UNESCO-IOC ICG/IOTWMS* (Established 2005)

Working Groups and Task Teams work programmes across four pillars

Pillar 1 WG 1
Disaster risk knowledge

Systematically collect data and undertake risk assessments

- Are the hazards and the vulnerabilities well known by the communities?
- What are the patterns and trends in these factors?
- Are risk maps and data widely available?

Pillar 2 WG 2
Detection, observations, monitoring, analysis and forecasting of hazards

Develop hazard monitoring and early warning services

- Are the right parameters being monitored?
- Is there a sound scientific basis for making forecasts?
- Can accurate and timely warnings be generated?

Pillar 4 WG 1 + 3
Preparedness and response capabilities

Build national and community response capabilities

- Are response plans up to date and tested?
- Are local capacities and knowledge made use of?
- Are people preapred and ready to react to warnings?

Pillar 3 WG 2
Warning dissemination and communication

Communicate risk information and early warnings

- Do warnings reach all of those at risk?
- Are the risks and warnings understood?
- Is the warning information clear and usable?

Intergovernmental Coordination Group Indian Ocean Tsunami Warning & Mitigation System - 25 Member States (24 of which active)

Parts of the Survey

Part	Topic of the Survey	Stakeholder Inputs	
I	**Basic Information:** TNC/NTWC/TWFP contact details	**Tsunami National Contact** Secretariat will follow up separately formally incorporate any updates on Member State nominations of the TNC through official channels	
II	**Risk Assessment & Reduction:** Hazard Assessment, Risk Assessment, Policies, Plans, Guidelines	Inputs to be obtained from the **Disaster Management Agency** and/or other agency responsible for Hazard / Risk Assessment in the Country	**Pillar 1**
III	**Detection, Warning & Dissemination**	Inputs to be obtained from the **National Tsunami Warning Centre** and/or other agency responsible for generation and dissemination of tsunami early warnings within the country	**Pillars 2 + 3**
IV	**Public Awareness, Preparedness & Response:** SOPs, Evacuation Infrastructure, Tsunami Exercises, Public Awareness	Inputs to be obtained from the **Disaster Management Agency** and/or other agencies responsible for public awareness, preparedness, and response in the country	**Pillar 4**
V	**Tsunami Ready Recognition Programme (TRRP)**	Inputs to be obtained from the **Tsunami Ready Focal Point** (TRFP) and/or other agency responsible for the TRRP or other recognised similar initiative in the country	**Pillar 4**
VI	**Narrative:** Important developments since the last report and summary of future plans	**Tsunami National Contact**	

Part I Basic Information

Stakeholder inputs required: Tsunami National Contact.
Secretariat will follow up separately with the TNC to formally incorporate any updates through official channels

Part I Basic Information

1) ICG/IOTWMS Tsunami National Contact (TNC):

The TNC is the person who is designated by a Member State to the Intergovernmental Coordination Group (ICG) to represent his/her country in the coordination of international tsunami warning and mitigation activities. This person is part of the main stakeholders of the national tsunami warning and mitigation system. This person may be from the national tsunami warning centre, the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.

TNCs formally nominated through diplomatic channels by 25 Member States (24 Member States are active in ICG/IOTWMS)

Part I Basic Information

2) National Tsunami Warning Centre (NTWC):

The NTWC is the centre that is officially designated by the government to monitor and issue tsunami warnings and other related statements within your country according to established National Standard Operating Procedures.

NTWC information available for 25 Member States in ICG/IOTWMS)

Part I Basic Information

3a) Is your Tsunami Warning Focal Point (TWFP) the same as your National Tsunami Warning Centre (NTWC) agency?

The TWFP is the 24 x 7 point of contact (office, operational unit or position, not a person) officially designated by the NTWC or the government to receive and disseminate tsunami information from an ICG Tsunami Service Provider according to established national Standard Operating Procedures. The TWFP may or not be the NTWC.

TWFPs formally nominated through diplomatic channels by 25 Member States in ICG/IOTWMS

Part I Basic Information

3b) Tsunami Warning Focal Point (TWFP) Agency:

The TWFP is the 24 x 7 point of contact (office, operational unit or position, not a person) officially designated by the NTWC or the government to receive and disseminate tsunami information from an ICG Tsunami Service Provider according to established National Standard Operating Procedures. The TWFP may or not be the NTWC.

