INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

Fourteenth Session of the Intergovernmental Coordination Group
for the Indian Ocean Tsunami Warning and Mitigation System
(ICG/IOTWMS-XIV)

Jakarta, Indonesia, 17-19 November 2024

National Report of Thailand

Page 1: Overview

Q1

Consent: I have read the above information and wish to proceed.

Confirm by clicking the checkbox

Q2

Please select your country from the list below:

Thailand

Page 2: PART I: Basic Information

Q3

TNC Name:

Mr. Chaiwat Chuntirapong

Q4

Position:

Director-General

Q5

Organisation:

Department of Disaster Prevention and Mitigation

Q6

Telephone Number:

Q7

E-mail Address:

foreign_dpm@yahoo.com

Q8

Fax Number:

Q9

Postal Address:

3/12 U-Thong Nok Rd., Dusit , Bangkok 10300 Thailand

Page 3: PART I: Basic Information

Q10

NTWC Agency Name:

National Disaster Warning Center

Q11

NTWC URL (web link) for tsunami warnings:

http://123.155.1.141/in.ndwc-9.283/

Q12

NTWC Agency Contact or Officer in Charge (person):

Department of Disaster Prevention and Mitigation

Q13

Position:

Director

Q14

Telephone Number:

Q15

E-mail Address:

saraban_center@disaster.go.th

Q16

Postal Address:

3/12 U-Thong Nok Rd., Dusit , Bangkok 10300 Thailand

Q17

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.

Yes

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Q18

TWFP Agency Name (if different from the NTWC Agency):

Respondent skipped this question

Q19

Name:

Respondent skipped this question

Q20

Position:

Respondent skipped this question

Q21

Telephone Number:

Respondent skipped this question

Q22

E-mail Address:

Respondent skipped this question

Q23

Postal Address:

Respondent skipped this question

Page 5: PART I: Basic Information

Q24

TWFP 24x7 point of contact (office, operational unit or position, not a person):

Daily Disaster Warning Operation Group Supervisor

Q25

E-mail Address:

Q26

Telephone Number:

Q27

Cellular Telephone Number:

Q28

Fax:

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Q29

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.

No

Q30

If yes, please provide their details below:Name of the TRFP:

Respondent skipped this question

Q31

Position:

Respondent skipped this question

Q32

Agency:

Respondent skipped this question

Q33

Telephone Number:

Respondent skipped this question

Q34

E-mail Address:

Respondent skipped this question

Q35

Postal Address:

Respondent skipped this question

Page 7: PART II: Hazard Assessment

Q36

4a) Has your country undertaken a hazard assessment?

Yes

Page 8: PART II: Hazard Assessment

Q37

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

Multi-hazard assessment including tsunami

Page 9: PART II: Hazard Assessment

Q38

4c) What type of multi-hazard assessment has been carried out? (select all that apply)

Drought,

Tsunami,

Flooding,

Landslide

Page 10: PART II: Hazard Assessment

Q39

4d) Who did the tsunami hazard assessment in your country? (select all that apply)

National Agency,

International Agency,

National / Local University,

National / International Consultant

Q40

4e) At what level was the tsunami hazard assessment carried out? (select all that apply)

National Level,

City Level,

Village Level

Q41

4f) Which coastal areas have been mapped for tsunami hazard? Please include the names of the Region / City and an approximation of the percentage mapped.

Thailand Tsunami Hazard

There are 509 tsunami hazard place in 6 provinces along Andaman sea 102 sub-districts and 27 Districts.
1.Krabi Province 5 Districts below 1)Ao Luk 2)Muang Krabi 3)Nuea Khlong 4)Khlong Thom 5)Muang krabi
2.Trang Province 5 Districts below 1)Yan Takhao 2)Si Kao 3)Kantang 4)Pa Lian 5)Hat Samran
3.Phang Nga Province 7 Districts below 1)Khura Buri 2)Ta Kua Pa 3)Ta Kua Thung 4)Thai Muang 5)Thap Put 6)Muang Phang Nga 7)Ko Yao
4.Phuket Province 3 Districts below 1)Tha Lang 2)Muang Phuket 3)Krathu
5.Ranong Province 3 Districts below 1)Kapoe 2)Suk Samran 3)Muang Ranong
6.Satun Province 4 Districts below 1)Tha Phae 2)Thung Wa 3)Langu 4)Muang Satun

There are 907 tsunami hazard places (in low risk) in 16 provinces along the Gulf of Thailand (Pacific Ocean) 222 sub-districts and 70 districts. An approximation of the percentage mapped is 100%.

