

RESULTS OF THE SURVEY

II.1. RISK ASSESSMENT AND REDUCTION

2025 UNESCO-IOC ICG/PTWS National Report on Capacity Assessment of Tsunami Preparedness

SURVEY INFORMATION AND QUESTIONS

Background information on the Tsunami Preparedness Capacity Assessment in the Pacific Ocean is provided in the online survey. The survey is based on the IOC Letter 24.113 as provided as an Annex to the CL-3027. Below is an overall description of the survey. The list of the survey is also provided together with the set of survey questions prepared for this assessment. The list of the survey is also provided in Spanish. Responses will be accepted in English and Spanish. While the questions of the survey are provided both in English and Spanish, responses will be accepted only in English, to better facilitate the analysis and evaluation of the survey data and results. We thank you in advance for your kind understanding on this matter.

The Tsunami National Contacts (TNCs) are requested to coordinate the completion of the online survey with other national stakeholders involved in end-to-end tsunami early warning and mitigation within their respective countries. Considering the importance of this survey, all Member States are requested to complete the survey by 04 de marzo 2025 EOB (UTC).

Part	Topic of the Survey	Stakeholder Inputs
I	Basic Information: TNC/NWCT/WFP contact details	Tsunami National Contact
II	Risk Assessment & Reduction: Hazard assessment, Risk Assessment, Policies, Plans, Guidelines	Inputs to be obtained from Management Office and agency responsible for Assessment in the Country
III	Detection, Warning and Dissemination	Inputs to be obtained from Tsunami Warning Center and agency responsible for dissemination of tsunami within the country
IV	Public Awareness, Preparedness & Response: SOPs, Evaluation, Tsunami exercises, Public Awareness	Inputs to be obtained from Management Office responsible for preparedness, at National Contact Point (TRFP), if agencies responsible for other similar in
V	Tsunami Ready Recognition Programme (TRRP)	Tsunami Ready
VI	Narrative: Important recent developments and summary of future plans.	Tsunami National Contact

Responses to this survey need to be coordinated, compiled, and submitted by each Member State. The survey has six (6) distinct parts, as presented below, and each part requires information of different stakeholders based on their national responsibility in the end-to-end system complete of Alerta de Tsunami y Sistema de Mitigación.

INFORMACIÓN Y PREGUNTAS DE LA ENCUESTA

Los antecedentes sobre la evaluación de Capacidad de Preparación ante Tsunami en el Océano Pacífico son entregados por la carta circular de la COI 24.113 según lo dispuesto como Anexo a la CL-3027. A continuación, se encuentra una descripción general de la encuesta entregada, junto a el conjunto de preguntas preparadas para esta evaluación. Mientras que las preguntas son entregadas tanto en inglés como español, las respuestas serán requeridas sólo en inglés, con el fin de facilitar el análisis y la evaluación de los datos y resultados de la encuesta. Agradecemos de antemano su comprensión sobre esta disposición.

Los Contactos Nacionales de Tsunami (CNT) deberán coordinar la respuesta del cuestionario en línea, bajo consulta de los órganos involucrados en los procesos de alerta temprana y mitigación en su país. Considerando la importancia de esta encuesta, los Estados Miembros deberán completarla hasta el 04 de marzo 2025 (UTC).

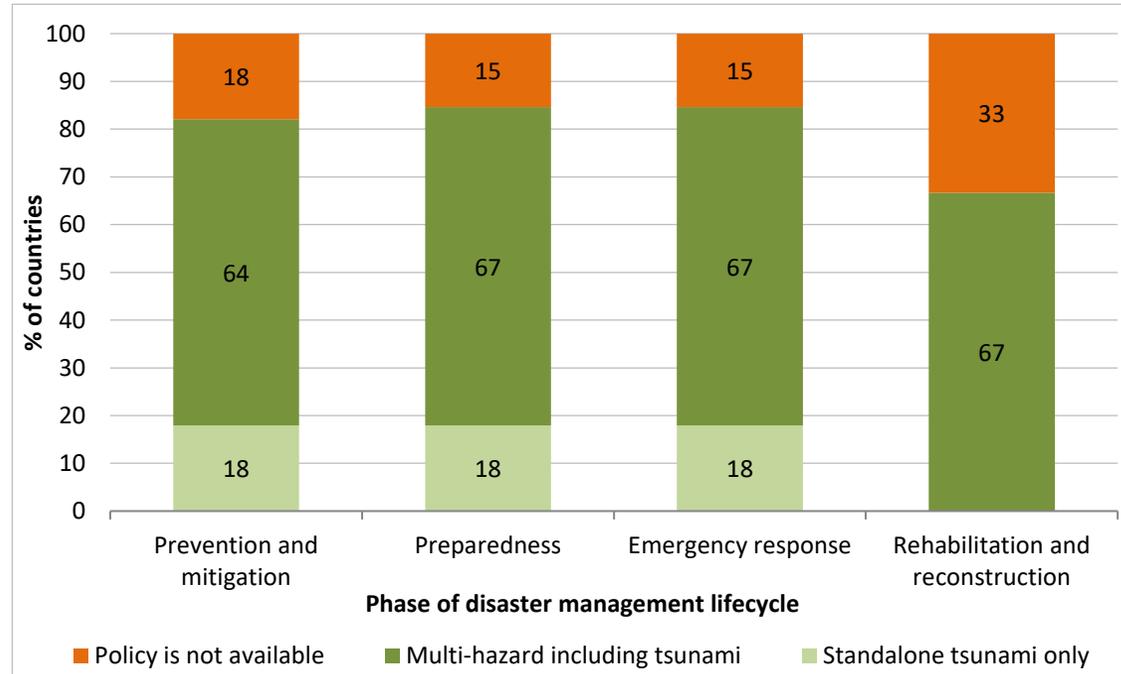
Parte	Tema de la encuesta	Aportes de los órganos involucrados
I	Información Básica: Datos de contacto	Contacto Nacional de Tsunami
II	Evaluación y Reducción de Riesgo: Evaluación de la Amenaza, Evaluación del Riesgo, Políticas, Planes, Directrices	Aportes obtenidos desde la Oficina de Manejo de Emergencias y/o cualquier otra agencia responsable de la evaluación de Amenaza/Riesgo en el país
III	Detección, Aviso y Difusión	Aportes obtenidos desde el Centro Nacional de Tsunami y/o cualquier otra agencia responsable de la generación y difusión de alerta temprana de Tsunami al interior del país.
IV	Concientización Pública, Preparación y Respuesta: Procedimientos Operativos Estándar (SOP) por sus siglas en inglés), Evacuación, Ejercicios de Tsunami, Concientización Pública, preparación y respuesta en el país	Aportes de la Oficina de Manejo de Emergencias y/u otras agencias responsables de la concientización del público, preparación y respuesta en el país
V	Programa de Reconocimiento Tsunami Ready	Aportes obtenidos del Contacto Nacional de Tsunami, Punto Focal Tsunami Ready (PFTR) por sus siglas en inglés) si esta identificado y/u otras agencias responsables del Programa de Reconocimiento Tsunami Ready u otra iniciativa similar en el país.
VI	Desarrollos recientes importantes y resumen de planes futuros.	Contacto Nacional de Tsunami

Las respuestas a esta encuesta deben ser coordinadas, compiladas y enviadas por el Contacto Nacional de Tsunami (CNT) de cada Estado Miembro. La encuesta consta de seis (6) partes distintas tal como se presenta a continuación. Cada parte requiere información de diversos organismos involucrados, basado en su responsabilidad nacional en el sistema completo de Alerta de Tsunami y Sistema de Mitigación.

NATIONAL POLICIES

6a) Does your country have a national tsunami policies?

For each of the four disaster management phases, select standalone policy / multi hazard policy / policy not available.



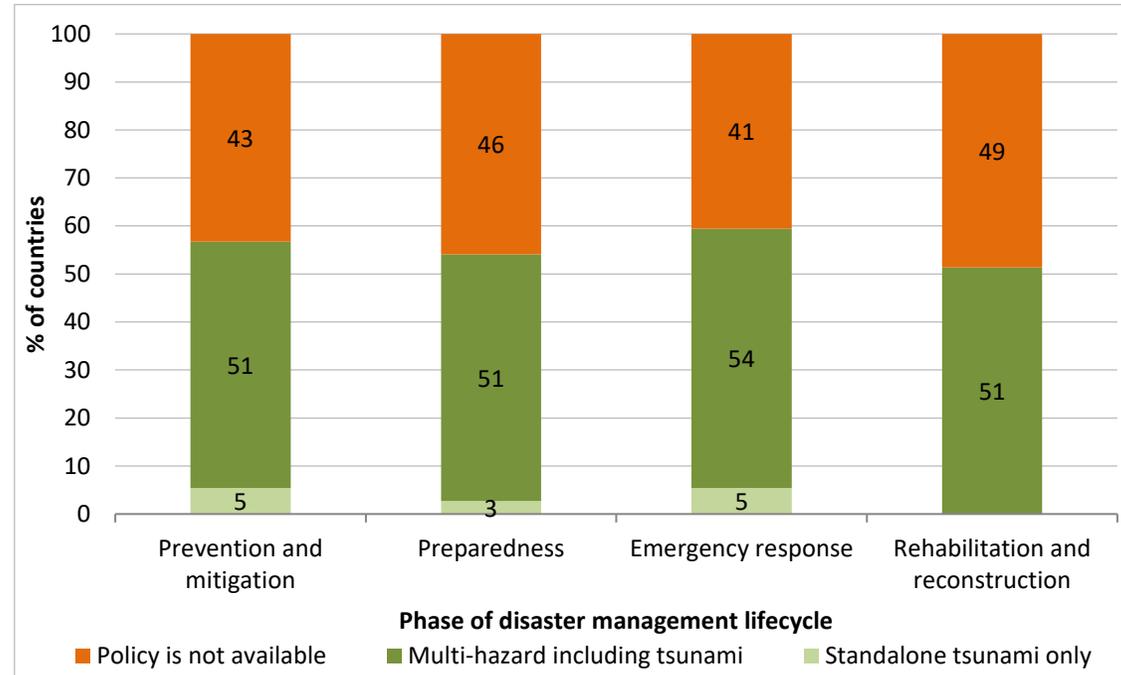
Answered: 39 Skipped: 0

- 34 countries (87%) with some form of national policy
- Mostly multi-hazard including tsunami
- 26 countries (76%) addressed all four phases

LOCAL POLICIES

6b) Does your country have local tsunami policies?