3c) ICG/IOTWMS Tsunami Warning Focal Point (TWFP):

The TWFP is the 24 x 7 point of contact (office, operational unit or position, not a person) officially designated by the NTWC or the government to receive and disseminate tsunami information from an ICG Tsunami Service Provider according to established National Standard Operating Procedures. The TWFP may or not be the NTWC.

TWFPs formally nominated through diplomatic channels by 25 Member States in ICG/IOTWMS

Part I Basic Information

3d) Has your country appointed a Tsunami Ready Focal Point (TRFP)?

The TRFP is a person from the Disaster Management (DMO) or similar institution that:

- Acts as a national advocate for national implementation of the Tsunami Ready Recognition Programme (TRRP) or a recognised similar initiative to help make at-risk communities prepared and resilient to any tsunami threat within their Member State.

- Actively contributes to the national implementation of TRRP or a recognised similar initiative.

- Routinely update UNESCO-IOC ICG/IOTWMS on the status of the national implementation of the TRRP or a recognised similar initiative.

- Informs relevant national authorities and orgaisations involved in the implementation of TRRP or a recongised similar initiative on any information and/or updates provided by UNESCO-IOC on activities related to making at risk communities Tsunami Ready.

Circular Letter 11 December 2023: **India, Indonesia, Iran, Kenya, Madagascar, Mauritius, Sri Lanka, Timor Leste, UAE (9 Member States)**
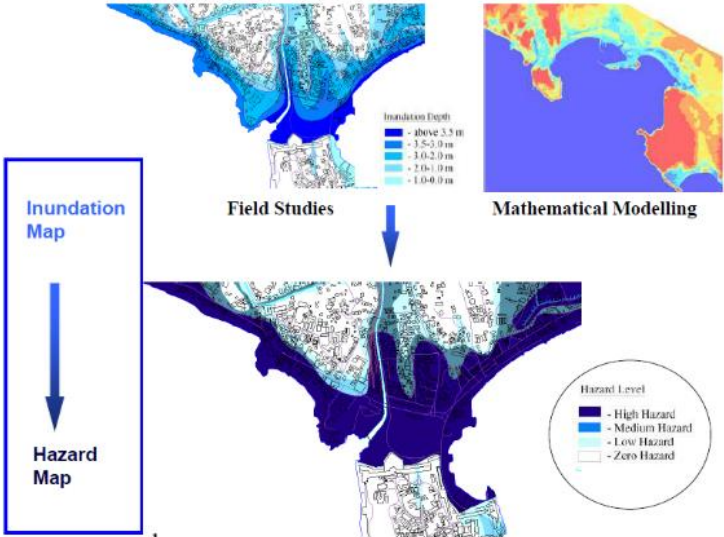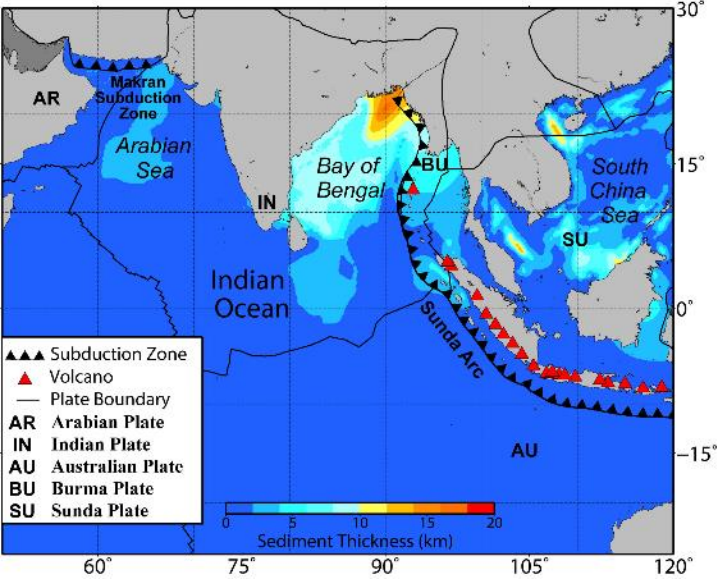
Part II Risk Assessment and Reduction

Stakeholder inputs required: Hazard Assessment, Risk Assessment, Policies, Plans, Guidelines. Inputs to obtained from the Disaster Management Agency and/or other agencies responsible for Hazard/Risk Assessment in the country.