Q42

4g) For each of the data types listed below (in rows), answer the two questions (in columns). Select Yes / No / Don't know from the drop-down menu.

	Was this data used for tsunami hazard assessment?	Is this data publicly available?
Bathymetry	**Yes**	**No**
Seismo-tectonic model	**Yes**	**No**
Topography	**Yes**	**No**
Land Cover	**Yes**	**Yes**
Infrastructure details	**Yes**	**Yes**

Q43

4h) What products do you have from the tsunami hazard assessment? (select all that apply)

Probabilistic Tsunami Hazard Assessment (PTHA),

Deterministic Tsunami Hazard Analysis,

Field Studies on Tsunami Impacts,

Hazard map,

Inundation map,

Evacuation map,

Guidelines (please specify below)

Page 11: PART II: Hazard Assessment

Q44

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

Capacity to undertake tsunami hazard assessment	**Good**

Q45

4j) 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?

Probabilistic Tsunami Hazard Assessment (PTHA)	**High priority**
Deterministic Tsunami Hazard Analysis	**High priority**
Field Studies on Tsunami Impacts	**High priority**
Hazard map	**High priority**
Inundation map	**Medium priority**
Evacuation map	**Essential**
What other areas of capacity in tsunami hazard assessment require improvement?	**The wave height and inundation map.**

Q46

4k) 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?

Probabilistic Tsunami Hazard Assessment (PTHA)	**Moderate**
Deterministic Tsunami Hazard Analysis	**Moderate**
Field Studies on Tsunami Impacts	**Moderate**
Hazard map	**Moderate**
Inundation map	**Moderate**
Evacuation map	**Moderate**
Please provide the name(s) and contact detail(s) of any individuals / institutions in your country that could provide this training / consultancy	**1.Geoinformatic Center, Asian Institute of Technology(AIT) 2.School of Engineering & Technology,AIT 3.Civil Engineering,Chulalongkorn University 4.Climate Change and Disaster,Rangsit University 5.The Andaman Coast Research Station for Development,Kasetsart University 6.Faculty of science,Kasetsart University 7.Faculty of science,Chulalongkorn University**

Page 12: PART II: Risk Assessment

Q47 5a) Has your country undertaken a tsunami risk assessment?	**Yes**

Page 13: PART II: Risk Assessment

Q48 5b) What type of risk assessment?	**Single risk assessment on tsunami AND multi-hazard risk assessment including tsunami**

Page 14: PART II: Risk Assessment

Q49 5c) What hazards have been considered in your multi-hazard risk assessment? (select all that apply)	**Epidemics,** **Tsunami,** **Drought,** **Earthquakes,** **Flooding,** **Landslide,** **Cyclone**

Page 15: PART II: Risk Assessment

Q50 5d) Who did the tsunami risk assessment in your country? (select all that apply)	**National Agency,** **International Agency,** **National/local University,** **National/International Consultant**
Q51 5e) At what level was the tsunami risk assessment carried out? (select all that apply)	**National Level,** **Regional Level,** **City Level,** **Village Level,** **Community / Neighbourhood Level**

Q52

5f) Which coastal areas have been tsunami risk mapped? Please include the names of the Region / City and an approximation of the overall national percentage of risk prone areas mapped.

1.Krabi Province 5 Districts below 1)Ao Luk 2)Muang Krabi 3)Nuea Khlong 4)Khlong Thom 5)Muang krabi
2.Trang Province 5 Districts below 1)Yan Takhao 2)Si Kao 3)Kantang 4)Pa Lian 5)Hat Samran
3.Phang Nga Province 7 Districts below 1)Khura Buri 2)Ta Kua Pa 3)Ta Kua Thung 4)Thai Muang 5)Thap Put 6)Muang Phang Nga 7)Ko Yao
4.Phuket Province 3 Districts below 1)Tha Lang 2)Muang Phuket 3)Krathu
5.Ranong Province 3 Districts below 1)Kapoe 2)Suk Samran 3)Muang Ranong
6.Satun Province 4 Districts below 1)Tha Phae 2)Thung Wa 3)Langu 4)Muang Satun

Q53

5g) How many Cities / Municipalities / Regencies are at risk from tsunami?

