

## **ICG/IOTWMS XI: TEMPLATE FOR NATIONAL REPORTS<sup>#</sup>**

*National Reports will be posted to the ICG/IOTWMS-XI web site without TWFP contact details*

**Submitted by (country name): BANGLADESH**

### **PART-I: BASIC INFORMATION**

**1) ICG/IOTWS Tsunami National Contact (TNC):**

*The person designated by a Member State to an Intergovernmental Coordination Group (ICG) to represent his/her country in the coordination of international tsunami warning and mitigation activities. The person is part of the main stakeholders of the national tsunami warning and mitigation system. The 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.*

Name: Shamsuddin Ahmed

Position: Director

Organization: Bangladesh Meteorological Department

Telephone Number: +88 02 9123838

E-mail Address: info@bmd.gov.bd

Fax Number: +88 02 8118230

Postal Address: Bangladesh Meteorological Department, Abhawa Bhaban, Agargaon, Dhaka- 1207.

**2) National Tsunami Warning Centre (NTWC):**

*A centre officially designated by the government to monitor and issue tsunami warnings and other related statements within their country according to established National Standard Operating Procedures*

NTWC Agency Name: Bangladesh Meteorological Department

NTWC URL (web link) for tsunami warnings: www.bmd.gov.bd

NTWC Agency Contact or Officer in Charge (person):

Name: Md. Momenul Islam

Position: Meteorologist

Telephone Number: +88 01758464649

E-mail Address: momenulislam799@hotmail.com

Postal Address: Bangladesh Meteorological Department, Abhawa Bhaban, Agargaon, Dhaka- 1207, Bangladesh.

**3) ICG/IOTWS Tsunami Warning Focal Point (TWFP):**

*A 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*

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

Name of office, operational unit or position: Seismic Observatory and Research Center

E-mail Address:

Telephone Number:

Cellular phone number:

Fax:

**TWFP Agency name (if different from the NTWC agency): Not Applicable**

**TWFP Agency Contact or Officer in Charge (if different from the NTWC Agency):**

Name:

Position:

Telephone Number:

Email Address:

Postal Address:

## PART-II: Information on Hazard/Risk Assessment

### 4) Has your country undertaken a hazard assessment?(please tick one box only)

☒ Yes, please answer questions 4a – 4h

☐ No, please proceed to question 4i

a) Please indicate what kind of hazard assessment that has been done in your country (*tick one box only*)

☒ Multi hazard assessment (including tsunami)

☐ Specifically, only on tsunami

b) Who did the risk assessment (including the tsunami risk assessment) in your country? (*tick one or more boxes and name the agencies/consultants*)

☒ National Agency

☐ International Agency

☐ National/local University

☒ National/International Consultant

Name of the organization/(s) that did the hazard assessment:

c) The Hazard assessment was at: (*please tick one or more boxes*)

☒ National Level

☐ Regional Level

☒ City Level

☐ Village Level.

d) What data did you use for the risk assessment? (*please tick one or more boxes*)

☐ Bathymetry

☐ Seismo-tectonic model

☐ Topography

☒ Land Cover

☒ Infrastructure details

Others (please specify):

e) Which data from point 4.d above are publicly available? (*please tick one or more boxes below*)

☐ Bathymetry

☐ Seismo-tectonic model

☐ Topography

☒ Land Cover

☒ Infrastructure details

Others (please specify):

f) What products do you have from the hazard assessment? (*please tick one or more boxes*)

☐ Probabilistic Tsunami Hazard Assessment (PTHA)

☐ Deterministic Tsunami Hazard Analysis

☒ Field Studies on Tsunami Impacts

☐ Hazard map

☒ Inundation map

☐ Vulnerability map

☐ Risk map

☐ Evacuation map ☐ Guidelines (please specify):

Others (please specify):

g) Does your national and/or local Disaster Risk Reduction (DDR) policies, guidelines, and/or plans incorporate the hazard assessment? (*please tick one box only*)

☒ Yes

☐ No

If yes, please provide details:

- h) Does your country have the capacity to give training and/or consultancy on hazard assessment to other countries?*(tick one box only)*

☒ Yes

☐ No

If yes, could you specify what training and / or consultancy and who (institution and/or individuals) could do this?