Part II Risk Assessment and Reduction
(Hazard Assessment)

4a) Has your country undertaken a hazard assessment?

4b) What type of hazard has been carried out (single, multi-hazard including tsunami)?

4c) What type of multi-hazard has been carried out?

4d) Who did the tsunami hazard in your country?

4e) At what level was the tsunami hazard carried out (national, regional, city, village)?

4f) Which coastal areas have been mapped for tsunami hazard (region/city and percentage mapped)

Part II Risk Assessment and Reduction
(Hazard Assessment)

4g) What data types (eg bathymetry, seismo-tectonic model, topography, landcover, infrastructure are used for tsunami hazard assessments and are they publicly available?

4h) What products do you have from the hazard assessment (eg Probabilisitic Tsunami Hazard Assessment (PTHA), Deterministic tsunami hazard assessment, hazard map, inundation map, evacuation map, guidelines)?

4i) Rate your country's capability to undertake tsunami hazard assessment

4j) Priority level in your country to improve capacity in various areas of tsunami hazard assessment (eg PTHA, hazard map…)

4k) Rate your country's capacity to give training and/or consultancy on tsunami hazard assessment to other countries?

Part II Risk Assessment and Reduction
(Risk Assessment)

5a) Has your country undertaken a tsunami risk assessment?

5b) if yes to 5a,….What type of risk assessment (single, multi-hazard including tsunami)?

5c) If multi-hazard assessment undertaken, what other hazards?

5d) Who did the risk assessment in your country?

5e) At what level was the risk assessment carried out to (national, regional, city, village, community)?

5f) Which coastal areas have been tsunami risk mapped (names of region/city/village and approx. percentage of risk prone areas covered)?

5g) How many cities/municipalities/regencies are at risk from tsunami?

5h) What products do you have from tsunami risk assessment (eg risk map, evacuation map, guidelines, action plan)?

5i) Rate your country's capability to undertake tsunami risk assessment

5j) What is the priority level for your country to improve capacity in tsunami risk assessment at different levels (national, regional, village, etc)?

Part II Risk Assessment and Reduction
(Policies, Plans, and Guidelines)

6a) Does your country have a national tsunami policies and/or related standalone policies (eg prevention and mitigation, preparedness, emergency response, rehabilitation and reconstruction)

6b) Does your country have local tsunami policies and/or related standalone policies (eg as per above)

7a) Does your country have national, local, and community level tsunami disaster risk reduction plans?

7b) If yes to 7a…. Are your country's tsunami disaster risk reduction plans based on hazards and risk assessments?

8a) Does your country have national tsunami DRR guidelines and nor standalone guidelines (eg prevention and mitigation, preparedness, emergency response, rehabilitation and reconstruction?