1.Krabi Province 5 Districts below 1)Ao Luk 2)Muang Krabi 3)Nuea Khlong 4)Khlong Thom 5)Muang krabi
2.Trang Province 5 Districts below 1)Yan Takhao 2)Si Kao 3)Kantang 4)Pa Lian 5)Hat Samran
3.Phang Nga Province 7 Districts below 1)Khura Buri 2)Ta Kua Pa 3)Ta Kua Thung 4)Thai Muang 5)Thap Put 6)Muang Phang Nga 7)Ko Yao
4.Phuket Province 3 Districts below 1)Tha Lang 2)Muang Phuket 3)Krathu
5.Ranong Province 3 Districts below 1)Kapoe 2)Suk Samran 3)Muang Ranong
6.Satun Province 4 Districts below 1)Tha Phae 2)Thung Wa 3)Langu 4)Muang Satun

Q54

5h) What products do you have from the tsunami risk assessment? (select all that apply)

Risk map,

Evacuation map,

Guidelines (please specify below),

Action Plan (please specify below),

Others (please specify below),

Other (please specify):
Guidelines to 6 province on Andaman Sea coast area.

Page 16: PART II: Risk Assessment

Q55

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

Capability to undertake tsunami risk assessment	**Good**

Q56

5j) 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?

Tsunami risk assessment at national level	**Essential**
Tsunami risk assessment at regional level	**High priority**
Tsunami risk assessment at city level	**Essential**
Tsunami risk assessment at village level	**Essential**
Tsunami risk assessment at community / neighbourhood level	**Essential**

Q57

5k) 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?

Tsunami risk assessment at national level	**Moderate**
Tsunami risk assessment at regional level	**Moderate**
Tsunami risk assessment at city level	**Moderate**
Tsunami risk assessment at village level	**Moderate**
Tsunami risk assessment at community / neighbourhood level	**Moderate**
Other (specify below)	**Moderate**
Please gives the names of any individuals / institutions in your country that could provide this training / consultancy	**Asian Disaster Preparedness Center (ADPC)**

Page 17: PART II: Policies

Q58

6a) Does your country have a national tsunami policy? For each of the four disaster management phases listed below, select standalone policy / multi hazard policy / policy not available. Use the comments box to detail the specific name of the policy (if available).

	In what form is the policy?
Prevention and mitigation	**Standalone tsunami only**
Preparedness	**Standalone tsunami only**
Emergency response	**Standalone tsunami only**
Rehabilitation and reconstruction	**Multi hazard including tsunami**

What is the name of policy? (if available):
Tsunami Prevention and Mitigation Master Plan 2021-2027

Q59

6b) Does your country have local tsunami policies? For each of the disaster management phases listed below, select standalone policy / multi hazard policy / policy not available. Use the comments box to detail the specific name(s) of the policy (if available).

	In what form is the policy?
Prevention and mitigation	**Standalone tsunami only**
Preparedness	**Standalone tsunami only**
Emergency response	**Multi hazard including tsunami**
Rehabilitation and reconstruction	**Multi hazard including tsunami**

Page 18: PART II: Plans

Q60

7a) Does your country have national, local and community level tsunami disaster risk reduction plans? For each of the four disaster management phases listed below, select standalone plan / multi hazard plan / plan not available. Use the comments box to detail the specific name(s) of the plan(s) (if available). Please use the scroll bar to view the entire table.