Tsunami exercise and Cyclone monitoring.

Please go to question 5

- i) Does your country have the capacity to do the hazard assessment?*(please tick one box only)*

☒ Yes

☐ No

If no, could you specify the reason / difficulties?

**5) Has your country undertaken a risk assessment?(please tick one box only)**

☒ Yes, please answer questions 5a – 5f

☐ No, please proceed to question 5g

- a) Please indicate what kind of risk assessment that has been done in your country *(please tick one or more boxes)*

☒ Multi hazard risk assessment (including tsunami risk assessment)

☐ Specifically on tsunami risk assessment

- b) Who did the risk assessment (including the tsunami risk assessment) in your country?*(please tick one or more boxes and name the organisation)*

☒ National Agency

☐ International Agency

☐ National/local University

☒ National/International Consultant

(Name of the organization that did the risk assessment): Department of Disaster Management (DDM).

- c) The risk assessment was at:*(please tick one or more boxes)*

☒ National Level

☐ Regional Level

☒ City Level

☐ Village Level

☐ Community/neighbourhood Level

- d) What products do you have from the risk assessment?*(please tick one or more boxes)*

☐ Hazard map

☐ Vulnerability map

☐ Risk map

☐ PTHA

☒ Inundation map

☐ Evacuation map

☐ Guidelines (please specify)

Others (please specify)

- e) Do your national and/or local DRR policies, guidelines, and/or plans incorporate the risk assessment?*(please tick one box only)*

☒ Yes

☐ No

If yes, please provide details

- f) Does your country have the capacity to give training and/or consultancy on risk assessment?*(please tick one box only)*

☒ Yes

☐ No

If yes, please specify what training and / or consultancy, and who (institutions and individuals) could do this? Tsunami exercise and Cyclone monitoring

Please go to question 6

- g) Does your country have the capacity to do the risk assessment?*(please tick one box only)*

☒ Yes

☐ No

If no, please specify the reason / difficulties?

### PART III: Information on Detection, Warning and Dissemination:

**6) Does your country have a national capability to assess and/or receive potential tsunami threat information and advise/warn its coastal communities?(please tick one box only)**

☒ Yes, please answer questions 6a – 6n

☐ No, please proceed to question 6o

**a. Does your country have a nationally designated/mandated NTWC and/or TWFP?(please tick one box only)**

☒ Yes, as specified in question 2 and 3

☐ No

**b. 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 assessments? (please tick one or both boxes)**

☒ Use TSP data

☐ Use own assessments

**c. Does the organisation responsible for assessing and/or receiving potential tsunami threat information function 24x7?(please tick one box only)**

☒ Yes

☐ No (please specify the hours of operation)

**d. Please list the infrastructure you have available to facilitate 24x7 operations (please tick one or more boxes)**

☒ Computers

☒ Internet

☒ Landline Phone

☒ Mobile Phone or Cell Phone

☐ Satellite Phone

☒ Fax

☒ GTS (WMO Global Telecommunication System)

☒ UPS (Uninterruptable Power Supply)

Other (please specify):

**e. Which level of tsunami threat forecast information is produced by the responsible organisation (please tick one or more boxes)**

☐ Regional

☒ National

☐ Local

**f. Does the organisation have access to national or international seismic and sea level networks?(please tick one box only)**

☒ Yes

☐ No

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): There are 10 Broadband seismometer in a local seismic network.

- g. Does the organisation have the capability of analysing real-time seismic and sea-level information for potential tsunami threat? *(please tick one box only)*

☒ Yes

☐ No

If yes, please specify the software tools used: IAS from China but locally there is no any sea level monitoring station.