8b) Does your country have local tsunami DRR guidelines and nor standalone guidelines (eg as per above)?
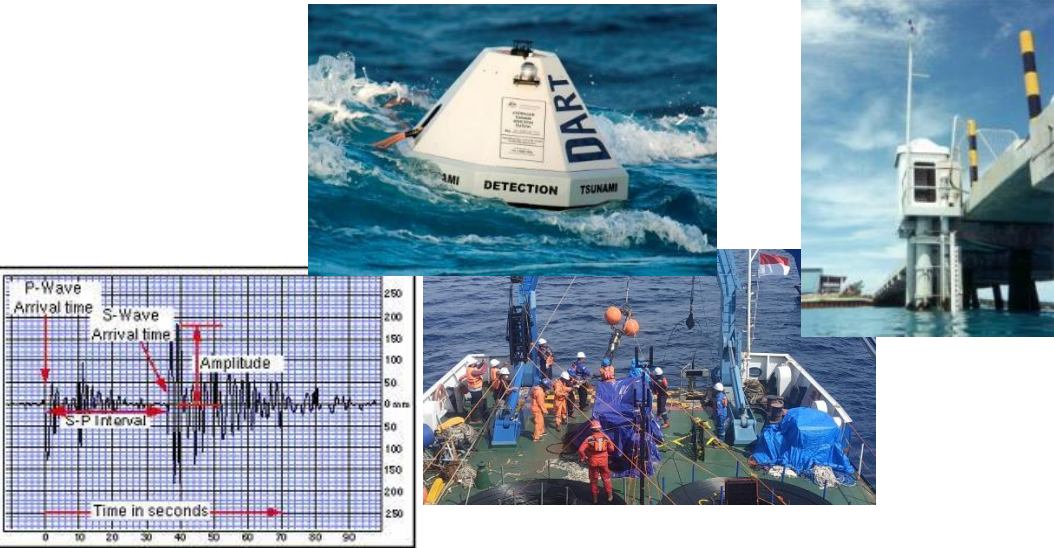
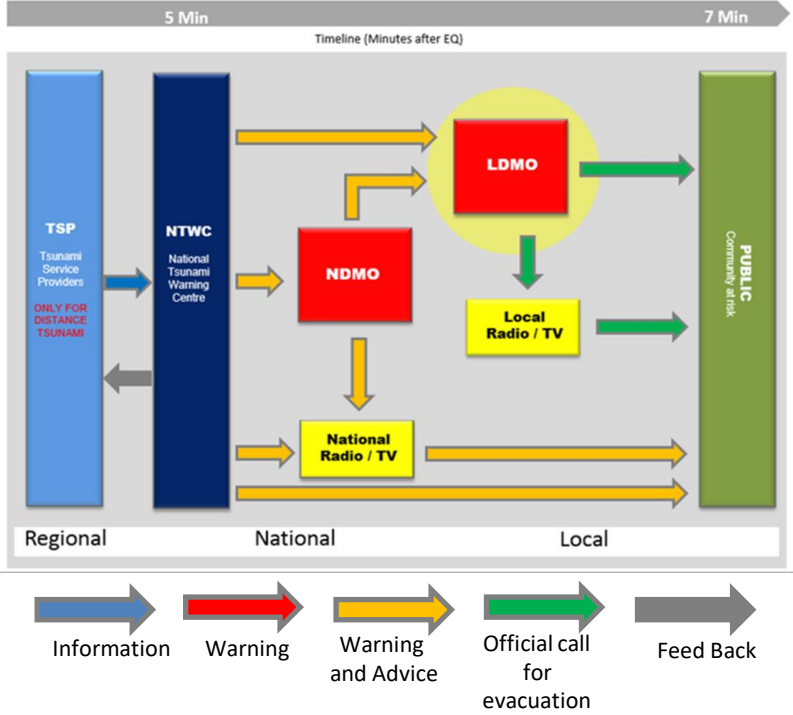# Part III Detection, Warning, and Dissemination