For each of the disaster management phases, select standalone policy / multi hazard policy / policy not available.



Answered: 37 Skipped: 2

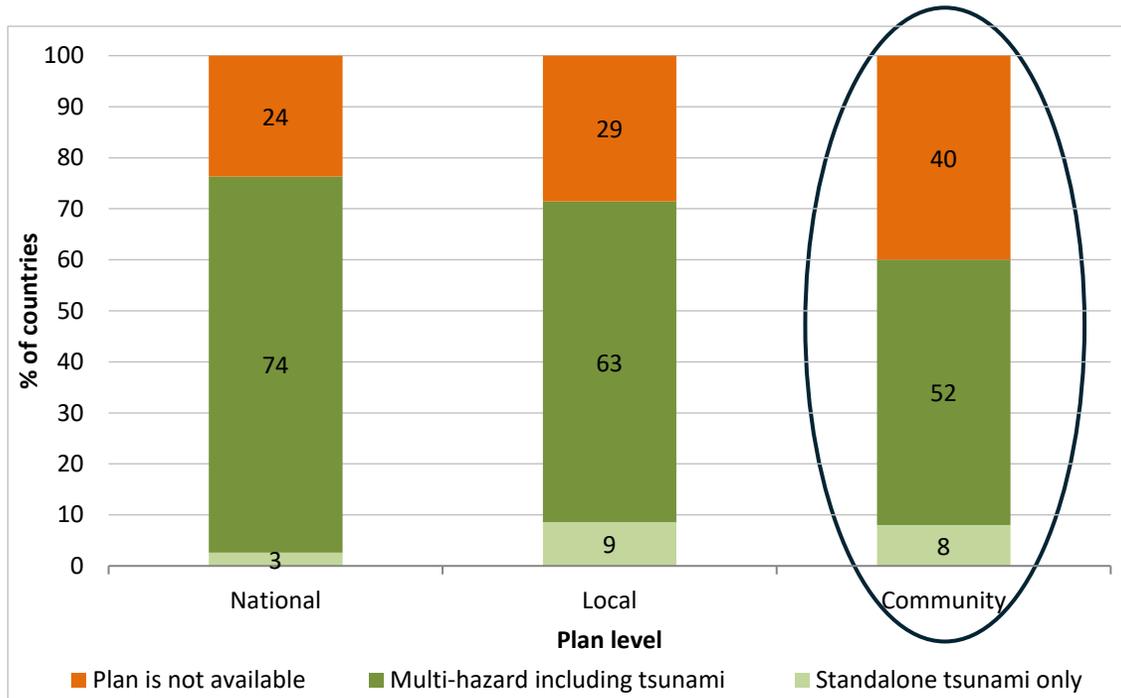
- 22 countries (59%) with some form of local policy
- Multi-hazard including tsunami except for 2 countries
- 19 countries (86%) addressed all four phases

DISASTER RISK REDUCTION PLANS (1/2)

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

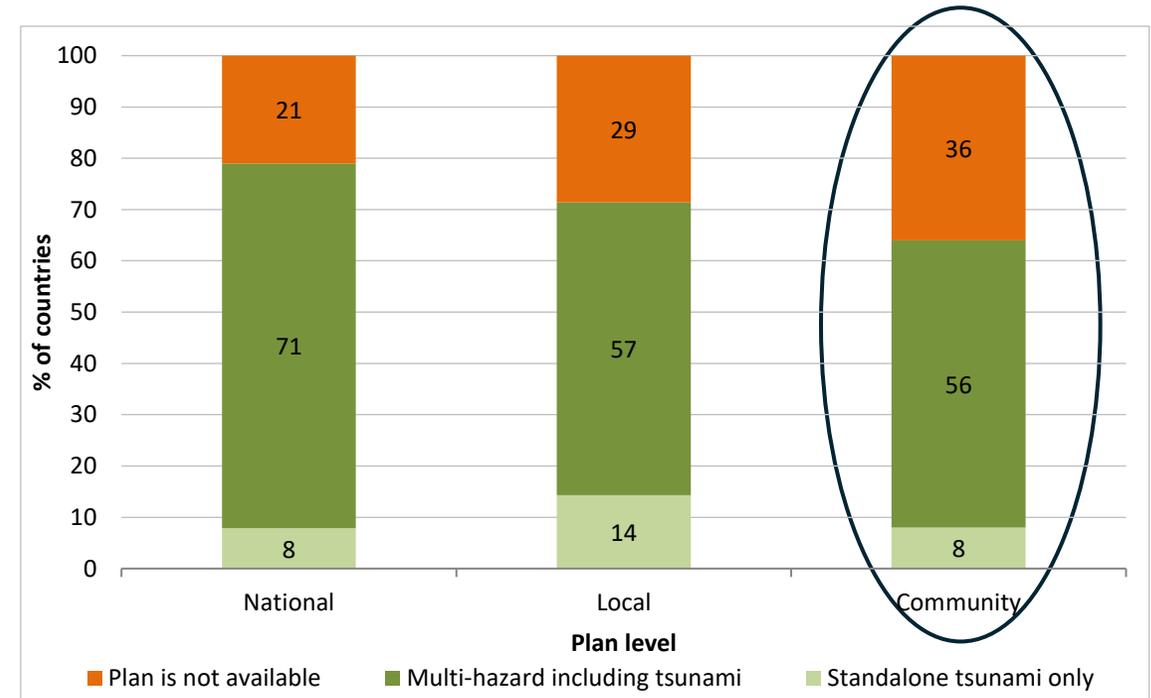
For each of the four disaster management phases, select standalone plan / multi hazard plan / plan not available.

PREVENTION AND MITIGATION PHASE



Answered: 38 Skipped: 1

PREPAREDNESS PHASE



Answered: 38 Skipped: 1

- Results to be taken with caution, since 12 countries skipped answering at the community level
- To date, 31 countries (82%) with some form of DRR plan

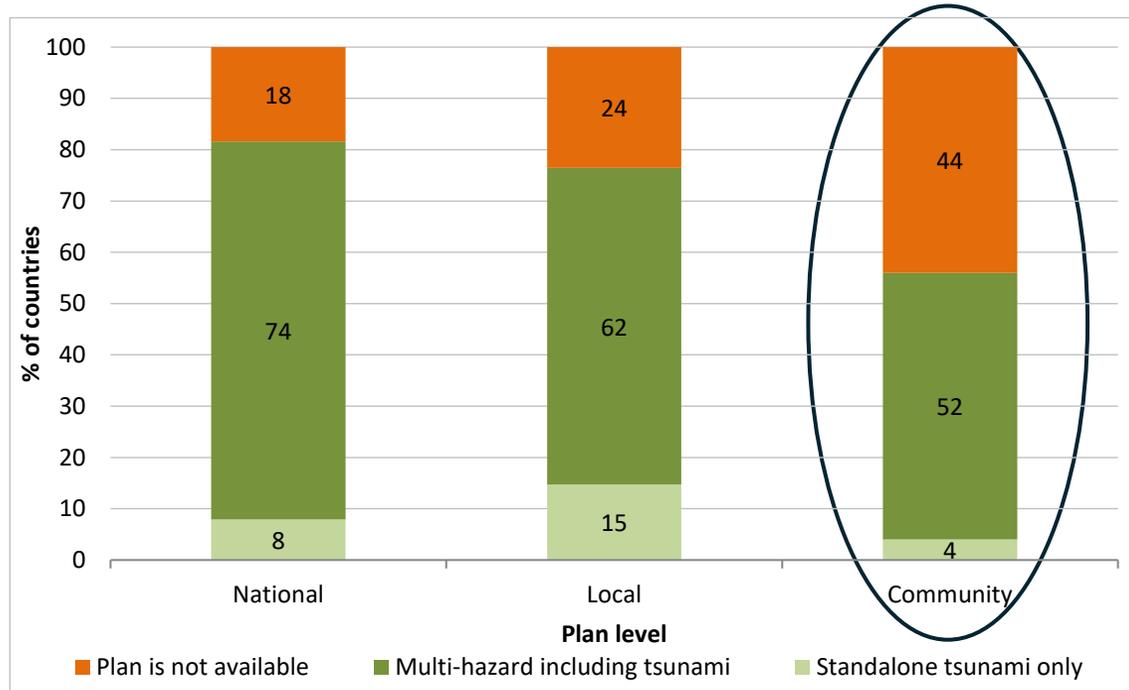


DISASTER RISK REDUCTION PLANS (2/2)

