Working Group 1
Tsunamis Risk, Community Awareness and Preparedness

Chair: Harkunti P. Rahayu

Vice Chair: Mahendra S. Ranganahalli

Fourteenth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XIV), Jakarta Indonesia, 16-19 November 2024

ToRs – WG1

Liaise with other working group(s) and task team(s) within the ICG/IOTWMS and with working groups from the other ocean basins through the TOWS-WG to:

1. Assist, develop and strengthen the overall capacity and capability of Member States in tsunami risk assessment and mitigation, community awareness and preparedness, including for tsunamis generated by non-seismic and complex sources.
2. Encourage Member States to mainstream tsunami Disaster Risk Reduction into sustainable development to help achieve resilient communities in the region.
3. ~~Provide advice on any future development of UNESCO-IOC Tsunami Ready Recognition Programme.~~
4. Support implementation of IOWave Exercises.
5. Identify areas of priority for action following assessments, exercises, and real tsunami events.
6. Provide advice on user requirements and utility of tsunami warning products and services.
7. Provide advice to and collaborate with the UNESCO-IOC Indian Ocean Tsunami Information Centre (IOTIC) on education, awareness and preparedness including for non-seismic and complex sources.
8. Prioritise SIDS, LDCs, Africa and NWIO region in the work program
9. Integrate ODTP RDIP into the WG1 work plan
10. Promote collaboration among academia, research institutions and disaster management offices to encourage multidisciplinary and multi sectoral interaction in ensuring tsunami risk knowledge are streamlined to risk reduction strategies.

Activities and Membership

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1. Monitor, assess and routinely report to the Steering Group and ICG on the status of Tsunami Risk Assessments, Community Awareness and Preparedness in each Member State.
2. Seek resources and coordinate projects to develop guidelines and build capacity in Member States.
3. Support the organisation of workshops and symposiums for training and capability development.
4. Contribute to the conduct of regular exercises of the IOTWMS.
5. Encourage Member States to integrate tsunami risk assessment, community awareness and preparedness within national disaster risk reduction programmes for multi-hazards.
6. Stimulate and share information on best-practices between Member States.
7. Assist with the development and application of guidelines on hazard, vulnerability and risk assessment and mitigation, exercises, and post-event surveys.
8. Work closely with Working Group 3, IOC-UNESCO IOTIC, and IOC-UNESCO Secretariat for the ICG/IOTWMS to help develop the capacity of Member States across the Indian Ocean to implement the IOC-UNESCO TRRP or similar initiatives.
9. Work closely with Working Group 2 and Working Group 3, IOC-UNESCO IOTIC and IOC-UNESCO Secretariat for OICG/IOTWMS to help develop effective national tsunami warning chains, warning products, services, Standing Operating Procedures, and warning chains.
10. Under the direction of the Steering Group, assist with national assessments of the IOTWMS performance after each exercise and real tsunami event.

The Working Group will be composed of members nominated by Member States with expertise in tsunami risk assessment and disaster management, an invited IOTIC representative, and other invited observers as required, with a chairperson and two vice-chairpersons to be elected by the ICG.

WG1 Members (2022-2024)

Members:

1. Dr Harkunti P Rahayu – Chair WG-1
2. Dr Mahendra S. Ranganahalli – Vice-Chair WG-1
3. Dr Ajay Kumar Bandel – India
4. Ms Azahani Abd Aziz – Malaysia

Invited Experts:

1. Prof Dilanthi Amaratunga – UK
2. Prof Richard Haigh – UK
3. Dr Gareth Davies – Australia
4. Mr. Harald Spahn – Germany
5. Dr Aditya Gusman – New Zealand

UNESCO-IOC

1. Ms Nora GALE – IOTWMS Secretariat
2. Mr. Ardito M. KODIJAT - IOTIC
3. Ms. Phone-Phet PHASAY – UNESCO IOC

Request to WG1

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1. Address the recommendations of the 2018 Capacity Assessment of Tsunami Preparedness in the Indian Ocean;
2. Follow up the recommendations contained in the IOWave20 Exercise Report;
3. Update the Probabilistic Tsunami Hazard Assessment (PTHA) for the whole Indian Ocean in collaboration with relevant experts from the Member States, based on recent PTHA developed for the North-West Indian Ocean under the UNESCAP funded project “Strengthening Tsunami Early warning in the North-West Indian Ocean Through Regional Cooperation”;
4. Develop community education materials in collaboration with IOTIC on the natural warnings signs for tsunamis generated by non-seismic and complex sources;
5. Develop guidance on Tsunami Ready indicators required for critical infrastructure (ports, harbours, airports, power stations, hospitals, etc.) to present to ICG and TOWS-WG Task Team Disaster Management & Preparedness (TT DMP) for consideration in the further development of the TRRP;
6. Noting the poor responses to the COVID-19 survey in 2021, provide a sub-nation case study to the 14th Session of the ICG to develop greater awareness of the issues and importance of preparedness to other Member States;
7. Noting the achievement of two Special Issues of IJDRB published in 2020 and 2021, discuss a possible topic for the next special issue related to warning and mitigation and UN ODTP that can include all ocean basins;
8. Noting the UN ODTP definition “The goal of an early warning system is the protection of life, as well as livelihoods”, and further noting one of the two main goals of the UN Ocean Decade is that 100% of communities at risk from tsunamis be prepared and resilient through programmes like Tsunami Ready or other similar programmes implemented by the Member States”.

Request to WG1

Working Group 1 needs to discuss the following issues:

- What is Community?
- How many Communities are at Risk from Tsunami?
- Are public awareness and educational activities conducted?
- Are public awareness and response tested and exercised?
- Institutionalizing Tsunami Awareness and Response?