Stakeholder inputs required: Inputs to be obtained from the National Tsunami Warning Centre and/or other agencies responsible for the generation and dissemination of tsunami early warnings within the country.
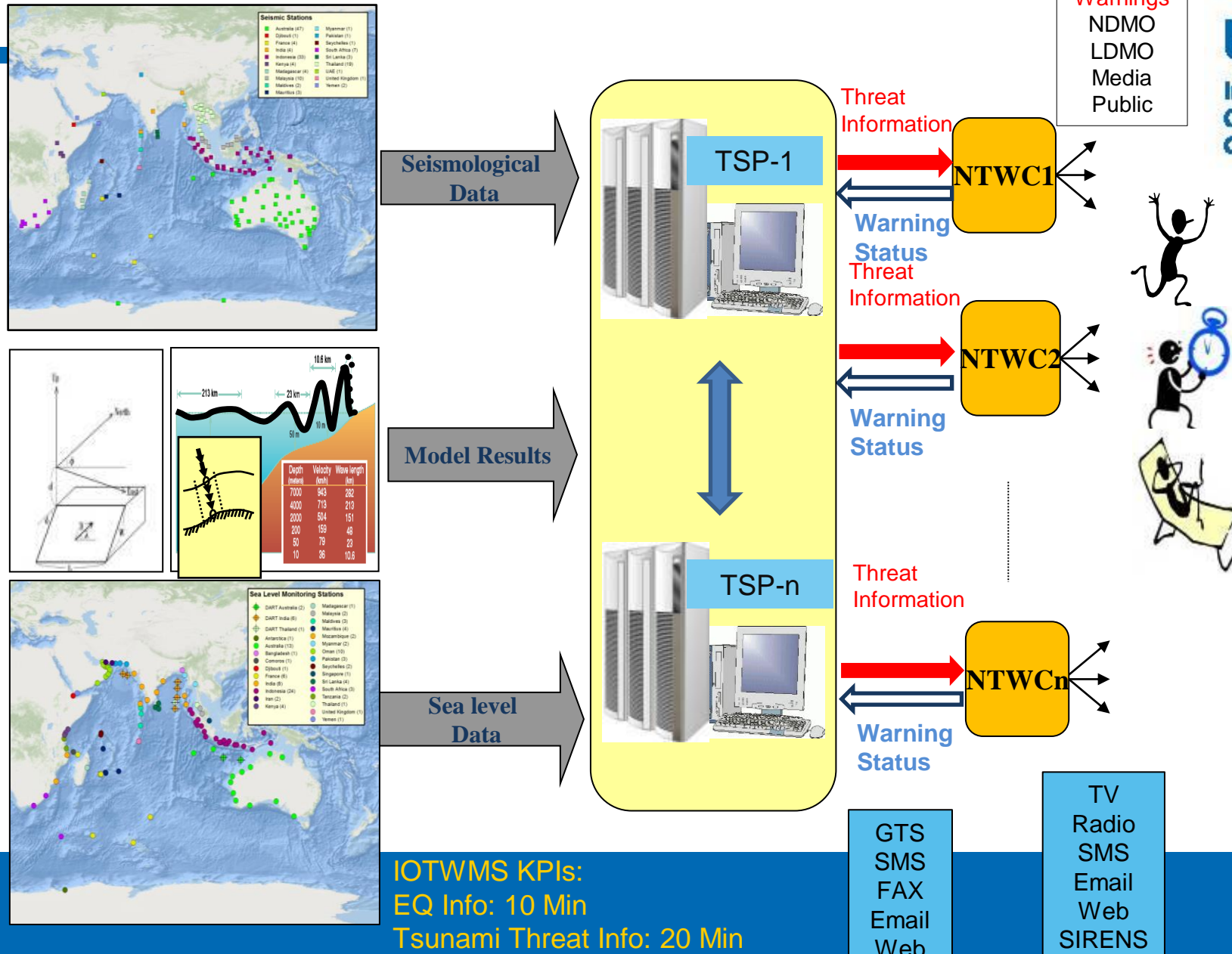
Operational Elements of Tsunami Warning

IOTWMS KPIs:
EQ Info: 10 Min
Tsunami Threat Info: 20 Min

Part III Detection, Warning, and Dissemination

9a) Does your country have a national capability to assess and/or receive potential tsunami threat information and advise/warn its coastal communities

9b) Does your country utilize data provided by the IOTWMS Tsunami service Providers (TSPs: Australia, India, Indonesia) for the Coastal Forecast Zones (CFZs) of your country's coastline to determine national threats or does it undertake its own threat assessments?

9c) Which organisation in your country has the responsibility for assessing and/or receiving potential threat information?

9d) Does the organisation responsible for assessing and/or receiving potential tsunami threat information operate 24/7?

9e) What/which infrastructure is available to enable 24/7 operations (computers, internet, GTS, phone, UPS, etc)?

9f) Which level of tsunami threat forecast information is produced by the responsible organisation? (ocean-wide, national ,local)

9g) Does the organisation have access to national and/or international seismic networks?

Part III Detection, Warning, and Dissemination

9h) Is the national seismic data shared in real-time?

9i) Does your organisation have access to Global Navigational Satellite System (GNSS) data?

9j) Is the list of broadband seismometers operated by your country listed accurately in the IOTWMS seismic database?

9k) When compared to the IOTWMS Seismic database have you decommissioned or added broadband seismometers operated by your country?

9l) Does the organisation have access to national and/or international sea level networks?

9m) Is national sea level data shared in real-time?

9n) Is the list of sea level stations operated by your country listed accurately in the IOTWMS sea level database?

