

Dhaka HazInfo Session I: Determination of Hazard from National Level

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Hazards

- Bangladesh is exposed to very frequent multi-hazards.
- Multi-hazards are:
- *Recurring hazards* like flood & riverbank erosion, cyclone, tidal surge, and tornado, and
- *Contingent hazards* like earthquake and tsunami.

Hazards

- People of Bangladesh acquired enormous experience to face and minimize all the *recurring hazards*.
- The coastal people have developed the culture and wisdom of taking shelter in the nearby cyclone centers on receiving danger signal.
- Red Crescent volunteers in the coastal belt disseminate the alarm in the community.

Hazards

- People of Bangladesh have very little or no experience about *contingent hazards* like earthquake and tsunami.
- Nonetheless, Bangladesh is extremely vulnerable especially from earthquake point of view.
- Determination of earthquake & tsunami state of art should be the priority.

Vulnerable coastal areas due to
cyclone

Vulnerable areas due to flood and
riverbank erosion

Multiple elements seismic zoning map of Bangladesh

Hazard Warning

- Meteorology Department of the Govt. of Bangladesh is the sole agency for issuing weather bulletin & warning signal pertaining to cyclone, tidal surge, rain & thunder storm, and flood warning.
- These hazards warning are disseminated through national radio and television.

Hazard Warning

- There are seismic observatories located at Dhaka, Chittagong, Sylhet, and Rangpur maintained by the Met Department.
- Fruitful seismic data and its interpretation are yet to be achieved.
- Geology Department of Dhaka University has installed one broad-band seismograph that acquires earthquake data since 2003.

Hazard Warning

- Five portable broad-band seismograph have been installed at Sylhet region and those are acquiring earthquake data since last six month or so.
- Formal mechanism and system are yet to be developed for proper interpretation of acquired data and disseminating the scientific information for hazard warning.

Hazard Warning

- Although an warning can not be issued on earthquake, but it is very much possible for tsunami.
- However, almost entire Bangladesh coastal region is free from any potential tsunami threat.
- Any trans-oceanic tsunami or any tsunami along the Andaman trench could be detected for issuing warning using an extensive earthquake observatory network.

Hazard Warning

- Present system of tsunami warning is likely to emerge with false alarm.
- The Bottom Pressure Recorder could be activated without a required ocean floor rupture and up-thrust vertical offset for tsunami generation.
- This may lead to wrong identification of seismic seiche as tsunami.

Tsunami Warning System

- Bottom Pressure Recorder (BPR), an underwater monitoring module (UM) installed at the seabed.
- a surface buoy (SB) moored in the area of the UM.
- an “in water” communication segment connecting the UM with SB.
- an onshore centre (OC) hosting a standard PC server.
- a satellite communication segment connecting SB and OC.