WG1 Activities 2022 - 2024

- Activities Reported in the Intersessional Meeting on August 19, 2024
- Additional Activities

1. The 2nd UNESCO-IOC Global Tsunami Symposium

- 8 Sessions
- 1 Day Field trip
- 32 countries
- 682 participants (offline)
- 170 participants (online)
- 1,200 viewers of YouTube

Opening

TR Communities Simulation

New TR Communities Recognition

1. Outcome of The 2nd UNESCO-IOC Global Tsunami Symposium

Japan - UNESCO - UNU INTERNATIONAL SYMPOSIUM

The Great East Japan Tsunami and Tsunami Warning Systems: Policy Perspectives

Summary Statement

ユネスコ・国連大学　国際シンポジウム
－人はなぜ逃げられなかったのか－
東日本大震災と津波警報システムのあり方を問う
－政策の観点から
ウ・タント国際会議場、国連大学（東京都渋谷区神宮前）

16 - 17 February 2012
U Thant International Conference Hall
United Nations University Tokyo

Supported by:
Ministry of Foreign Affairs of Japan, Ministry of Education, Culture, Sports, Science and Technology Japan, Disaster Management, Cabinet Office of Government of Japan, Ministry of Land, Infrastructure, Transport and Tourism of Japan, Japan Meteorological Agency, Fire and Disaster Management Agency, Japanese National Commission for UNESCO,The University of Tokyo, Asian Disaster Reduction Center, Japan International Cooperation Agency, Japan Broadcasting Corporation (NHK), The Mainichi Newspapers

後援
外務省、文部科学省、内閣府政策統括官(防災担当)、国土交通省、気象庁、消防庁、
日本ユネスコ国内委員会、東京大学、アジア防災センター、国際協力機構、
日本放送協会、毎日新聞

Based on the information provided by the surveys and performance analyses, the symposium provided a number of high level perspectives that addressed:

- Event facts and analysis.
- Tsunami Warning Systems, tsunami preparedness and event experiences.
- Lessons learned from this event that have policy implications for improving tsunami detection, warning, community education, planning and response.

The Symposium: Lessons Learned and Policy Implications

The symposium was organized in five sessions, each including presentations and a subsequent panel discussion among presenters and invited panelists. For each of the sessions the main synthesis of the lessons learned and policy implications are provided below. Details about the programme, presenters and panelists are available in Ref 2.

Session 1:

What happened during the Tsunami of 11 March 2011? What was unexpected? What is a new strategy to prepare for the unexpected?

- Early self-evacuation is of major importance, particularly if a strong earthquake is felt or if the earthquake is weak but with slow tremors that continue for a long time. It is not necessary to wait for an official evacuation order.
- Tsunami drills and exercises should include worst-case scenarios; with due consideration of seasonal meteorological conditions and that primary evacuation routes may be blocked.
- Reliable and back-up communication systems for dissemination of tsunami warnings are essential for providing information to the public and the media.
- Breakwaters and seawalls can not always protect lives and property.
- Coastal structures and coastal planning should be implemented in a holistic manner that takes into consideration the capacity and capability of the warning system, land use planning and coastal mitigation measures in order to optimize protection of life and property from earthquakes and tsunamis.
- Tsunami "monuments" can be helpful in passing on the tsunami experience to coming generations.

Session 2:

Run away from the Tsunami! Education in schools and communities. Why do some people not evacuate?

- Awareness of the risk of tsunami disaster can reduce impacts and loss of lives. Psychological and sociological aspects should be taken into consideration in developing education and awareness materials.
- Continual tsunami disaster education in schools and at the community level is essential to facilitate effective community response.
- Underestimated tsunami warnings do have an impact on people's reaction; the content of the national tsunami warnings must be examined from recipients' point of view.
- Local tsunami hazard maps with detailed explanations should be developed in order to enhance the residents' tsunami disaster awareness and response during an event.
- Evacuation by car may be the only option possible for people with limited mobility. In an evacuation situation clear prioritization of car usage is critical to avoid traffic congestion and this should be taken into consideration when developing evacuation route maps.
- There is an ongoing need to better educate communities about the tsunami threat and the associated risk to help manage expectations about what warning systems can do and what the communities themselves must take responsibility for.

Banda Aceh Statements:

- Global Tsunami Warning and Mitigation: Building Sustainability for the Next Decade through Transformation and Innovation.
- UNESCO and its Partners Call on States and Civil Society to Drastically Step Up their Investments and Efforts to Achieve 100% of Tsunami Ready Communities across the world by 2030

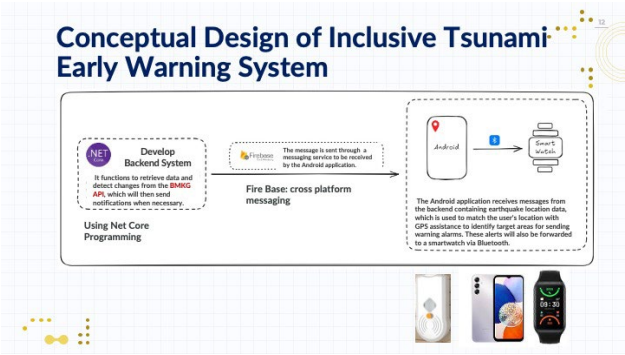
Gaps and Recommendations:

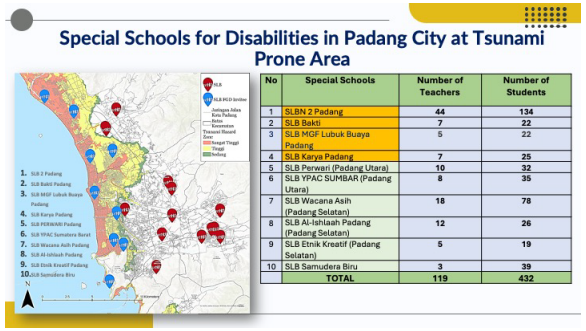
- Based on 8 Session of main events
- Based on 2 pre-event (scientific workshop and round table discussions)

1st UNESCO Global Symposium Document

2nd UNESCO Global Symposium Document

2. Inclusive People Center Early Warning System SOP in the Face of Near Field Tsunami Risk





No	Special Schools	Number of Teachers	Number of Students
1	SLBN 2 Padang	44	134
2	SLB Bakti	7	22
3	SLB MGF Lubuk Buaya Padang	5	22
4	SLB Karya Padang	7	25
5	SLB Perwari (Padang Utara)	10	32
6	SLB YPAC SUMBAR (Padang Utara)	8	35
7	SLB Wacana Asih (Padang Selatan)	18	78
8	SLB Al-Ishlaah Padang (Padang Selatan)	12	26
9	SLB Etnik Kreatif (Padang Selatan)	5	19
10	SLB Samudera Biru	3	39
	TOTAL	119	432