9o) When compared to the IOTWMS sea level database have you decommissioned or added sea level stations operated by your country?

9p) What other observing networks are operated by your country and used for tsunami early warning? (eg coastal radars, submarine cables systems, GNSS/GPSS)

Part III Detection, Warning, and Dissemination

9q) Does the organisation have the capability of analysing real-time seismic and sea level data for potential tsunami threat?

9r) Does the organisation have capability for tsunami modelling to support generation of threat forecasts?

9s) Does the organisation responsible for identifying a potential tsunami threat also issue national tsunami no threat, watches, advisories, alerts, and/or warnings?

9t) What are the threshold or criteria (for example sea levels, earthquake magnitude) for declaring a potential national emergency, watch, alert, advisory, or warning?

9u) What actions were taken by your NTWC and/or TWFP in response to earthquake events and messages issued by the IOTWMS TSPs during the last intersessional period (since last ICG meeting in Nov'22)?

9v) Did your country's NTWC and/or TWFP participate in the 6-monthly communications test conducted by the IOTWMS TSPs?

9w) Did your country's NTWC and/or TWFP participate in national/or international Tsunami Exercises (eg IOWave23) conducted in the intersessional periods of the ICG?

Part III Detection, Warning, and Dissemination

9x) After 26 December 2004 tsunami and until now, was your country impacted by any damaging tsunamis? If yes, what was your national response to each event (please comment if warnings were issued by your NTWC in a timely manner to enable communities to respond, if public were evacuated, etc)

9y) Since 2018, have there been any enhancements in your national tsunami warning Standard Operating Procedures (SOPs) and alerting?

10a) How is the tsunami information (warning, public safety action, etc) disseminated within your country (eg emails, SMS, phone, door-to-door, sirens, TV)?

10b) For each type of emergency response organisation (NDMOs, LDMOs, General Public, Coastal communities, media), which communication methods for emergency response are available (phone, fax, email, SMS siren, other)?

10c) How is the warning situation terminated?

10d) What website (url) is used for display of national threat status during events?

Part III Detection, Warning, and Dissemination

10e) Does your country's national tsunami warning system utilize the Common Alerting Protocol (CAP) for dissemination of warnings ? If yes, please describe how the CAP is integrated into your warning dissemination processes, including any platforms or communication channels that are specifically utilized to broadcast CAP-formatted alerts to the public and relevant stakeholders

10f) Who is primarily responsible for the direct dissemination of tsunami alerts to the public in your country, and what is the timeframe for these alerts to achieve effective last-mile responses?

Part IV   Public Awareness, Preparedness and Response

Stakeholder inputs required: Inputs to be obtained from the Disaster Management Agency and/or other agencies responsible for public awareness, preparedness ands response within the country.

Part IV   Public Awareness, Preparedness and Response (Standard Operating Procedures)

11a) For upstream emergency response issues (24/7 Emergency Operations Centre (EOC), receiving information from NTWC, response criteria and decision making), identify the types of support required to develop/improve these areas.

11b) For downstream emergency response issues (warning dissemination, evacuation call procedures, communication evacuation procedures, communication with NTWC, communication with Local Government, media arrangements, communications with other stakeholder (eg Red Cross, fire services, search & rescue, police, army, navy, port and airport authorities, etc), identify the types of support required to develop/improve these areas.

11c) Would your country be willing to share your SOPs with the UNESCO-IOC Indian Ocean Tsunami Information Centre (IOTIC) and other countries?

Part IV   Public Awareness, Preparedness and Response (Evacuation Infrastructure and Tsunami Exercises)

12a) Does your country have evacuation infrastructure (evacuation shelters, vertical evacuation structures, natural or artificial hill for vertical evacuation, evacuation signage, other)?

12b) Is your evacuation infrastructure integrated in the evacuation plan

12a) Are tsunami exercises incorporated within national policies and guidelines?

12b) At what levels were the exercises conducted during the inter-sessional period between meetings of the ICG (national, regional, city, village, community)?

12c) What kind of tsunami exercise activities have been undertaken in your country and how many times in the intersessional period between meetings of the ICG (organisational table-top exercise, inter-organisational table-top exercise, national drill/exercise, local tsunami drill/exercise, IOWave exercise, other)

Part IV   Public Awareness, Preparedness and Response (Public Awareness)

13a) Who is responsible for tsunami public awareness programmes in your country?