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

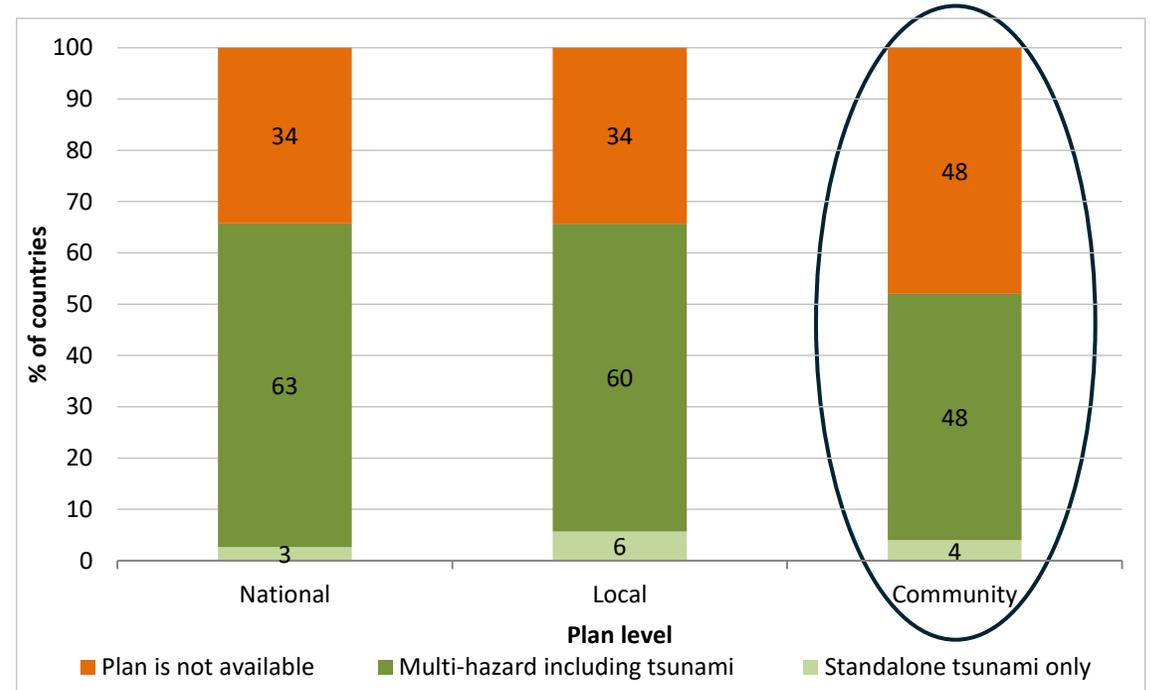
For each of the four disaster management phases, select standalone plan / multi hazard plan / plan not available.

EMERGENCY RESPONSE PHASE



Answered: 38 Skipped: 1

REHABILITATION AND RECONSTRUCTION PHASE



Answered: 38 Skipped: 1

- Mostly multi-hazard including tsunami for all phases

7b) Are your country's tsunami disaster risk reduction plans based on hazards and risk assessments?

Answered: 39 Skipped: 0

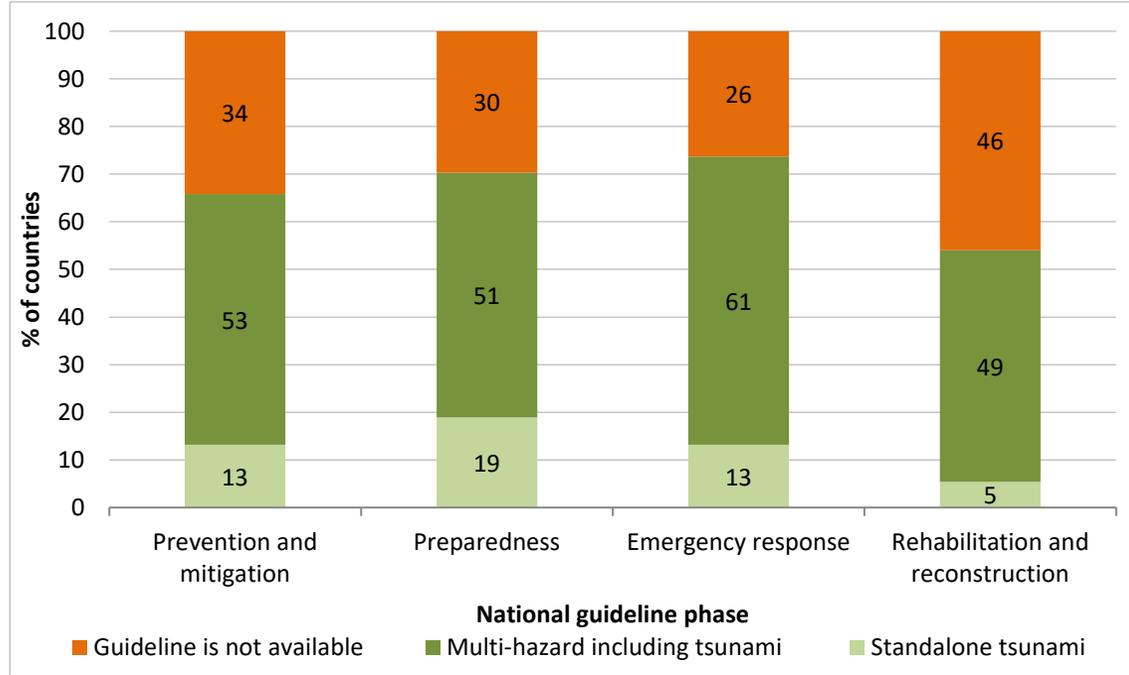
- 31 countries (79%) reported that DRR plans are based on hazard and risk assessments



GUIDELINES

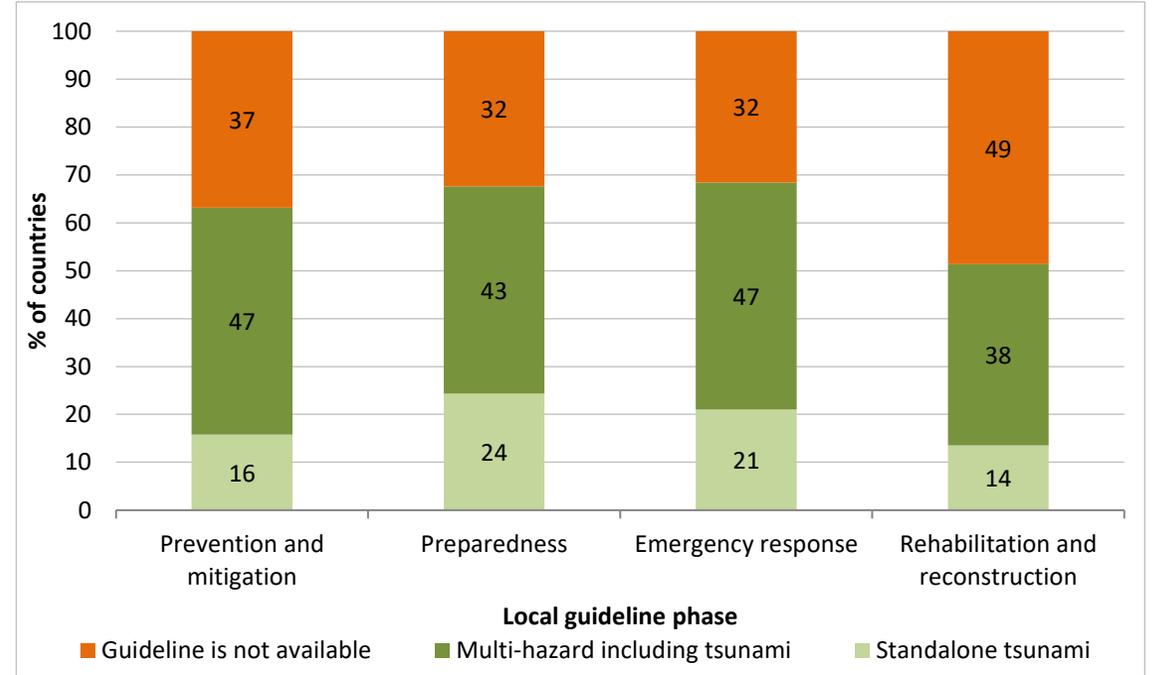
8a) Does your country have national tsunami DRR guidelines? & 8b) Does your country have local tsunami DRR guidelines?