Research Action:

- Funded by Kedaireka Program – Misnistry of Education and Ristek and British Counl
- Collaboration ITB and HUD

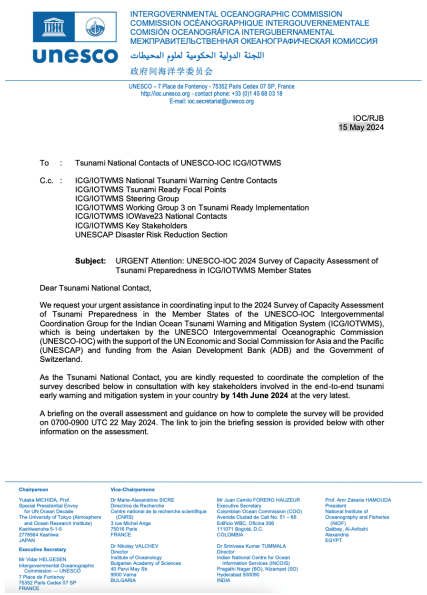
Rationale:

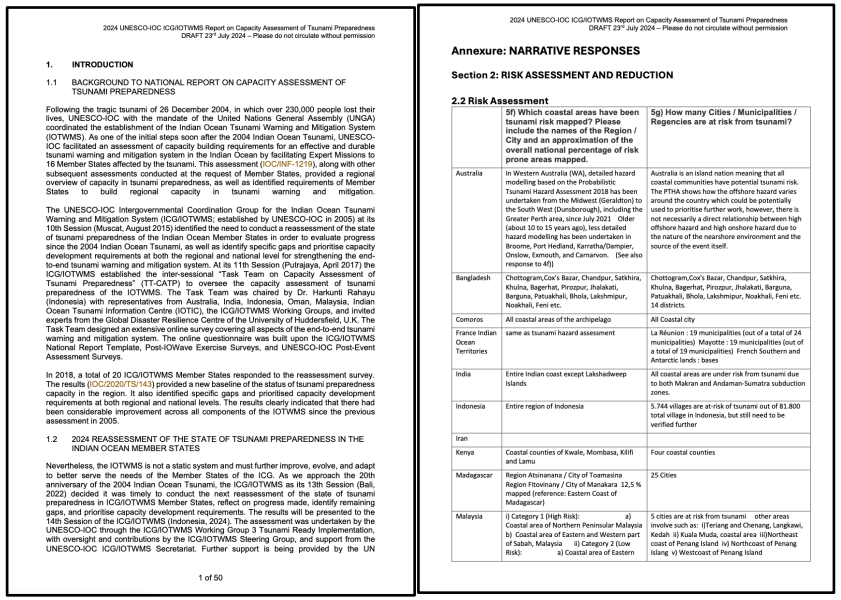
- Every person on Earth to be protected by early warning systems within five years by 2027 (EW4A).
- 100% all people at risk are prepared and resilient to tsunami by 2030 (UNESCO IOC UN ODTP)

Issues and Challenges of Disability:

- 1.3 billion *difable* people in the world (16% global population, WHO Mar 7, 2023)
- 22.5 million *difable* people in Indonesia (8.5% of national population, BPS 2023)
- Barriers to full social and economic inclusion, inaccessible physical environments and transportation, *unavailability of assistive devices and technologies*, *non-adapted means of communication*, *gaps in service delivery*, and discriminatory prejudice and stigma in society.
- This means limited access to Tsunami Warning Information → time is very critical for disability at the tsunami prone area

3. 2024 UNESCO-IOC Capacity Assessment of Tsunami Preparedness in the Indian Ocean