13b) What tsunami related education and awareness materials do you have (eg flyers, posters, information boards, tsunami signage, videos, school curricula, indigenous knowledge, evacuation maps)

13c) Would your country be willing to share these education and awareness materials with UNESCO-IOC IOTIC?

13d) Do you undertake tsunami awareness activities (World Tsunami Awareness Day, Global Disaster Risk Reduction Day, public tsunami preparedness outreach, school and/or children awareness, exhibitions, competitions highlighting tsunami safety, other)?

13e) Indicate areas in which you require support from UNESCO-IOC IOTIC to develop or enhance public awareness in your country (provision of general tsunami awareness materials, customization of general materials to country or communities, development of tsunami awareness programme/activities/campaigns, participation/support by international agencies or experts to your country's activities)

13f) Can your country offer support to other |member states to develop or enhance public awareness in their country?

Part V UNESCO-IOC Tsunami Ready Recognition Programme (TRRP) or Similar National Initiatives

Inputs to be obtained from the Tsunami Ready Focal Point (TRFP) and/or other agencies responsible for the TRRP or other recognised similar initiative in the country

Indian Ocean Tsunami Information Centre

INDIA:
1. Venkatraipur
2. Noliasahi

INDONESIA:
1. Tanjung Benoa Village - Badung
2. Glagah Village - Kulonprogo
3. Kemadang Village - Gunung Kidul
4. Pangandaran Village - Pangandaran
5. Panggarangan Village - Lebak
6. Desa Tambakrejo - Malang
7. Kuta Mandalika Village - Lombok Tengah
8. Purus Village - Padang Barat
9. Lolong Belanti Village - Padang Utara

UNESCO-IOC
Tsunami Ready Recognition Programme

1. The community has designated and mapped tsunami hazard zones.
2. The community has information of the estimate number of people that live in the tsunami hazard zone.
3. The community has an inventory of available economic, infrastructural, political and social resources to reduce tsunami risk at the community level.
4. The community has a public display of tsunami information.
5. The community has easily understood tsunami evacuation maps as determined to be appropriate by local authorities in collaboration with communities.
6. Development and distribution of outreach and public education materials
7. Hold at least three outreach or education activities annually
8. Conduct a biennial tsunami community exercise.
9. Has a tsunami emergency operations plan (EOP) for the community.
10. Has the capacity to manage emergency response operations during a tsunami.
11. Has redundant and reliable means to receive 24-hour official tsunami alerts
12. Has redundant and reliable means to disseminate 24-hour official tsunami alerts to the public.

Indian Ocean Tsunami Information Centre
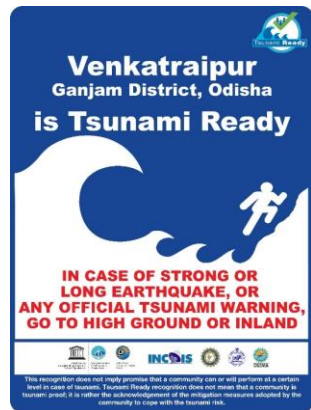
Part of the end-to-end tsunami early warning and mitigation system with a particular **focus on community awareness and preparedness**.

Community performance-based programme as an active collaboration of the public (community), community leaders, local and national emergency management agencies and the national warning centre.

Based on 12 Indicators

Developed from best practices and lessons learnt worldwide.

Part V   UNESCO-IOC Tsunami Ready Recognition Programme (TRRP) or Similar National Initiatives

14a) Does your country have an interest to participate in the UNESCO-IOC TRRP?

14b) Aside from UNESCO-IOC TRRP, is your country currently implementing any other tsunami resilience and preparedness related initiatives or programmes?

14c) What number of villages, cities/districts and provinces/state levels in your country are at risk to tsunami?

14d) Does your country have a National Tsunami Ready Board (NTRB)?
> *The NTRB is responsible for guiding the community on the steps for Tsunami Ready recognition and for the review and approval of the community's tsunami Ready application. It consists of designated representatives of the National Emergency Management Agency or National Disaster Management Office, NTWC, TNC, the scientific community, and other invited guests.*

14e) Which institutions should be involved in the implementation of TRRP or similar national initiative?