NATIONAL



Answered: 38 Skipped: 1

LOCAL



Answered: 38 Skipped: 1

- 28 (74%) and 26 (68%) countries with some form of national and local DRR guidelines, respectively
- Mostly multi-hazard including tsunami



HAZARD ASSESSMENT (1/10)

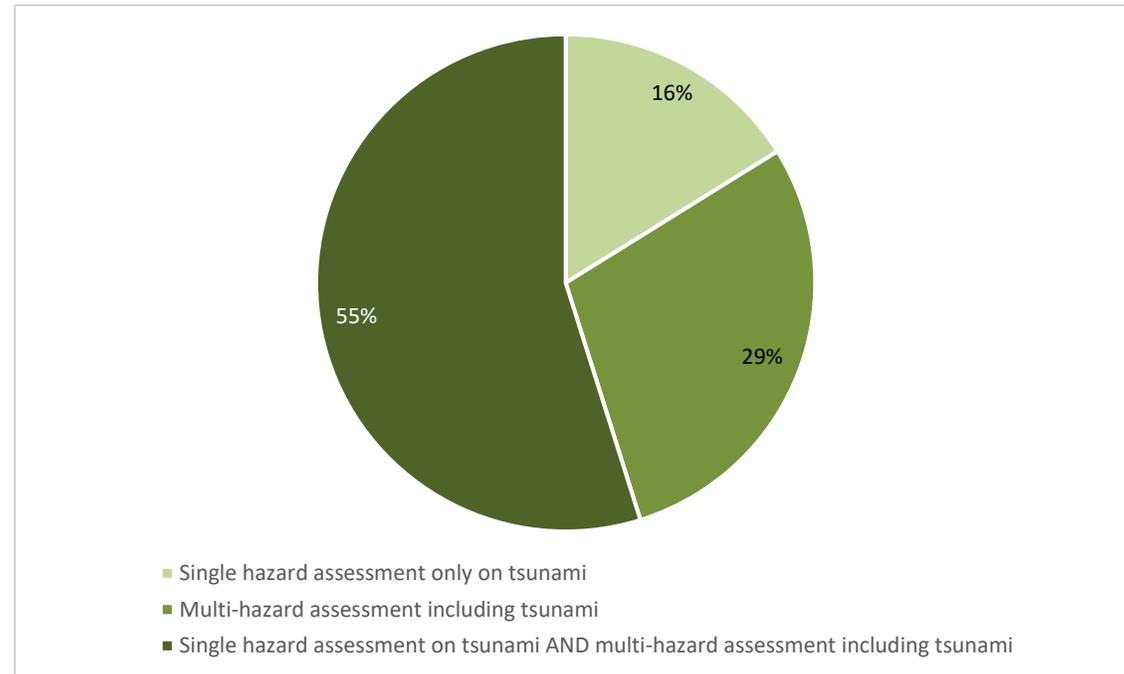
4a) Has your country undertaken a tsunami hazard assessment?

Answered: 39 Skipped: 0

- Conducted by 31 countries (79%) of 39 respondents

TYPE OF HAZARD ASSESSEMENT

4b) What type of hazard assessment has been carried out?

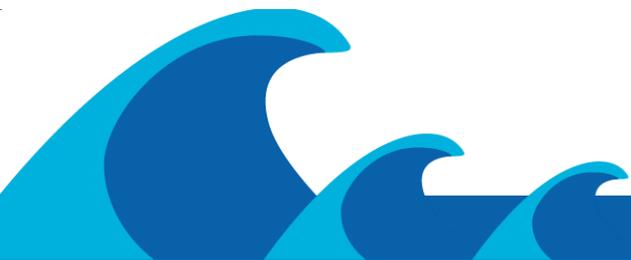


Answered: 39 Skipped: 0



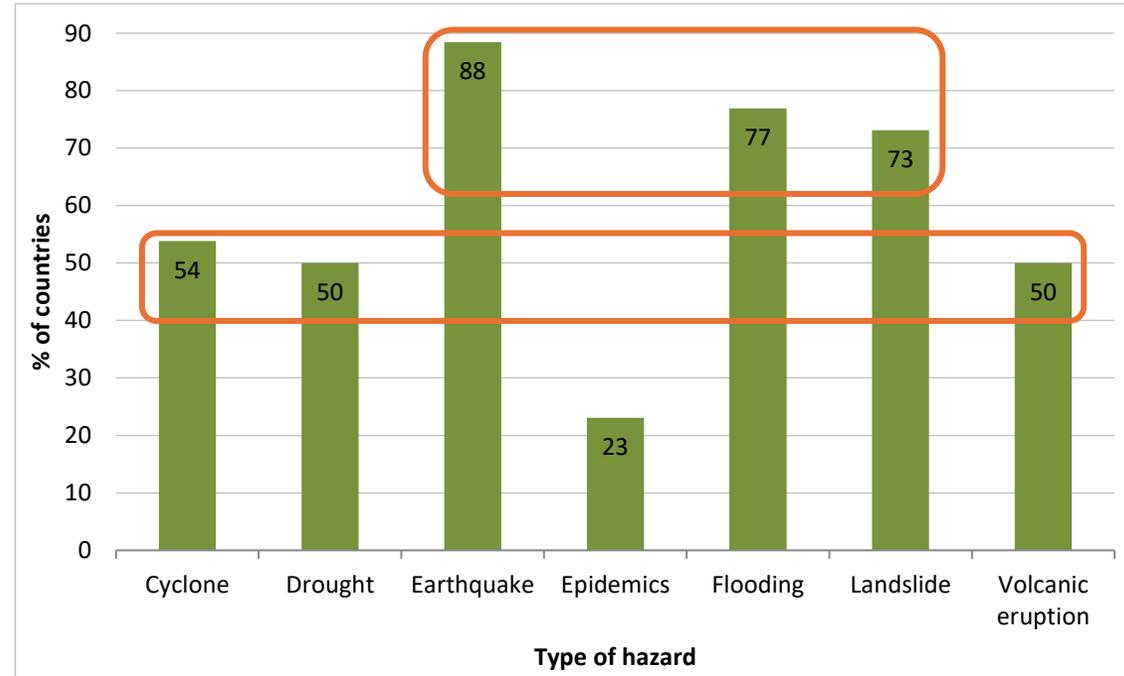
HAZARD ASSESSMENT (2/10)

Region	Hazard assessment undertaken	Type
Central American Pacific Coast	83% YES – 17% NO	<ul style="list-style-type: none">• 40% Single hazard on tsunami• 40% Multi-hazard including tsunami• 20% Both
South China Sea	87% YES – 13% NO	<ul style="list-style-type: none">• 0% Single hazard on tsunami• 43% Multi-hazard including tsunami• 57% Both
Southeast Pacific	100% YES	<ul style="list-style-type: none">• 50% Single hazard on tsunami• 0% Multi-hazard including tsunami• 50% Both
Pacific Island Countries and Territories	61% YES – 39% NO	<ul style="list-style-type: none">• 0% Single hazard on tsunami• 37,5% Multi-hazard including tsunami• 62,5% Both



TYPE OF HAZARDS

4c) If multi-hazard, what additional hazard assessments has been carried out?

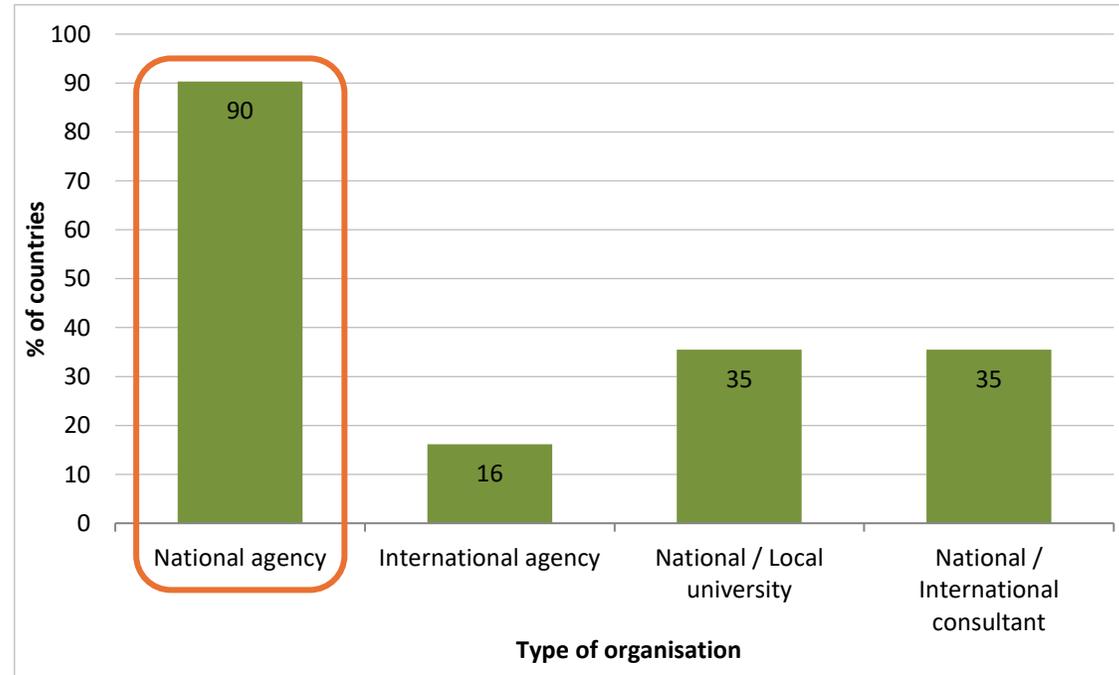


Answered: 26 Skipped: 13

- Other : torrential floods, coastal erosion, forest fires, avalanche, severe weather, sea surge, pandemic Covid, storm surge, ocean wave, sea ice and liquefaction
- 7 hazards considered by 2 countries, mostly 3 hazards by 7 countries – no pattern of hazard combination