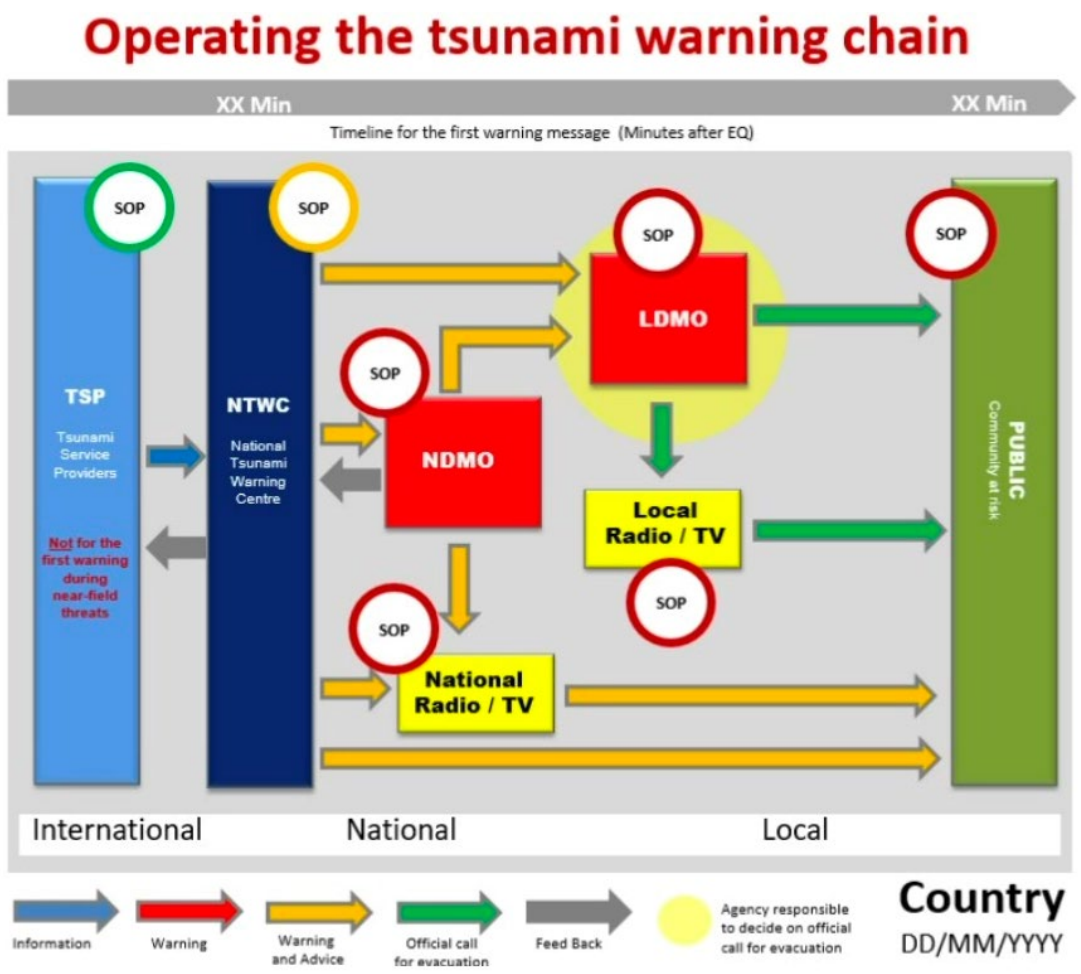
ICG IOTWMS

- Assessment of Capacity Building Requirement 2005
- Capacity Assessments of Tsunami Preparedness in 2018
- 2018 CATP Survey Monkey Instrument developed by TT CATP

ICG IOTWMS

- Capacity Assessments of Tsunami Preparedness in 2024
- 2004 Survey Tools is based on the 2018 CATP Survey, supported by Prof Richard Haigh and Prof Dilanthi Amaratunga
- Circulated by IOTWMS Secretariat and funded by UNESCAP

4. Tsunami Warning Chains and Standard Operating Procedure Development in Indian Ocean Countries



Template of National Tsunami Warning Chains and SOPs

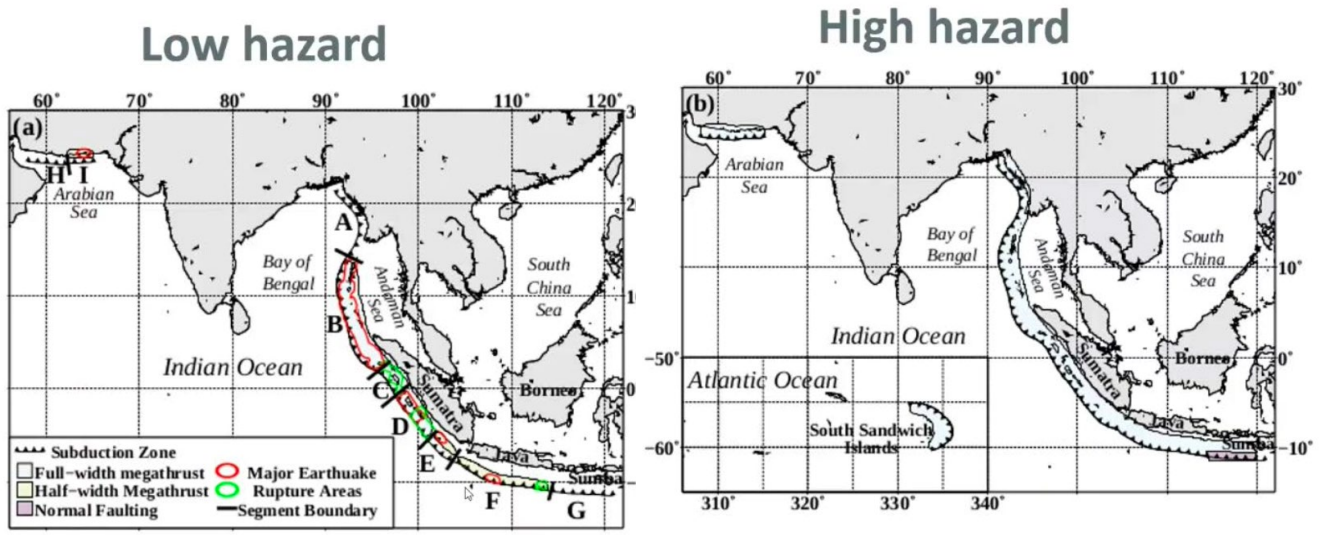
Presented by Harald Spahn:

- Most national tsunami warning chains are solid and include redundancy. Some countries need to add timelines aligned with the flow of information from the IOTWMS Tsunami Service Providers. Warning chains and SOPs have so far been exclusively for seismic tsunami scenarios. Examination of the SOPs shared by Member States shows that the NTWC SOPs are well developed while DMO SOPs require further work.

The recommendations include:

- Strengthening the framework conditions and multi-stakeholder processes for effective warnings through high-level political change;
- Strengthening regional cooperation (EIO, WIO, NWIO)
- Facilitate continuous and collective learning
- Focusing more strongly on the DMO SOPs
- Stronger focus on SOPs in IOWave exercises
- Learning from experience: enhancement of the IOC Post-Tsunami Survey Guidelines by including assessment of downstream processes.

5. Status of Probabilistic Tsunami Hazard Assessment



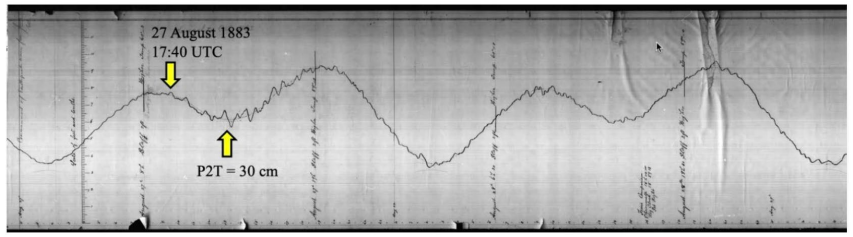
Alternative models of segmentation as illustrated in the 2009 Probabilistic Tsunami Hazard Assessment (PTHA) for the Indian Ocean