	National level	Local level	Community level
Prevention and mitigation	**Standalone tsunami only**	**Standalone tsunami only**	**Standalone tsunami only**
Preparedness	**Standalone tsunami only**	**Standalone tsunami only**	**Standalone tsunami only**
Emergency response	**Multi hazard including tsunami**	**Multi hazard including tsunami**	**Multi hazard including tsunami**
Rehabilitation and reconstruction	**Multi hazard including tsunami**	**Multi hazard including tsunami**	**Multi hazard including tsunami**

What is the name of the plan(s) (if available):
1.Tsunami Disaster Risk Management Plan 2021-2027 2.Provincal Tsunami Risk Management Plan 3.District/Sub District Tsunami Risk Management Plan

Q61 **Yes**

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

Page 19: PART II: Guidelines

Q62

8a) Does your country have national tsunami DRR guidelines? For each of the four lifecycle phases, select standalone guidelines / multi hazard guidelines / guidelines not available. Use the comments box to detail the specific name of the guidelines (if available).

	In what form are the guidelines?
Prevention and mitigation	**Standalone tsunami guidelines**
Preparedness	**Standalone tsunami guidelines**
Emergency response	**Multi hazard guidelines including tsunami**
Rehabilitation and reconstruction	**Multi hazard guidelines including tsunami**

What is the name of guidelines? (if available):
1.Tsunami Risk Mitigation Strategy for Thailand 2.Risk Reduction from Geo hazard : Tsunami 3.National Disaster Risk Management Plan 2021-2027

Q63

8b) Does your country have local tsunami DRR guidelines? For each of the four lifecycle phases, select standalone guidelines / multi-hazard guidelines / guidelines not available. Use the comments box to detail the specific name of the guidelines (if available).

	In what form are the guidelines?
Prevention and mitigation	**Standalone tsunami guidelines**
Preparedness	**Standalone tsunami guidelines**
Emergency response	**Multi hazard guidelines including tsunami**
Rehabilitation and reconstruction	**Multi hazard guidelines including tsunami**

What is the name of guidelines? (if available):
Guidelines for tsunami preparedness.

Page 20: PART III: Detection and Warning

Q64 **Yes**

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

Page 21: PART III: Detection and Warning

Q65

9b) Does your country utilise the data provided by the IOTWMS Tsunami Service Providers (TSPs) for the Coastal Forecast Zones (CFZ) of your country's coastline to determine national threats or does it undertake its own threat assessments? (select all that apply)

Use TSP data,

Use own threat assessments

Q66

9c) Which organisation in your country has the responsibility for assessing and/or receiving potential tsunami threat information?Please provide the name and contact details.

National Disaster Warning Center
Telephone Number : 6664-930-5888
E-mail : saraban_center@disaster.go.th , wds.ndwc@gmail.com

Q67

9d) Does the organisation responsible for assessing and/or receiving potential tsunami threat information operate 24x7?

Yes

Q68

9e) What / which infrastructure is available to enable 24x7 operations? (select all that apply)

Computers,

Internet,

Landline Phone,

Mobile Phone or Cell Phone,

Fax,

GTS (WMO Global Telecommunication System),

UPS (Uninterruptable Power Supply)

Q69

9f) Which level of tsunami threat forecast information is produced by the responsible organisation? (select all that apply)

National,

Local

Q70

9g) Does the organisation have access to national and/or international seismic networks? (please select one from the following options)

Yes, national and international

Q71

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

All national seismic data is shared in real time,
Please specify which seismic data is shared in real time:
TMD website

Page 23: PART III: Detection and Warning

Q72

9i) Does your organisation have access to GNSS data?

No

Q73

9j) Is the list of broadband seismometers operated by your country listed accurately in the IOTWMS seismic database http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=20796)?

Yes

Q74

9k) When compared to the IOTWMS seismic database (http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=20796), have you decommissioned or added broadband seismometers operated by your country (Check all that apply and include details in the comments section below)

Some stations have been added,

Please indicate which stations have been decommissioned or added, including the Station Name/Location, email Contact of the Station Operator (IOTWMS Secretariat will contact for more information).:

Stations have been added but they are private and not shared.

Page 24: PART III: Detection and Warning

Q75

9l) Does the organisation have access to national and/or international sea level networks? (please select one answer from the following options)

Yes, national and international,
If yes, please list/describe sources of information (e.g. national data through national communication infrastructure, WMO Global Telecommunications System (GTS), IOC Sea Level Facility):
Hydrographics Department, Royal Thai Navy http://www.ioc-sealevelmonitoring.org/

Page 25: PART III: Detection and Warning

Q76

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

All national sea level data is shared in real time,
Please specify which sea level data is shared in real time:
ETA ,wave height

Page 26: PART III: Detection and Warning

Q77

9n) Is the list of sea level stations operated by your country listed accurately in the IOTWMS sea level database (http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=20833)?