- h. Does the organisation have capability for tsunami modelling to support generation of threat forecasts? *(please tick one box only)*

☐ Yes

☒ No

If yes, please specify the modelling tools and data used:

- i. What is the threshold or criteria for declaring a potential national tsunami emergency, watch, alert, advisory or warning? Seven and seven Phase Magnitude Earthquake near Bangladesh coast.
- j. Does the organization responsible for identifying a potential tsunami threat also issue national tsunami watches, advisories, alerts and/or warnings? *(please tick one box only)*

☒ Yes

☐ No

If no, which organisation provides the tsunami products?

- k. How is the tsunami information (warning, public safety action, etc) disseminated within country? Please mention the dissemination modes (phone/fax/sms/GTS/websites/social media / etc). Who is it disseminated to? Department of Disaster Management (DDM).

- l. How is the warning and emergency situation terminated? After passing the threat at least two hrs letter warning or emergency situation terminated.

- m. Do the organisations responsible for monitoring and/or assessing the tsunami threat and issuing national tsunami watches, advisories, alerts and/or warnings have Standard Operating Procedures (SOPs) for staff? *(please tick one box only)*

☒ Yes

☐ No

If yes, would your country be willing to share its SOPs with the IOTWMS TSPs and other countries?  
Yes

- n. Does your country require further assistance to develop SOPs for tsunami warning? *(please tick one box only)*

☒ Yes

☐ No

Please go to question 7

- o. If your country doesn't have the capacity to assess and/or receive potential tsunami threat information and advise/warn its coastal communities, please specify the reason / difficulties:

**7) What actions were taken by your country's NTWC and/or TWFP in response to earthquake events and messages issued by the IOTWMS TSPs during the inter-sessional period?**

- 8) **Did your country's NTWC and/or TWFP participate in the 6-monthly communications tests conducted by the IOTWMS TSPs?**(please tick one box only)

☒ Yes

☐ No

If yes, please name the organisation(s) that participated: Bangladesh Meteorological Department (BMD) and Department of Disaster Management (DDM).

- 9) **Did your country's NTWC and/or TWFP participate in the Tsunami Drill (IOWave) conducted in the inter-sessional period?** (please tick one box only)

☒ Yes

☐ No

If yes, please name the organisation(s) that participated:

- 10) **National Seismic Network (Seismometers)**

*Please include a table with position and description of stations/sensors, and a map. Please also provide contact details for a person to contact regarding your national seismic network.*

	Station Name/ Location	Latitude	Longitude	Operating Agency	Contact Person (Name, email)
1	Dhaka	23.78° N	90.38° E	BMD	Md. Momenul Islam momenulislam799@hotmail.com
2	Chittagong	22.35° N	91.82° E	BMD	Same as
3	Sylhet	24.90° N	91.88° E	BMD	Same as
4	Rangpur	25.73° N	89.25° E	BMD	Same as
5	Panchagar	26.35° N	88.50° E	BMD	Same as
6	Rajshahi	24.37° N	88.70° E	BMD	Same as
7	Mymensing	24.73° N	90.42° E	BMD	Same as
8	Khulna	22.78° N	89.53° E	BMD	Same as
9	Comilla	23.43° N	91.88° E	BMD	Same as
10	Cox's Bazar	21.45° N	91.97° E	BMD	Same as

- 11) **National GPS/GNSS Network: None**

*Please include a table with position and description of stations/sensors, and a map. Please also provide contact details for a person to contact regarding your national seismic network.*

	Station Name/ Location	Latitude	Longitude	Operating Agency	Contact Person (Name, email)
1					
2					
3					

- 12) **National Sea Level Network (Tsunami Buoys and Tide Gauges): None**

*Please include a table with position and description of stations/sensors, and a map. Please also provide contact details for a person to contact regarding your national sea level network.*

	Station Name/ Location	Latitude	Longitude	Operating Agency	Contact Person (Name, email)
1					
2					
3					