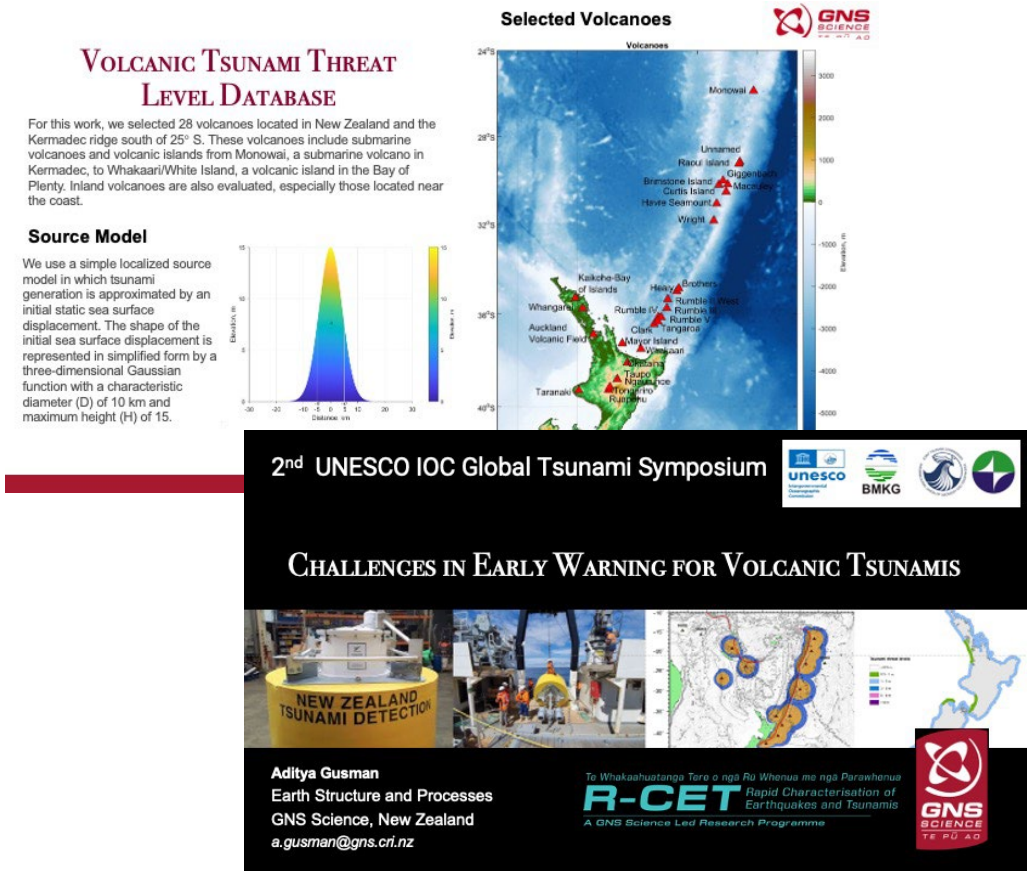
- In Western Australia, tsunami inundation mapping has been completed around the greater Perth area (Geraldton to Busselton). Maps on how often areas are expected to be inundated and the uncertainties can be derived from this data. Inundation products are being developed for use by the Emergency Services during tsunami responses through a collaboration between Geoscience Australia and the Department of Fire and Emergency Services.

Updated of status of PTHA for the Indian Ocean

- Presented by Dr Gareth Daves
- While deterministic tsunami hazard assessments involve a single or set of scenarios PTHAs involve examining the likelihood of a set of scenarios including the uncertainties.
- Offshore PTHAs contain many tsunami scenarios that are generally modelled in deep water and lack inundation impacts. PTHAs can be combined with an inundation model to determine local effects.
- In the Indian Ocean region, the 2009 PTHA was developed for the Indian Ocean and has been in use in the years since.
- In 2018, Australia published a global PTHA. The major Indian Ocean source include the Sunda Arc, the Makran subduction zone, and the South Sandwich Islands. This is open source and can be used by Member States in the Indian Ocean.
- The PTHA for the Makran region is in progress with version 1.0 complete. There are several alternative models, and the next step is consensus on the weighting of models. It is likely to be published in early 2025.