ORGANISATION IN CHARGE

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



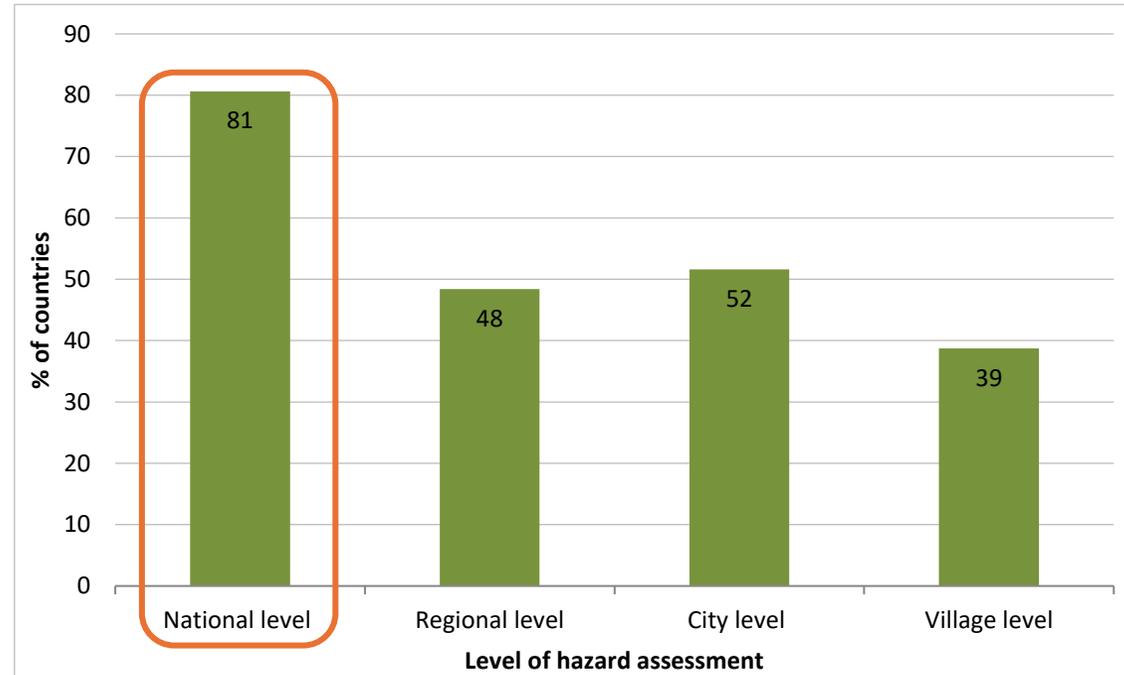
Answered: 31 Skipped: 8

- 17 countries (55%) involved multiple organisations
- Other: local governments, private consultants, regional scientific organisations (e.g. SPC, SPREP) and non-governmental organisations (e.g. Red Cross)

HAZARD ASSESSMENT (5/10)

LEVEL

4e) At what level was the tsunami hazard assessment carried out?



Answered: 31 Skipped: 8

- 21 countries (68%) carried out hazard assessment at multiple levels
- Other: state or province

HAZARD ASSESSMENT (6/10)

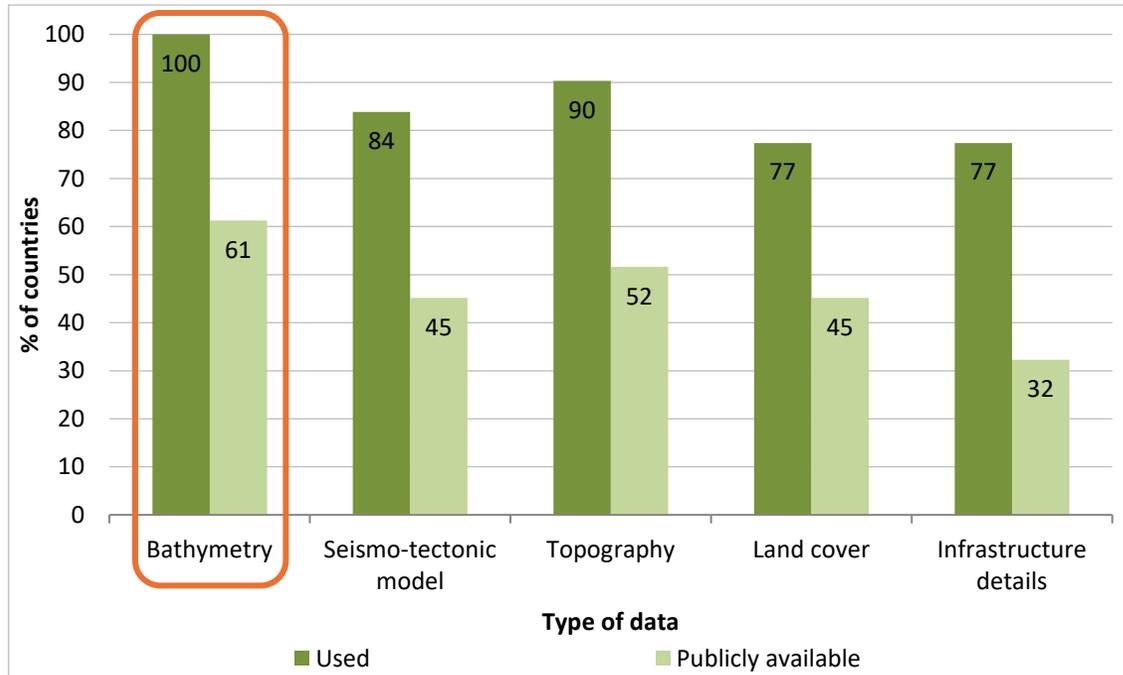
4f) For which type of sources was the tsunami hazard assessment carried out?

Answered: 31 Skipped: 8

- Mostly based on earthquake source (97%) and slightly volcanic and landslide sources (26%)

TYPE OF DATA AND AVAILABILITY

4h) For each of the data types listed, were these data used? Publicly available?

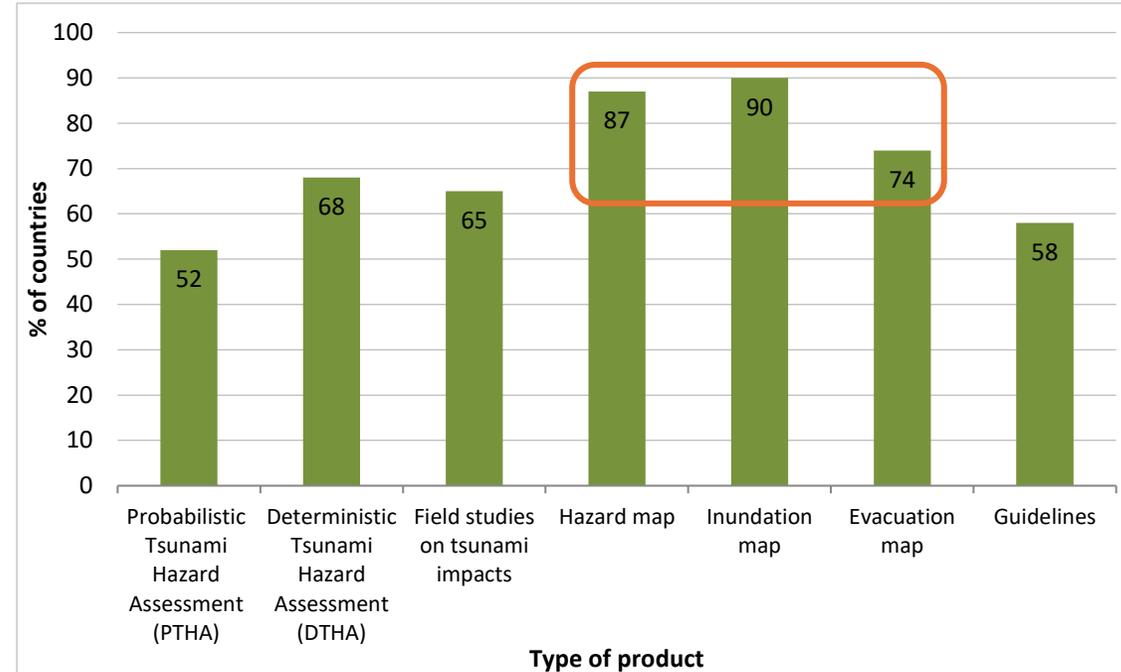


Answered: 31 Skipped: 8

- Two or more data types used by 100% of the countries
- All data available to the public in over 32% up to 61%
- Other: field studies, reports and surveys on tsunami impacts, historical tsunami observation testimonies, sea level and tidal regime calculations, household vulnerability and population data, volcano and landslide source models, and imagery (aerial, satellite, LiDAR)

DERIVATIVE PRODUCTS

4i) What products do you have from the tsunami hazard assessment?