No

Q78

9o) When compared to the IOTWMS sea level database (http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=20833), have you decommissioned or added sea level stations operated by your country (Check all that apply and include details in the comments section below)

Respondent skipped this question

Page 27: PART III: Detection and Warning

Q79

9p) What other observing networks are operated by your country and used for tsunami early warning?

Coastal radars (please specify below),

Please provide the type of observing network, the station name/location, email contact of any other observing network operator (IOTWMS Secretariat will contact for more information).:

Coastal radar Buoy : Muang and Lanta Districts,Krabi Province

Q80

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

No

Q81

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

YesPlease specify the modelling tools and data used: WINITDB (used by NDWC), TOAST (used by TMD)

Q82

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

Yes

Q83

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

Advisory : An Earthquake occurred in Andaman Sea Magnitude 5.0-6.5 off the Andaman coast,Thailand. A Tsunami is not expected.
Watch : An Earthquake occurred in Andaman Sea Magnitude 6.6-7.7 off the Andaman coast,Thailand. A potential Tsunami may have been generated. Prepare to evacuate persons to higher ground & follow further information.
Warning : An Earthquake occurred in Andaman Sea Magnitude above 7.8 off the Andaman coast,Thailand. A destructive Tsunami may have been generate and estimate the severity of the threat. Authorities should take appropriate action in response to this possibility & follow further information.
Terminate : An Earthquake occurred in Andaman Sea Magnitude above 7.8 off the Andaman coast,Thailand. There is no longer A Destructive Tsunami threat to the coast, Thailand. Therefore the tsunami warning for Thailand is cancelled.

Q84

9u) What actions were taken by your country's National Tsunami Warning Centre (NTWC) and/or Tsunami Warning Focal Point (TWFP) in response to earthquake events and messages issued by the IOTWMS TSPs during the inter-sessional period?

Analyzing the information and updating the situation to the public and decision makers.

Q85

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

Yes (please name the organisation(s) that participated in the additional comments)

Q86

9w) Did your country's NTWC and/or TWFP participate in national and/or international Tsunami Exercises (eg. IOWave) conducted in the inter-sessional period between ICG meetings?

Yes (please name the exercise(s) and organisation(s) that participated in the additional comments)

,
Additional comments:
International Tsunami Exercise : IOWAVE National Tsunami Exercise : 1.Tsunami Warning System and Evacuation Plan Exercise with 6 Andaman Sea province 2.IDMex(Integrated Disaster Management Exercise (Tsunami)

Q87

9x) After the December 26 2004 tsunami and until now, was your country impacted by any damaging tsunami? 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.)

No

Q88

9y) Since 2018, have there been any enhancements in your national warning SOPs and alerting?

No

Page 28: PART III: Dissemination

Q89

10a) How is the tsunami information (warning, public safety action, etc) disseminated within country? (select all that apply)

Email,

SMS,

Telephone,

Fax,

Webpage,

Radio,

WhatsApp / Facebook / Other social media,

Sirens,

Television,

Warning towers

Q90

10b) For each emergency response organisation listed below, which communication methods for emergency response are available? (select all that apply)

National DMOs	**Telephone, Fax, Email, SMS, Siren, Other (please specify below)**
Local DMOs	**Telephone, Fax, Email, SMS, Siren, Other (please specify below)**
General Public	**Telephone, Fax, Email, SMS, Siren, Other (please specify below)**
Coastal Communities	**Telephone, Fax, Email, SMS, Siren, Other (please specify below)**
Media	**Telephone, Fax, Email, SMS, Siren, Other (please specify below)**

Other communication methods (please specify)
Broadcast Alert System (in the development process)

Q91

10c) How is the warning situation terminated?

2 hours after the last tsunami wave pass or there is no longer a destructive Tsunami threat to the coast Thailand.