6. Non-seismic Tsunami Hazard Assessment



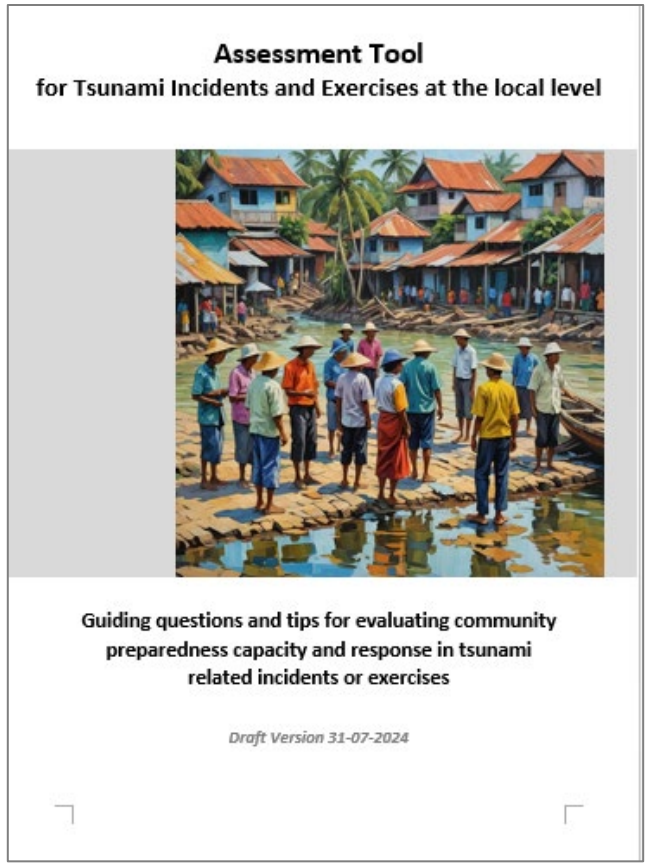


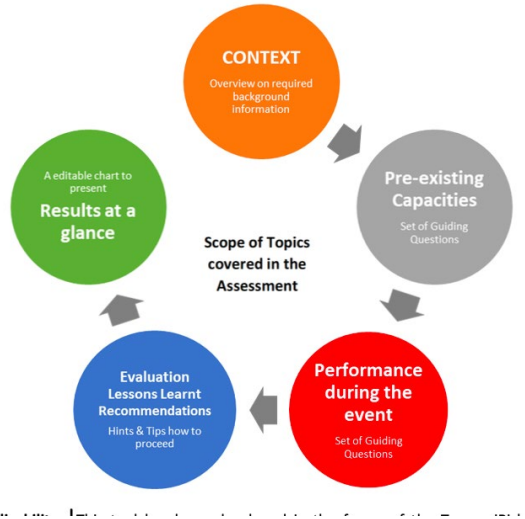
- Dr Aditya Gusman presented an assessment of non-seismic tsunami hazards.
- Surface displacement models have been produced for historic volcanic eruptions including 2022 Tonga and 2023 Epi Volcano. During the 1883 Krakatau tsunami, the San Francisco tide gauge recorded the water displacement. The travel time was very fast with high waves at a large distance.
- Non-Seismic Tsunami Hazard Assesment and Challenges in EW for Volcanic Tsunami was later presented in 2nd UNESCO IOC Global Tsunami Sympsoium

7. The Unforeseen Threat: Preparing Against Non-Seismic Tsunami

- Mr Kodijat (IOTIC) shared that the draft booklet titled 'The Unforeseen Threat: Preparing Against Non-Seismic Tsunami' has been developed by UNESCO-IOC IOTIC in conjunction with UNESCO, BMKG and U- INSPIRE.
- The draft has been circulated to the ICG/IOTWMS Working Groups for feedback.
- The intention is to launch the booklet during the 2nd UNESCO-IOC Global Tsunami Symposium → draft book has been shared in Ignites Stages

8. Draft Assessment Tool for Downstream Warning Processes





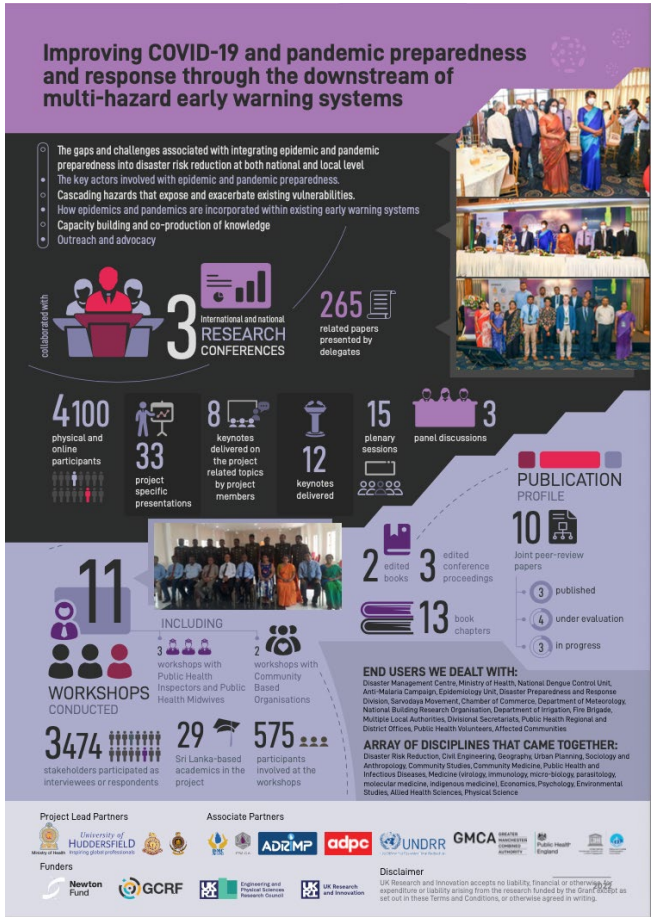
Presented by Harald Spahn:

- An assessment tool developed in the frame of the TsunamiRisk Project, an **Indonesian-German research initiative implemented between 2022 and 2024**, and designed to guide the evaluation of community preparedness capacity and response in any type of tsunami related incidents or exercises.
- The tool contains a set of guiding questions that can be applied for a range of incidents that have posed a tsunami threat at the community level. This can include incidents where a tsunami was generated, but also incidents where an earthquake was strongly felt or a tsunami warning was issued, but ultimately no tsunami occurred.

9. 20 years after - then and now Research

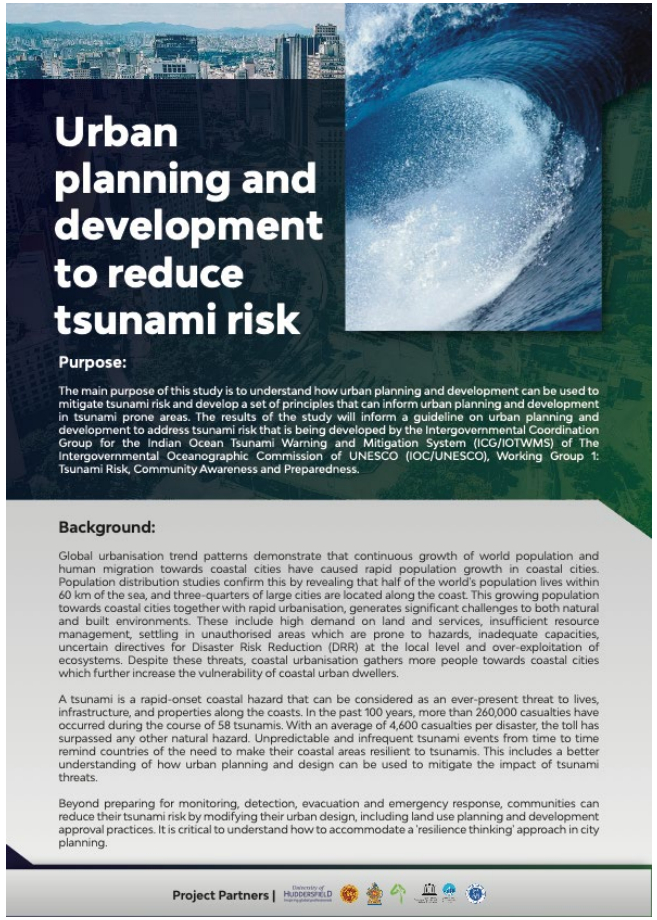
- **20 years after - then and now: An explorative study of the status of communities relocated in the aftermath of the 2004 Indian Ocean Tsunami in Sri Lanka (Project PI).**
- An explorative study of the status of communities (Original Tsunami settlers; Original settlers who moved back to the coast; New settlers; Host community) relocated in the aftermath of the 2004 Indian Ocean Tsunami in Sri Lanka; **Project partners:** University of Huddersfield, UK and SPAARC, University of Colombo, Sri Lanka, Federation of Sri Lankan Local Government Authorities (FSLGA); IOC -UNESCO 2022 – 2024; **Funder**: URF; £ 18500