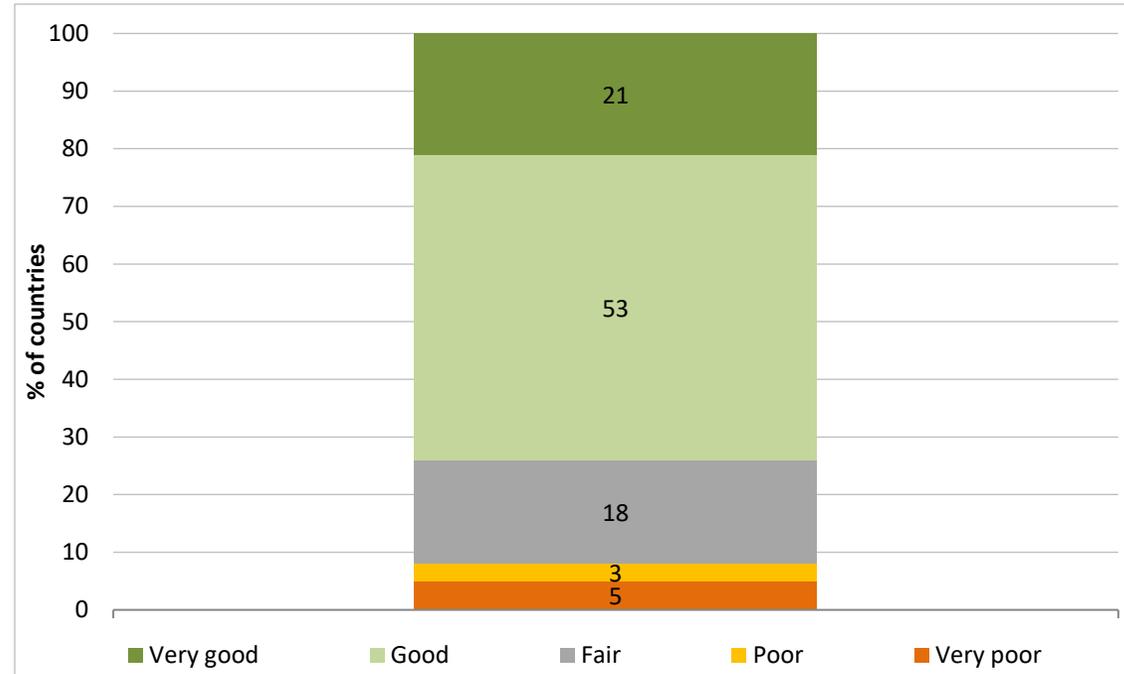
Answered: 31 Skipped: 8

- 21 countries have ≥ 5 products and 10 countries have ≤ 4 products
- Other: Tsunami Travel Times (TTT) and Standard Operating Procedures (SOPs)

HAZARD ASSESSMENT (8/10)

COUNTRIES CAPABILITY

4j) On a scale of 1 (Very poor) to 5 (Very good), please rate your country's capability to undertake tsunami hazard assessment.



Answered: 38 Skipped: 1

- 74% of the countries (28) consider having good or very good capability to undertake tsunami hazard assessment

CAPACITY IMPROVEMENT

4k) On a scale of 1 (Not a priority) to 5 (Essential), what is the priority level in your country to improve capacity in the following areas of tsunami hazard assessment?

Answered: 38 Skipped: 1

Areas of tsunami hazard assessment	RII	Rank
Inundation map	0,83	1
Evacuation map	0,82	2
Hazard map	0,81	3
Deterministic Tsunami Hazard Analysis (DTHA)	0,78	4
Field studies on tsunami impacts	0,76	5
Probabilistic Tsunami Hazard Assessment (PTHA)	0,74	6

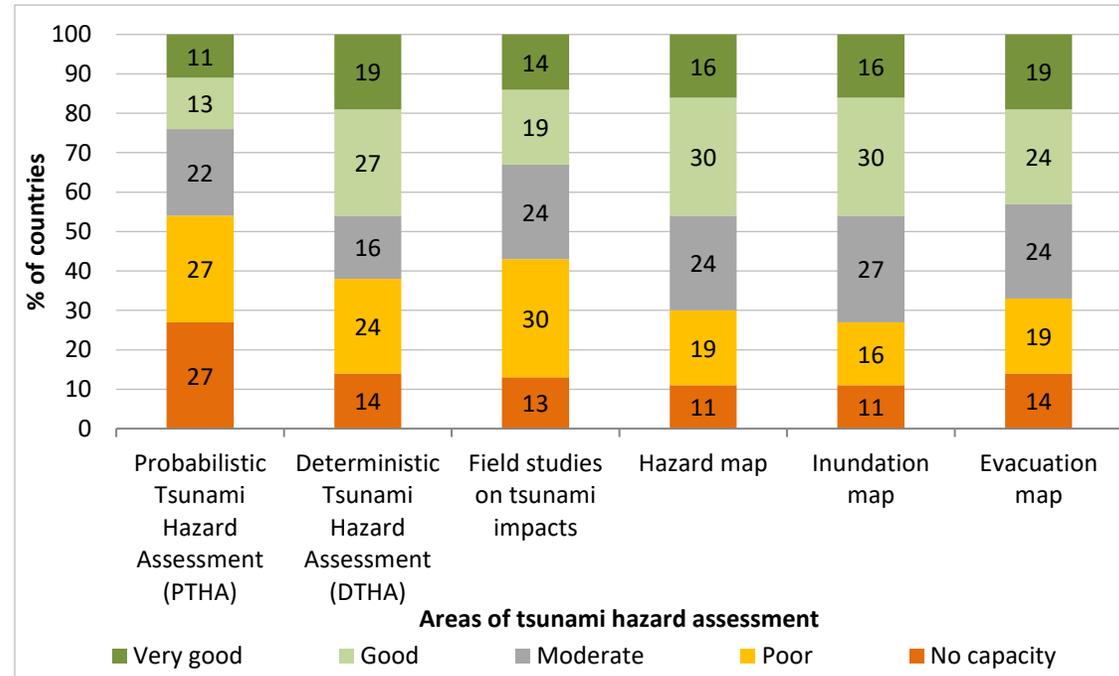
- All areas require improvement with highest priority on inundation map

- Other:
 - Development and establishment of minimum tsunami competency standards / requirements for staff of the NTWC and capacity development for tsunami watch keepers in terms of building seismic skills
 - Ability to identify non-seismic tsunamigenic sources such as submarine landslides and volcanic eruptions
 - Tsunami impacts based financing, Tsunami modeling
 - Impacts (inundation and dragging), exposition and vulnerability maps
 - Maps and products to delineate locations where there is no high ground for evacuation and therefore vertical evacuation options (such as towers) must be constructed
 - Consideration of smaller settlements and islands
 - Human resources for tsunami software analysis, development, and dissemination
 - Communication between all parties (from modelers to emergency management) to ensure that the scientific results are translated into emergency management response

HAZARD ASSESSMENT (10/10)

COUNTRIES CAPACITY TO GIVE TRAINING AND/OR CONSULTANCY

4l) On a scale of 1 (No capacity) to 5 (Very good), what capacity does your country have to give training and/or consultancy on tsunami hazard assessment to other countries?



Answered: 37 Skipped: 2

- Capacity available to deliver training and/or consultancy in all six areas, more specifically in mapping
- No capacity for none of the areas for 3 countries

RISK ASSESSMENT (1/9)

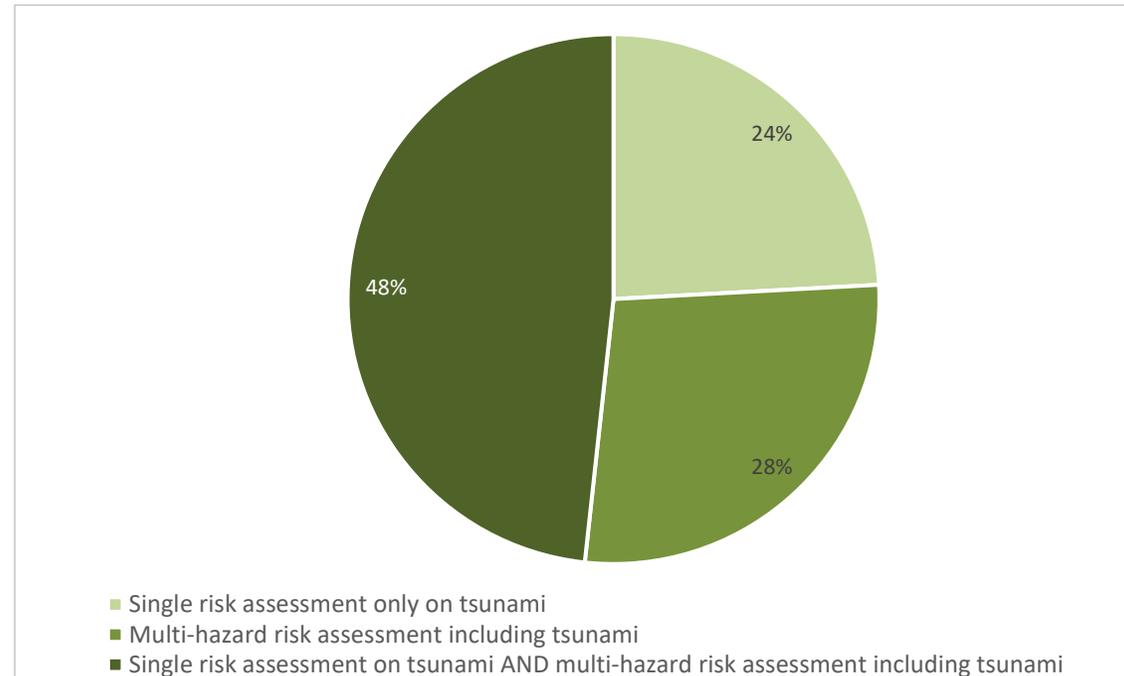
5a) Has your country undertaken a tsunami risk assessment?

Answered: 39 Skipped: 0

- Conducted by 29 countries (74%) of 39 respondents

TYPE OF RISK ASSESSEMENT

5b) What type of tsunami risk assessment was undertaken?