Q92

10d) What website is used for display of national threat status during events? Please provide the URL.

hptt://122.155.1.141/in.ndwc-9.283/

Q93

10e) Does your country's national tsunami warning system utilise the Common Alert Protocol (CAP) for the 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 utilised to broadcast CAP-formatted alerts to the public and relevant stakeholders.

Yes (please describe how CAP is integrated):
NDWC warning dissemination states the key fact of Tsunami : identified tsunami hazard(intensity of earthquake) (What) ; the location(Where) ; time of origin,ETA.(How soon) ; the level of warning(How bad) ; Advice(What should people to.

Q94

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? Please provide details.

DDPM Director-General is responsible for the direct dissemination of tsunami alert. The dissemination will start from the bulletin1 from TSP'S (Earthquake Event) NDWC will disseminate 1'st tsunami warning (possible tsunami), 2'nd tsunami warning will be disseminated when TSP'S and Thailand Buoy confirm tsunami occurrence, 3'rd warning will be disseminated when the wave arrive @Meang island sea level station (the first wave will reach shore of Phuket and Phang nga Province). The last earning will be disseminated approximately 2 hours after the last wave reaches the coast of Satun Province.

Page 29: PART IV: Standard Operating Procedures

Q95

11a) For each of the (upstream) emergency response issues listed below (in rows), consider the four questions (in columns). Select a yes/no response using the drop-down menus.

	Does your SOP address this aspect of tsunami emergency response?	Is support required to develop/improve this aspect of tsunami emergency response in your SOP?	Is support required to develop Human Resources in this aspect of tsunami emergency response?	Is support required to develop infrastructure for this aspect of tsunami emergency response?
24/7 Emergency Operation Centre (EOC)	**Yes**	**Yes**	**Yes**	**Yes**
Receiving information from the NTWC	**Yes**	**Yes**	**Yes**	**Yes**
Response Criteria / decision making	**Yes**	**Yes**	**Yes**	**Yes**

Q96

11b) For each of the (downstream) emergency response issues listed below (in rows), consider the four questions (in columns). Select a yes/no response using the drop-down menus.

	Does your SOP address this aspect of tsunami emergency response?	Is support required to develop/improve this aspect of tsunami emergency response in your SOP?	Is support required to develop Human Resources in this aspect of tsunami emergency response?	Is support required to develop infrastructure for this aspect of tsunami emergency response?
Warning dissemination	**Yes**	**Yes**	**Yes**	**Yes**
Evacuation call procedures	**Yes**	**Yes**	**Yes**	**Yes**
Community evacuation procedures	**Yes**	**Yes**	**Yes**	**Yes**
Communication with NTWC	**Yes**	**Yes**	**Yes**	**Yes**
Communication with Local Government	**Yes**	**Yes**	**Yes**	**Yes**
Media arrangements	**Yes**	**Yes**	**Yes**	**Yes**
Communication with other stakeholder i.e. Red Cross, Fire Brigade, Search and Rescue, Police, Army, Navy etc.	**Yes**	**Yes**	**Yes**	**Yes**

Q97

11c) Would your country be willing to share your SOPs with the IOTIC and other countries?

Yes

Page 30: PART IV: Evacuation Infrastructure

Q98

12a) Does your country have the following evacuation infrastructure? (select all that apply and detail specific areas). Please use the scroll bar below to view the entire table.

Evacuation shelter	**Yes**
Comment:	There are 233 Evacuation shelter in 6 province 1.Krabi Province(30) 2.Trang Province(40) 3.Phang Nga Province
Vertical evacuation structure	**Yes**
Comment:	1.Krabi Province 2.Trang Province 3.Phang Nga Province 4.Phuket Province 5.Ranong 6.Satun Province
Natural or artificial hill for vertical evacuation	**Yes**
Comment:	1.Krabi Province 2.Trang Province 3.Phang Nga Province 4.Phuket Province 5.Ranong 6.Satun Province
Evacuation signage	**Yes**
Comment:	1.Krabi Province 2.Trang Province 3.Phang Nga Province 4.Phuket Province 5.Ranong 6.Satun Province
Other (please specify)	**No**

Q99

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

Yes

Page 31: PART IV: Tsunami Exercises

Q100

12c) Are tsunami exercises incorporated within national policies and guidelines? (select all that apply)

National policy

Q101

12d) At what levels were the exercises conducted during the inter-sessional (between ICG meetings) period? (select all that apply)

National level,

Regional level,

City level,

Village level,

Community/Neighbourhood level,

School level

Q102

12e) What kind of tsunami exercise activities have been undertaken in your country and how many times during the inter-sessional (between ICG Meetings) period?