10. Improving COVID-19 and pandemic preparedness and response through the downstream of multi-hazard early warning systems



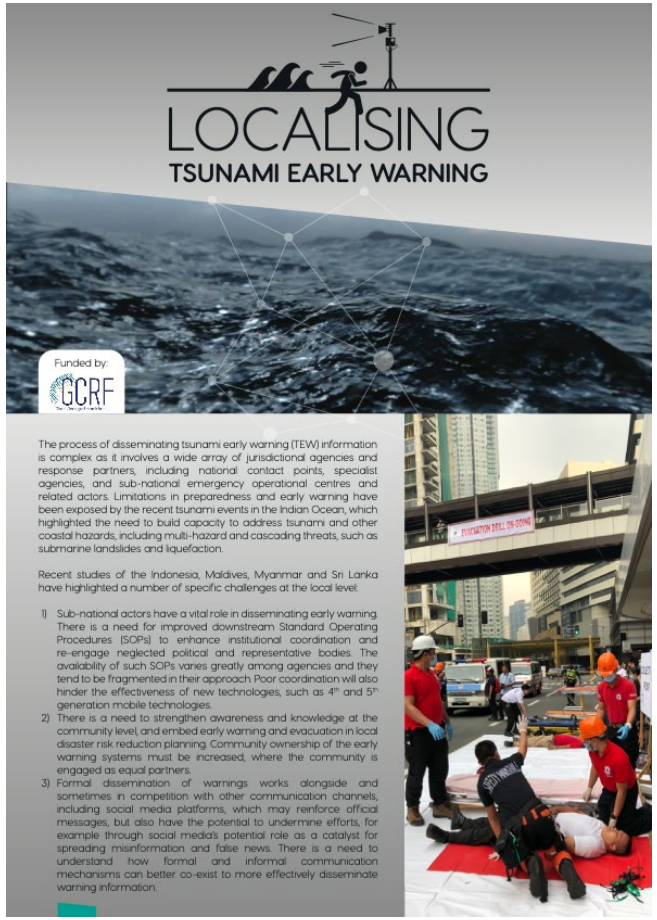
- **Improving COVID-19 and pandemic preparedness and response through the downstream of multi-hazard early warning systems (PI).** This project aims to examine how pandemic threats are integrated within national and local DRR strategies, and how public health actors can be embedded within a MHEW environment. It addresses two inter-related challenges on the pandemic-natural hazard hybrid scenario: How to cope if a major natural hazard occurs during the COVID-19 pandemic? How can pandemic preparedness make use of the existing infrastructure for tackling other hazards?**;**
- **Scheme:** EPSRC/GCRF**;** £ 187,500; **Partnership:** Ministry of Health and Indigenous Medical Services, Sri Lanka; Disaster Management Centre, Sri Lanka; Federation of Sri Lankan Local Government Authorities, Sri Lanka; The Asian Disaster Preparedness Centre (ADPC), Thailand; The Association of Disaster Risk Management Professionals of Sri Lanka (ADRiMP); UNDRR (The United Nations Office for DRR); Greater Manchester Combined Authority (GMCA), UK; Public Health England; The Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) of The Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), **Working Group 1: Tsunami Risk, Community Awareness and Preparedness; 2020 – 2023**

11. Integrating pandemic, tsunami and other multi-hazard preparedness into early warning and urban planning



- **Integrating pandemic, tsunami and other multi-hazard preparedness into early warning and urban planning.** Addressed the integration of COVID-19, pandemic and biological hazard preparedness as part of multi-hazard early warning, and the mainstreaming of tsunami, biological and multi-hazard preparedness into urban planning for coastal regions;
- **Scheme:** QR/GCRF;
- **Partnership:** Disaster Management Centre, Sri Lanka**;** Ministry of Health, Sri Lanka; University of Colombo, Sri Lanka**;** University of Peradeniya, Sri Lanka**;** University of Moratuwa, Sri Lanka**;** State Ministry of Urban Development, Sri Lanka**;** Federation of Local Government Authorities, Sri Lanka; Intergovernmental Oceanographic Commission (IOC) of UNESCO: Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS)**;** Chamber of Commerce, Sri Lanka; Bandung Institute of Technology, Indonesia**;** Asian Disaster Preparedness Centre (ADPC), Thailand**;** United Nations Office for DRR (UNDRR); 2020 – 2022

12. Localising tsunami early warning systems



- **Localising tsunami early warning systems.** Addressed the emerging challenge of cascading hazards that pose a tsunami risk, and the importance of linking tsunami early warning to a multi-hazard environment. The study focused on the wider array of national and local actors that have a mandate to support effective TEW;
- **Funded by**: QR/GCRF; £ 48,000.;
- **Partners**: UNESCO (IOC-UNESCO) ICG/IOTWMS WG 1 on Tsunami Risk, Community Awareness and Preparedness; ITB, Indonesia; Ministry of Public Administration and Disaster Management, Sri Lanka; Disaster Management Centre, Sri Lanka; National University of Maldives, Maldives; National Disaster Management Center (NDMC), and Maldives Meteorological Services, Maldives; University of Yangon, Myanmar; National Disaster Management Agency and the Department of Meteorology

