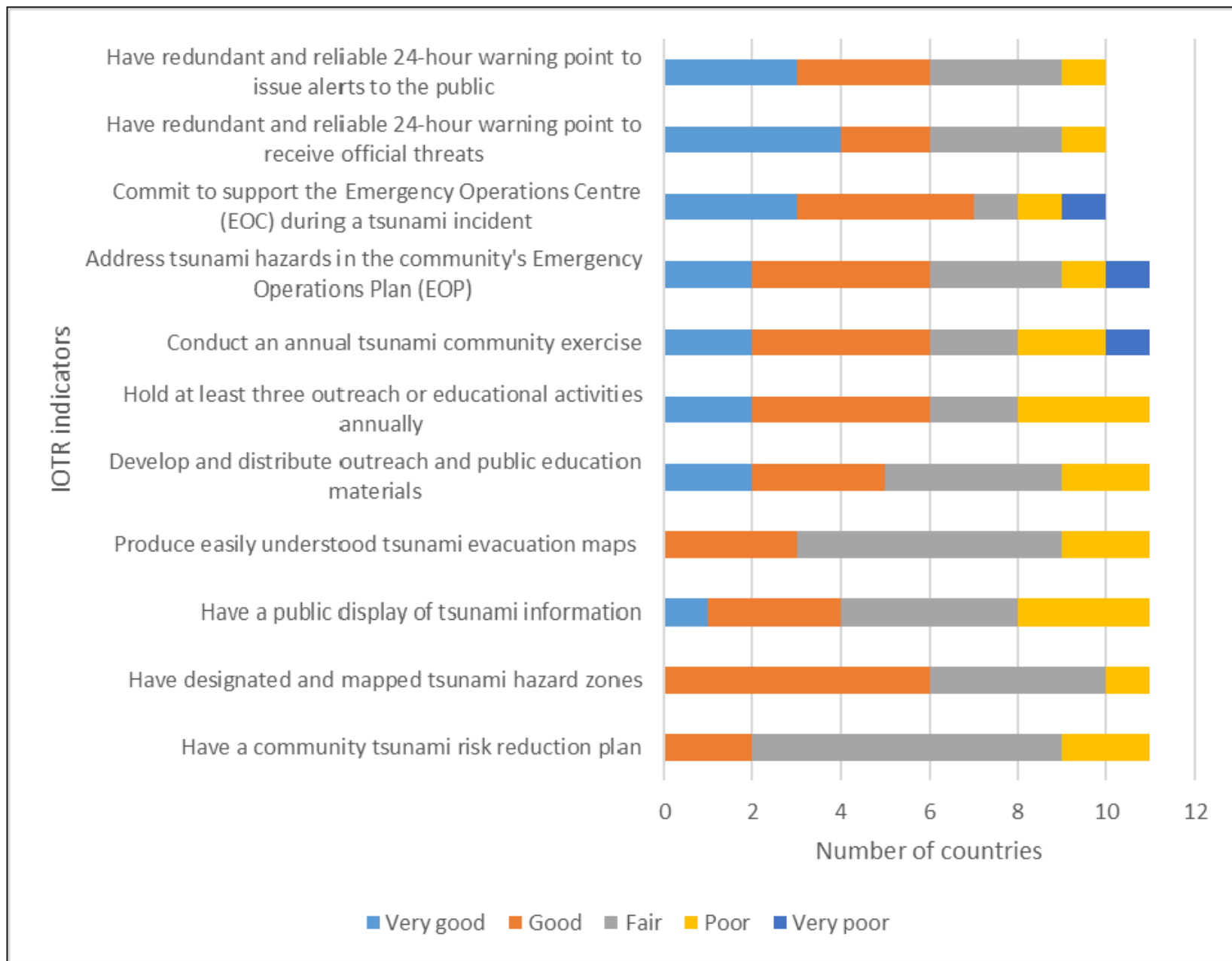
Most countries participated in a table-top exercise

Over half of the countries conducted national and local exercises.

Performance against Tsunami Ready indicators

Areas requiring the most support include tsunami evacuation maps, public displays of tsunami information, mapped tsunami hazard zones, and community risk reduction plans.

Areas requiring the least support are warning points to issue public alerts and receive official threat information, and emergency operations centers during a tsunami event.





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Recommendations (Awareness, Preparedness and Response)

- Provide support for countries to improve their SOPs at the interface between upstream and downstream, including the operation of a 24/7 emergency operation centre, receiving information from the NTWC, and response criteria and decision-making, as well as the associated human resources and infrastructure.
- Provide support for countries to improve their SOPs to address warning dissemination, communication with the NTWC, communication with other stakeholders, evacuation call procedures, communication with local government and media arrangements, as well as the associated human resources and infrastructure.
- Provide support for the development of community level evacuation SOPs.
- Capitalise on the willingness of countries to share their SOPs to share good practices across Member States.
- Provide training and share Member States' experience of different types of evacuation infrastructure.
- Provide support to incorporate tsunami exercises into cities, villages, communities and schools.
- Provide training and share Member States' experience of different public engagement materials.
- Develop educational materials such as teaching kits, and encourage the incorporation of tsunami awareness into the school curricula.
- Raise awareness of the Global Disaster Risk Reduction Day (13 October) and World Tsunami Awareness Day (5 November).

Future Work



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Plan to conduct the Capacity Assessment of Tsunami Preparedness in the Indian Ocean again in 2024.



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