Organisation table top exercise	**Yes**
Comment:	Many
Inter-organisation table top exercise	**No**
National tsunami drill/exercise	**Yes**
Comment:	2
Indian Ocean Wave exercise	**Yes**
Comment:	6
Local tsunami drill/exercise	**Yes**
Comment:	Many
Other (please specify)	**No**

Page 32: PART IV: Public Awareness

Q103

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

Other (please specify):
All this choice

Q104

13b) What tsunami related education and awareness materials do you have? (select all that apply)

Leaflets or flyers,

Posters,

Booklets,

Information boards,

Tsunami Signage,

Video, or other visual or oral media,

Indigenous knowledge, folklore, or oral history accounts or compilations

,

School curricula

Q105

13c) Would your country be willing to share these education and awareness materials with the Indian Ocean Tsunami Information Centre (IOTIC) and other countries?

Yes

Q106

13d) Do you undertake the following tsunami awareness activities?

World Tsunami Awareness Day	**Yes**
Comment:	3
Global Disaster Risk Reduction day	**Yes**
Comment:	Many
Public tsunami preparedness outreach	**Yes**
Comment:	Many
School and/or children awareness	**Yes**
Comment:	Many
Exhibitions	**Yes**
Tsunami Exercise	**Yes**
Comment:	Many
Other (Please specify)	**No**

Q107

13e) Use the boxes below to indicate any areas in which you require support from the IOTIC to develop or enhance public awareness in your country. If you do not require support, please leave blank.

Development of tsunami awareness programmes, activities or campaigns

,

Participation/support by international agencies or experts to your country's activities

,

Provision of general tsunami awareness materials

Q108

13f) Can your country offer support to other Member States to develop or enhance public awareness in their country?

Yes (please specify what type of support):
Experts,Material, Training, Consultant

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Q109

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

No, but there are plans to do so in the near future (please elaborate in the additional comments)

,

Additional comments:
We are interested in joining TRRP. We are in progress of study.

Q110

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

No

Q111

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

Village	**509**
City / District	**27**
Province / State	**6**

Q112

14d) Does your country have a National Tsunami Ready Board (NTRB)The National Tsunami Ready Board (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 Disaster Mangement Office, NTWC, TNC, the scientific community, and other invited guests.

No (if no, is there another existing coordination mechanism that can fulfil this role of NTRB? please specify below)

,

Please specify any existing coordination mechanisms that can fulfil this role of NTRB:
National Disaster Prevention and Mitigation Committee (NDPMC). The committee shall have the power and duties to recommend, support and promote on any disaster prevention and mitigation activities.

Q113

14e) Which institution(s) should be involved in the implementation of TRRP or similar national initiative? (please use a comma between the name of the institutions)

Department of Disaster and Mitigation, Department of mineral resources, Local Administration

Q114

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?

No

Q115

14g) Have any communities in your country achieved recognition through UNESCO-IOC TRRP or similar national initiative?

No

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Q116 15a) Is there national capacity to develop tsunami hazard maps?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**
Q117 15b) Is there national capacity to train the community on identifying and estimating the number of people that live in the tsunami hazard zone?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**
Q118 15c) Is there national capacity to train the community on the inventory of available economic, instrastructural, political, and social resources to reduce tsunami risk at the community level?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**
Q119 15d) Is there national capacity to work with the community to develop tsunami evacuation maps, plans and procedures at the community level?	**Yes, it can be easily done through mobilising national experts and funding**
Q120 15e) Is there national capacity to work with the community to develop a public display of tsunami information?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**
Q121 15f) Is there national capacity to work with the community to develop local context outreach and public education materials?	**Yes, it can be easily done through mobilising national experts and funding**
Q122 15g) Is there national capacity to train and build capacity of community to be able to organise and implement outreach and education activity?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**
Q123 15h) Is there national capacity to train and build capacity of community to be able to organise and implement tsunami exercises?	**Yes, it can be partially done through mobilising national experts and funding, but also needs some international technical expertise**