14f) Are any communities (for example villages, cities, districts, provinces or states) in your country currently working towards implementing or interested in implementing the UNESCO-IOC TRRP or similar national initiative?

14g) Have any communities achieved recognition through UNESCO-IOC TRRP or similar initiatives?

Part V   UNESCO-IOC Tsunami Ready Recognition Programme (TRRP) or Similar National Initiatives

15a) Is there national capacity to develop tsunami hazard maps?

15b) Is there national capacity to train the community on identifying and estimating the number of people that live in the tsunami hazard zone?

15c) Is there national capacity to train the community on the inventory of available economic, infrastructural, political, and social resources to reduce tsunami risk at the community level?

15d) Is there national capacity to work with the community to develop tsunami evacuation maps, plans, and procedures at the community level?

15e) Is there national capacity to work with the community to develop a public display of tsunami information?

15f) Is there national capacity to work with the community to develop local context outreach and public education materials?

15g) Is there national capacity to train and build capacity of communities to be able to organise and implement outreach and education activities?

15h) Is there national capacity to train and build capacity of communities to organise and implement tsunami exercises?

15i) Is there national capacity to train and build capacity of communities to be able to develop their Emergency Operational Plan?

15j) Is there national capacity to train and build capacity of communities to manage 24/7 tsunami emergency response actions?

15k) Is there national capacity to train and work with communities to develop mechanisms (means and procedures) to receive 24/7 warnings?

15l) Is there national capacity to train and work with communities to develop mechanisms (means and procedures) to disseminate 24/7 warnings to the community?

15m) What challenges may inhibit the implementation of TRRP or similar national initiatives in your country (tsunami not high-priority, limited resources, limited government support, limited awareness, limited activity, lack of community interest, no community group or engagement in disaster risk reduction, other)

Part VI   Narrative

Stakeholder inputs required: Tsunami National Contact (in consultation with other national stakeholders as necessary)

Part VI   Narrative

16) Describe any innovations or modifications to national tsunami warning and mitigation procedures or operations since the last reassessment in 2018. For example, research projects, implementation of new seismic and/or sea level monitoring technologies, tsunami mitigation activities and best practices (especially in preparedness and emergency management), as well as public education programmes or other measures taken to heighten awareness of the tsunami hazard and risk.
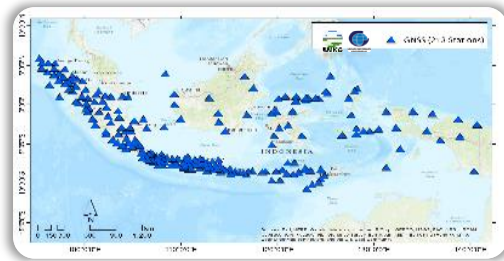
17) Provide a summary of plans for future tsunami warning and mitigation system improvements.

18) List areas where your country would like support for targeted capacity development.
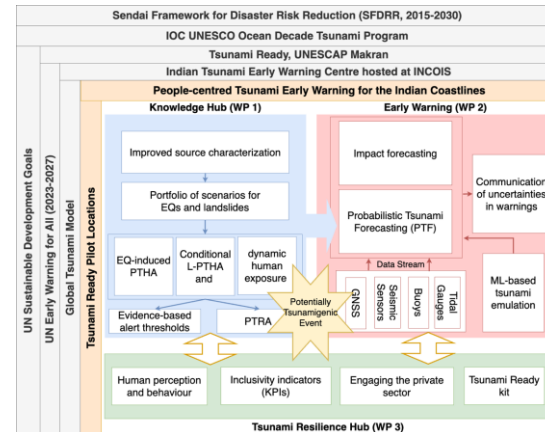
<u>**PLUS:**</u> **Opportunity to upload any supporting documents.**

Expanding Tsunami Ready scope

Tsunamis generated by non-seismic and complex sources

Enhanced observations

India/UK project: People-Centered Tsunami early Warning for the INdian coastlines (PCTWIN)

THANK YOU

ESCAP Multi-Donor Trust
Fund for Tsunami, Disaster
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