Answered: 29 Skipped: 10



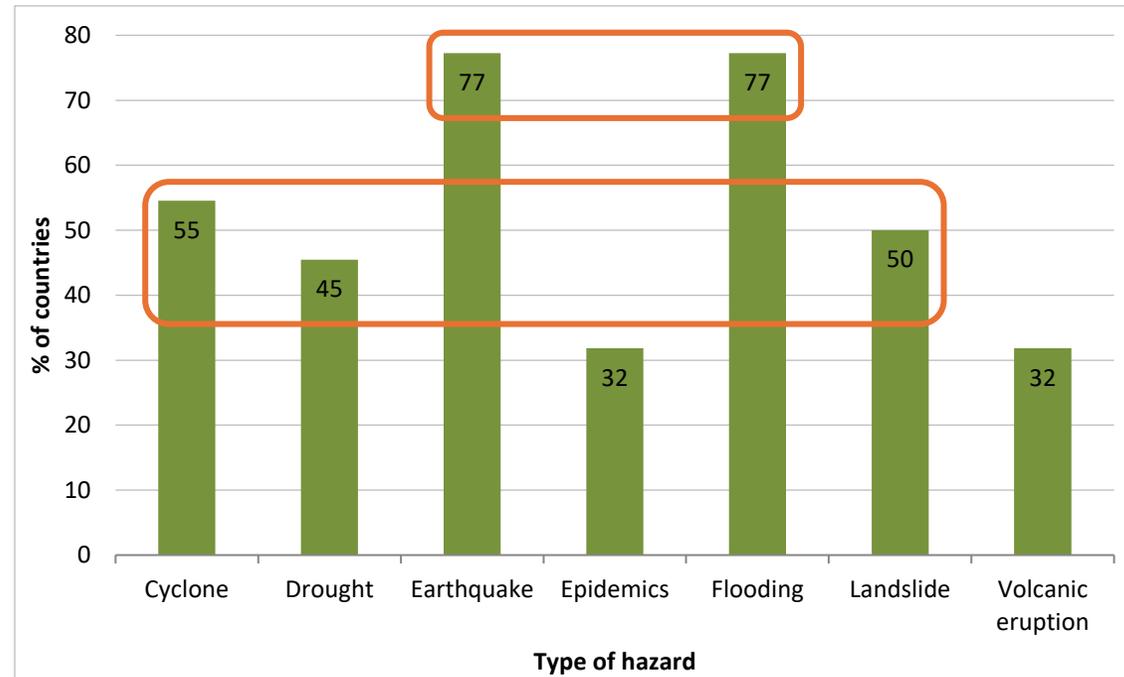
RISK ASSESSMENT (2/9)

Region	Risk assessment undertaken	Type
Central American Pacific Coast	67% YES – 33% NO	<ul style="list-style-type: none">• 75% Single risk assessment on tsunami• 25% Multi-hazard including tsunami• 0% Both
South China Sea	86,5% YES – 12,5% NO	<ul style="list-style-type: none">• 14% Single risk assessment on tsunami• 43% Multi-hazard including tsunami• 43% Both
Southeast Pacific	75% YES – 25% NO	<ul style="list-style-type: none">• 0% Single hazard on tsunami• 33% Multi-hazard including tsunami• 67% Both
Pacific Island Countries and Territories	62% YES – 38% NO	<ul style="list-style-type: none">• 25% Single hazard on tsunami• 12,5% Multi-hazard including tsunami• 62,5% Both



TYPE OF HAZARDS

5c) If multi-hazard, what additional hazards have been considered in your multi-hazard risk assessment?

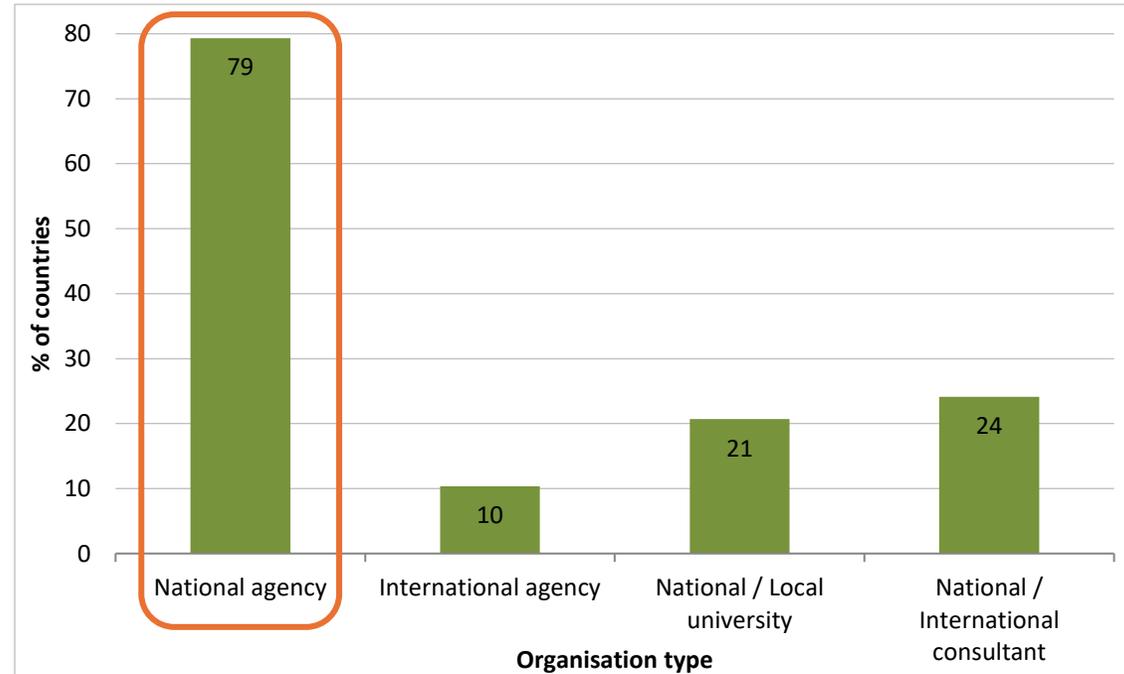


Answered: 22 Skipped: 17

- Other: forest fires, sea surge, king tide, extreme weather, extreme wave / abrasion, flash flood, and pandemic Covid

ORGANISATION IN CHARGE

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



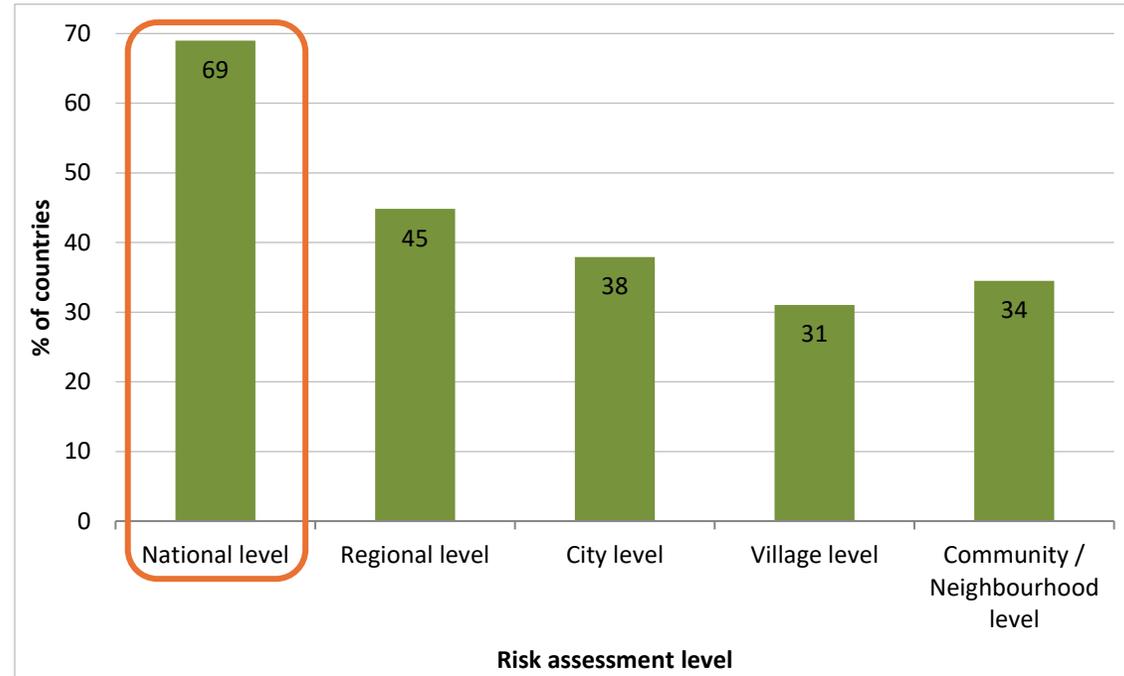
Answered: 29 Skipped: 10

- Multiple actors for 14 countries (48%)
- Other: regional agencies, state and local governments, local communities, private sector consultants, and non-governmental organisations (e.g., Red Cross)

RISK ASSESSMENT (5/9)

LEVEL

5e) At what level was the tsunami risk assessment carried out?