- 13) Other Monitoring Networks (e.g.wave radars )**
- 14) Information on Tsunami occurrences during the inter-sessional period : None**  
*Please include any sea level observations, pictures, wave arrival descriptions, public, media, or other responses to warnings, lessons learned, etc.*
- 15) Web sites (URLs) used for display of national threat status during events: [www.bmd.gov.bd](http://www.bmd.gov.bd)**



## PART IV: Information on Awareness & Response:

### 16) Emergency Response Policies

- a) Does your country have a Tsunami Emergency Response Policy, Legislation, Guidelines and/or Plan?(*please tick one box only*)

☒ Yes, please specify: DDM has a guideline for Tsunami emergency response

☐ No,

- b) If yes, is the hazard and/or risk assessment used in this Emergency Response Policy, Legislation, Guidelines and/or Plan?(*please tick one box only*)

☒ Yes

☐ No

- c) Do you have/maintain a national tsunami warning plan, or national tsunami response plan, that states how tsunami warning system in your country works?(*please tick one box only*)

☐ Yes, please specify: we have Standing Order on Disaster (SOD)

☒ No

If no, do you require support to develop such a plan?(*please tick one box only*)

☒ Yes

☐ No

- d) Do you have Standard Operating Procedures (SOPs) for tsunami emergency response at Disaster Management Organisation (DMO)? Yes, but not SSOP

Please fill in the table below to reflect the status of SOPs and whether support is needed to develop (mark the relevant boxes with "x")

Item	Human Resources	Infrastructure / Capacity	SOPs	Others	Support needed
24/7 Emergency Operation Centre			×		
Receiving information from theNTWC	×				
ResponseCriteria/decision making		×			
Warningdissemination		×			
Evacuation call procedures					×
Community Evacuation procedures					×
CommunicationwithNTWC	×				
CommunicationwithLocal Government			×		
MediaArrangements					×
Communicationwithother stakeholderi.e.RedCross, FireBrigade,Searchand Rescue,Police, Army, Navy etc.			×		

- e) Would your country be willing to share these SOPs with the IOTIC and other countries? (*please tick one box only*)

☒ Yes

☐ No

- f) Pleasefillincommunication means for emergency response at the emergency response related organisations(mark the relevant boxes with "x")

	Tel/Call	Fax	Email	SMS	Siren	Others (please specify)
National DMOs	×	×				
Local DMOs			×			
General Public					×	Micing
Coastal Communities						Micing
Media		×				
Others (please specify):						

## 17) **Evacuation Planning**

- a) Does your country have an Evacuation Policy, Guidelines, Standards, and/or Plan? *(please tick one box only)*

☒ Yes, please specify: SOD and Tsunami Guideline

☐ No

If yes, is the hazard and/or risk assessment used in the evacuation policy and/or plan? *(please tick one box only)*

☒ Yes

☐ No

- b) If you have an evacuation plan, is it based on inundation map? *(please tick one box only)*

☐ Yes

☒ No

- c) Does your country have evacuation infrastructure ready? *(please tick one or more boxes)*

☐ Evacuation shelter

☒ Vertical evacuation structure

☐ Natural or artificial hill for Vertical Evacuation

☐ Evacuation signage

☐ Others (please specify):

- d) Is the evacuation infrastructure above (point 17.c) being integrated in the Evacuation Plan? *(please tick one box)*

☒ Yes

☐ No

## 18) **Tsunami Exercises**

- a) Has your country done any Tsunami Exercise(s) during the inter-sessional period? *(please tick one box only)*

☒ Yes

☐ No If no, please proceed to question 19

- b) Are there any National Policy Frameworks and Guidelines to conduct tsunami exercises? *(please tick one box only)*

☐ Yes

☒ No

If yes, please provide details:

- c) Please indicate at what levels the exercises have been done during the inter-sessional period: *(please tick one or more boxes)*

☒ National level

☐ Regional level

☐ City level

☐ Village level

☐ Community/Neighbourhood level

☐ School level

Others, please specify:

- d) Please indicate what kind of tsunami exercise activities have been undertaken in your country and how many times -during the inter-sessional period:(*please tick one or more boxes and provide numbers against relevant selections*)

☒ Organization table top exercise 3 times

☐ Inter-organization table top exercise times

☐ National tsunami drill/exercise times

☐ Indian Ocean Wave exercise times

☐ Local tsunami exercise times

Other exercises, please specify:

## 19) Education and Awareness

- a) Who is responsible for tsunami public awareness programmes in your country(*please tick one or more boxes*)

☒ Disaster Management Office

☐ National Tsunami Warning Centre

Others, please specify:

- b) What tsunami education and awareness materials do you have? None

Education and Awareness Materials	Number of Types
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	
Teaching kits on tsunamis	
School curricula	
Other (please specify)	

- c) Would your country be willing to share these education and awareness materials with the Indian Ocean Tsunami Information Centre (IOTIC) and other countries?(*please tick one box only*)

☒ Yes

☐ No

- d) What tsunami awareness activities did you do in the country?

Activity	Number of activity / year
World Tsunami Awareness Day	
Global Disaster Risk Reduction day	Once in that Day
Public tsunami preparedness outreach	
School and/or children awareness	Once in a year
Exhibitions	
Competitions or other ways of highlighting tsunami safety	
Other (Please specify)	Workshop and seminar

- e) Do you require support from the IOTIC to develop or enhance public awareness in your country? (*please tick one box only*)

☒ Yes

☐ No

If yes, what kind of support is needed?

Activity Support needed	Please tick (✓)
Provision of general tsunami awareness materials	<input checked="" type="checkbox"/>
Customization of general materials to country or community	
Development of tsunami awareness programmes, activities or campaigns	<input checked="" type="checkbox"/>
Participation/support by international agencies or experts to your country's activities	<input checked="" type="checkbox"/>
Other (please specify)	Capacity build-up Training for NTWC, DDM and Media personals

- f) Can your country offer support to other member states to develop or enhance public awareness in their country? (please tick one box only)

☐ Yes

☒ No

Please indicate what kind of support can be offered:

## Part V: FUTURE PLANS

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

Earthquake or tsunami disaster mitigation, public and governmental awareness is very important. Preparedness for a future disastrous earthquake or tsunami disaster in Bangladesh may not be well organized, yet. For this region Bangladesh government has taken various disaster response and exchange awareness programs for public and human capacity build up training for related BMD personnel.

## PART VI: EXECUTIVE SUMMARY

- 20) *Brief statement of no more than one page addressing all items discussed in the Narrative section of the National Report*

Bangladesh Meteorological Department is the only responsible organization for monitoring earthquake and Tsunami in Bangladesh. In early nineteen century some devastative earthquakes were experienced in Bangladesh along with her boarder with India (Assam) and Myanmar. For proper monitoring Earthquake and Tsunami BMD need capacity building of human resources by improving the advance and updated knowledge on seismology, seismic data analysis, tsunami early warning and risk mitigation. In view of these, Bangladesh govt. wants to increase more seismic stations and awareness programe within the country.

## PART VII: NARRATIVE

- 21) *Detailed description of innovations or modifications to National tsunami warnings procedures or operations since last National Report, tsunami research projects, 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.*

Bangladesh is the most disaster prone country of south-Asia. It is well known to international communities for frequent attack by natural disaster. Most of the area of this country is only a few feet above from sea level because of its geographical situation. The subduction structure of Bangladesh, Myanmar continues to Andaman island area and to Sumatra. Possibility of local and distant Tsunami strike cannot be ruled out. Historical events are the evidence for future disastrous earthquake. So TSP products websites are very important for providing tsunami warning and disaster mitigation in Bangladesh. Government of Bangladesh is willing to expand Seismic observation networks, sharing of real/near real-time seismic data to improve quality of earthquake location information, training facilities and multi-lateral study between Bangladesh and neighbouring countries.

Date: 04/06/2017

Name: Md. Momenul Islam