Q124

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

Yes, it can be easily done through mobilising national experts and funding

Q125

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

Yes, it can be easily done through mobilising national experts and funding

Q126

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

Yes, it can be easily done through mobilising national experts and funding

Q127

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

Yes, it can be easily done through mobilising national experts and funding

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Q128

15m) Which of the following challenges inhibit the implementation of TRRP or similar national initiatives in your country? (select all that apply)

None of the above

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Q129

16) Please briefly describe any innovations or modifications to national tsunami warning and mitigation procedures or operations since the last reassessment. For example, this might include tsunami related 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.

Thailand Tsunami Early Warning System

National Disaster Warning Center (NDWC). NTWC is operating 24 hours under the supervision of Department of Disaster Prevention and Mitigation (DDPM), NDMO, Ministry of Interior. NDWC has its responsibility in planning, coordinating, controlling, implementing and preparing the national warning systems and equipment of issue tsunami early warning and evacuation in the role of warning operation part under central emergency operation center that the Director General is a commander. NDWC receives earthquake information from TMD national responsible for seismic evaluations and receives Sea level information from Hydrographic Department of the Royal Thai Navy.
Global telecommunication System: GTS fully operational to TMD and NDWC. There is also provide the information from Indian Ocean and Pacific Ocean.
The standard operation procedure of NDWC for earthquake in the sea will analyses situation within 5 minutes after the earthquake occurs. Then disseminate warning massage in the risk area via Fax, e-mail, SMS, Line Application, website and broadcast alert system (On Digital Television Channels and Radio Stations) including the warning tower.
Earthquake Observation Division Thai Meteorological Department (TMD) is operating 24 hours to monitoring seismic network in Thailand and Outside Thailand. TMD has been developing estimate time of arrival for tsunami model including generated shake map and evaluated Focal mechanism. Moreover, TMD has also increases seismic network around the country.
Currently, there is development of a tsunami warning platform system to streamline processes and enable faster notifications. Moreover, we are in the process of developing a Cell Broadcast Alert System.

Tsunami Public and Community Awareness and Preparedness
LDMO along Andaman Provinces have the Tsunami exercised by themselves very regular support from NDMO.
Tsunami evacuation maps, routes and signage have been installed along Andaman Provinces and will be upgrade for the smart signage.
The education sectors have created tsunami awareness in the curriculum for schools.

Q130

17) Please provide a brief summary of plans for future tsunami warning and mitigation system improvements

NDWC and TMD are cooperating together in the SOP especially with the Tsunami Modeling and Focal mechanism analysis. NDWC are improving criteria and SOP for Tsunami Warning and also improving the Tsunami model.

NDMO will plan to improve master plan for Tsunami Prevention and Mitigation include Emergency Response plan. NDMO have National Tsunami Exercise every year to emphasize procedural adherence.

Q131

18) Please list areas where your country would like support for targeted capacity development.

Thailand Tsunami Hazard

There are 509 tsunami hazard place in 6 provinces along Andaman sea 102 sub-districts and 27 Districts.
1.Krabi Province 5 Districts below 1)Ao Luk 2)Muang Krabi 3)Nuea Khlong 4)Khlong Thom 5)Muang krabi
2.Trang Province 5 Districts below 1)Yan Takhao 2)Si Kao 3)Kantang 4)Pa Lian 5)Hat Samran
3.Phang Nga Province 7 Districts below 1)Khura Buri 2)Ta Kua Pa 3)Ta Kua Thung 4)Thai Muang 5)Thap Put 6)Muang Phang Nga 7)Ko Yao
4.Phuket Province 3 Districts below 1)Tha Lang 2)Muang Phuket 3)Krathu
5.Ranong Province 3 Districts below 1)Kapoe 2)Suk Samran 3)Muang Ranong
6.Satun Province 4 Districts below 1)Tha Phae 2)Thung Wa 3)Langu 4)Muang Satun

There are 907 tsunami hazard places (in low risk) in 16 provinces along the Gulf of Thailand (Pacific Ocean) 222 sub-districts and 70 districts.

Q132 **Respondent skipped this question**

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