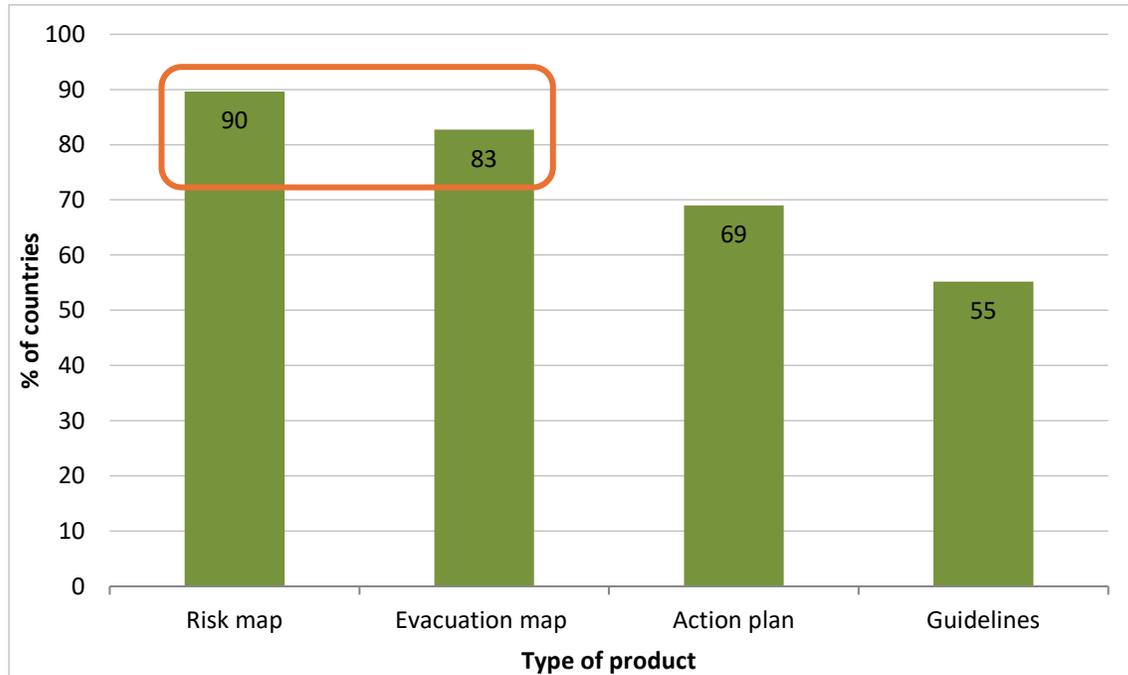


Answered: 29 Skipped: 10

- Tsunami risk assessments mainly conducted at a national level (69%)
- Carried out at multiple levels for 48% of countries

TYPE OF PRODUCTS

5h) What products do you have from the tsunami risk assessment?



Answered: 29 Skipped: 10

- Development of ≥ 2 products for 25 countries (86%)
 - single product for 4 countries being risk map
- Other: Standard Operating Procedures (SOPs) and decrees

5i) Has pedestrian evacuation modelling been included in the tsunami risk assessment?

Answered: 28 Skipped: 11

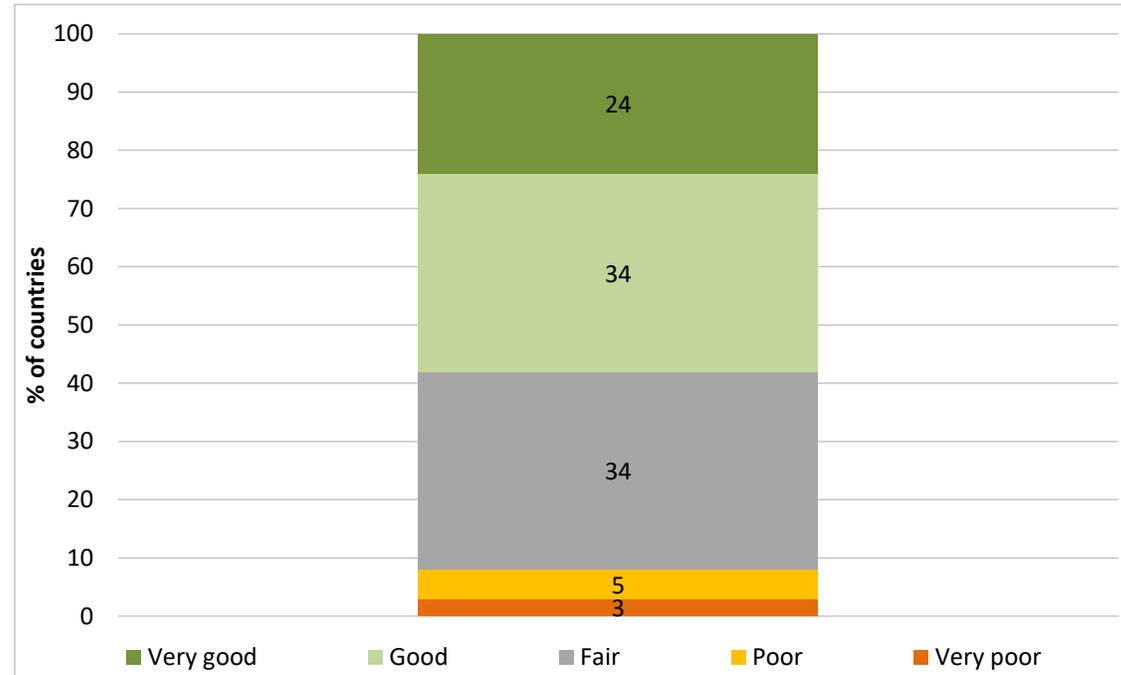
- Pedestrian evacuation modelling included for 16 countries (57%)



RISK ASSESSMENT (7/9)

COUNTRIES CAPABILITY

5j) On a scale of 1 (Very poor) to 5 (Very good), please rate your country's capability to undertake tsunami risk assessment.



Answered: 38 Skipped: 1

- 58% of the countries (22) consider having good or very good capability to undertake tsunami risk assessment

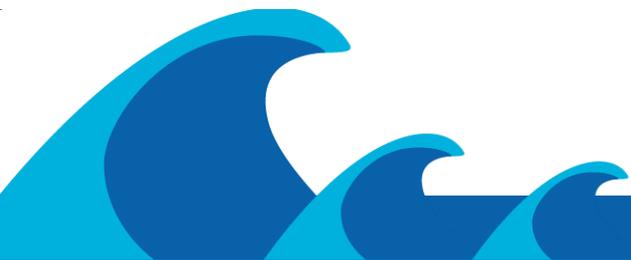
CAPACITY IMPROVEMENT

5k) On a scale of 1 (Not a priority) to 5 (Essential), what is the priority level of your country to improve capacity in the following areas of tsunami risk assessment?

Answered: 38 Skipped: 1

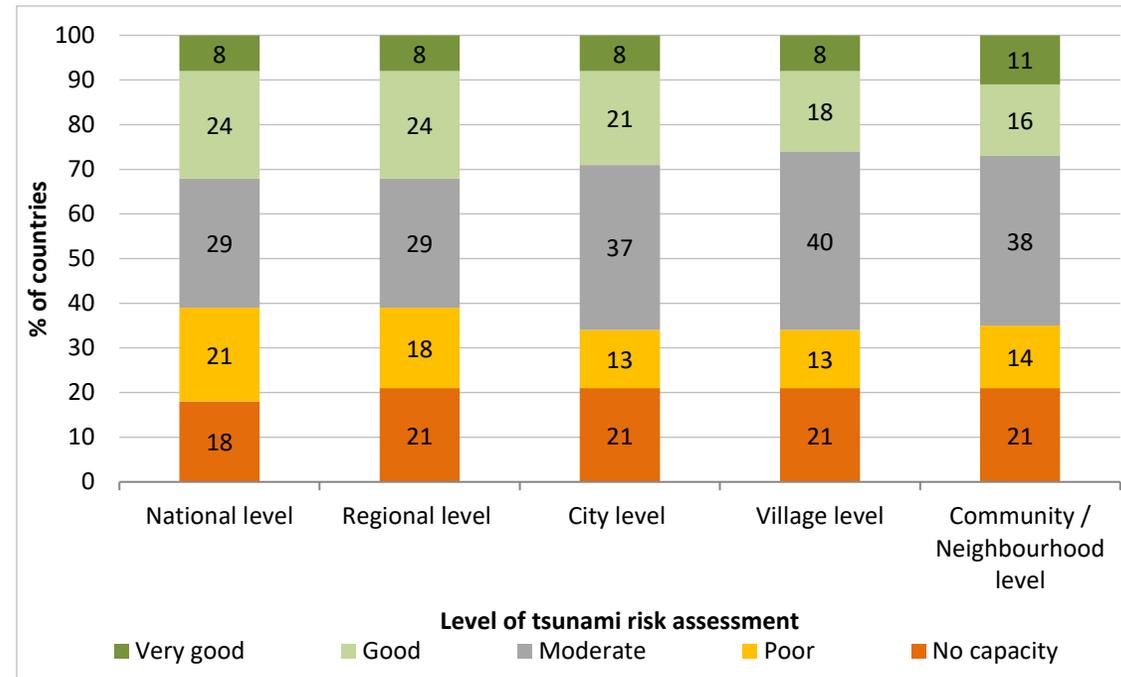
Priority level	RII	Rank
National level	0,80	1
Regional level	0,79	2
City level	0,77	3
Village level	0,72	4
Community / Neighbourhood level	0,72	4

- Other (3 countries):
 - Tsunami ready components
 - Tsunami competency standards
 - Scholarship opportunities
 - Continuous advocacy on tsunami awareness and drills
 - Required data for proper tsunami risk assessment
 - Impact assessment with probability approach
 - Building resistance evaluation
 - Tsunami modeling



COUNTRIES CAPACITY TO GIVE TRAINING AND/OR CONSULTANCY

5l) On a scale of 1 (No capacity) to 5 (Very good) what capacity does your country have to give training and/or consultancy on tsunami risk assessment to other countries?



Answered: 38 Skipped: 1

- Up to 66% of the countries with moderate capacity to give training
- 8 countries (21%) with good or very good capacity at each level
- No capacity in any of the levels for 5 countries (13%)