12. Developing and harmonising local capacities for tsunami early warning in Indonesia

- **Developing and harmonising local capacities for tsunami early warning in Indonesia** (Joint project with Institute of Technology Bandung). The project included the development of a downstream capacity assessment framework based on case studies in Denpasar Bali, Nusadua Bali and Padang, West Sumatra, and a Systematic and narrative review published on local dissemination in the downstream of tsunami early warning. **Funded by:** Newton Prize grant, £195,630, UK Parliamentary Under Secretary of State for Business, Energy and Industrial Strategy, AAM002715, Indonesia. **Partners:** Ministry of Agrarian and Spatial Planning, National Disaster Management Agency (BNPB), Meteorology, Climatology and Geophysical Agency (BMKG) Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS

WG1 Work Plan Discussion and Action

WORKPLAN DISCUSSION AND ACTIONS

The Working Group 1 workplan focuses on the key activities:

1. Capacity Assessment of Tsunami Preparedness Report
2. Updating Probabilistic Tsunami Hazard Assessment
3. Disaster Risk Reduction into Spatial Planning
4. Update Annual Journal
5. Book Document as the outcome of The 2nd UNESCO-IOC Global Tsunami Symposium
6. Inclusive People Center Early Warning System SOP in the Face of Near Field Tsunami Risk
7. Tsunami Warning Chains and Standard Operating Procedure Development in Indian Ocean Countries
8. Non-seismic Tsunami Hazard Assessment
9. Draft Assessment Tool for Downstream Warning Processes

WORKPLAN DISCUSSION AND ACTIONS

- ***Action 1:*** *Endorse the recommendations of the Capacity Assessment of Tsunami Preparedness [Status Report 2018 and updated 2024] related to:*
  - *a. risk assessment and reduction and*
  - *b. awareness, preparedness and response for consideration in the WG-1 work plan.*
- ***Action 2:*** *Working Group 1 to support the developing and harmonizing local capacities for the tsunami early warning project being undertaken with ITB and the University of Huddersfield with a case study taken in Indonesia with funding from 2020 Newton Prize Winner (Harkunti P. Rahayu and Richard Haigh)*
- ***Action 3:*** *Working Group 1 to support the integration of pandemic, tsunami and other multi-hazard preparedness into the Early Warning and Urban Planning project being undertaken in 2021-2021 by ITB and the University of Huddersfield, with a major survey to be undertaken in the Indian Ocean and case studies to be undertaken in Indonesia and Sri Lanka.*
- ***Action 4:*** *Working Group 1 to support Synthesis and Recommendation Documentation as the Outcome of The 2nd UNESC-IOC Global Tsunami Symposium.*
- ***Action 5:*** *Working Group 1 to support to the development of Inclusive People Center Early Warning System SOP in the Face of Near Field Tsunami Risk with the case study in Indonesia*
- ***Action 6:*** *Working Group 1 to the development of Tsunami Warning Chains and Standard Operating Procedure Development in Indian Ocean Countries*
- ***Action 7:*** *Working Group 1 to support the updating of Probabilistic Tsunami Hazard Assessment for Indian Ocean learning from 2018 Australia PTHA and Makran Zone*

WORKPLAN DISCUSSION AND ACTIONS

- ***Action 8:*** *Working Group 1 to support to Non-seismic Tsunami Hazard Assessment*
- ***Action 9:*** *Working Group 1 to support to the development of Draft Assessment Tool for Downstream Warning Processes*
- ***Action 10:*** *Working Group 1 to support to the use of Result of the An explorative study of the status of communities relocated in the aftermath of the 2004 Indian Ocean Tsunami in Sri Lanka*
- ***Action 11:*** *Working Group 1 to support to the use of the result of the works on Improving COVID-19 and pandemic preparedness and response through the downstream of multi-hazard early warning systems*
- ***Action 12:*** *Working Group 1 to support the use of Integrating pandemic, tsunami and other multi-hazard preparedness into early warning and urban planning*
- ***Action 13:*** *Working Group 1 to support the use of the result of Localising tsunami early warning systems*
- ***Action 14:*** *Working Group 1 to support the use of the result of Developing and harmonising local capacities for tsunami early warning in Indonesia*

Recommendation to the 14th ICG IOTWMS Meeting

Working Group 1 discussed the recommendations to be presented to the 14th Session of the ICG/IOTWMS, which WG1 will progress

- ***Recommendation 1:*** *Adopt the revised WG-1 Terms of Reference that better reflect the working relationship with IOTIC*
- ***Recommendation 2:*** *Implement community awareness and preparedness against the risk of tsunamis generated by both seismic and non-seismic tsunami sources.*
- ***Recommendation 3:*** *Prioritise SIDS, LDCs and Africa in the work programme*
- ***Recommendation 4:*** *To support Synthesis and Recommendation Documentation as the Outcome of The 2nd UNESC-IOC Global Tsunami Symposium*
- ***Recommendation 4:*** *To support to the development of Inclusive People Center Early Warning System SOP in the Face of Near Field Tsunami Risk with the case study in Indonesia The Inclusive SOP for disability*
- ***Recommendation 5:*** *The publication of the unforeseen Book*
- ***Recommendation 6:*** *the development of Tsunami Warning Chains and Standard Operating Procedure Development in Indian Ocean Countries*
- ***Recommendation 7:*** *to support the updating of Probabilistic Tsunami Hazard Assessment for Indian Ocean learning from 2018 Australia PTHA and Makran Zone*

Recommendation to the 14th ICG IOTWMS Meeting

- ***Recommendation 8:*** *to support to Non-seismic Tsunami Hazard Assessment*
- ***Recommendation 9:*** *to support to the development of Draft Assessment Tool for Downstream Warning Processes*
- ***Recommendation 10:*** *to support to the use of Result of the An explorative study of the status of communities relocated in the aftermath of the 2004 Indian Ocean Tsunami in Sri Lanka*
- ***Recommendation 11:*** *to support to the use of the result of the works on Improving COVID-19 and pandemic preparedness and response through the downstream of multi-hazard early warning systems*
- ***Recommendation 12:*** *to support the use of Integrating pandemic, tsunami and other multi-hazard preparedness into early warning and urban planning*
- ***Recommendation 13:*** *to support the use of the result of Localising tsunami early warning systems*
- ***Recommendation 14:*** *to support the use of the result of Developing and harmonising local capacities for tsunami early warning in Indonesia*
- ***Recommendation 15:*** *The publication of the unforeseen Book*

Thank you …