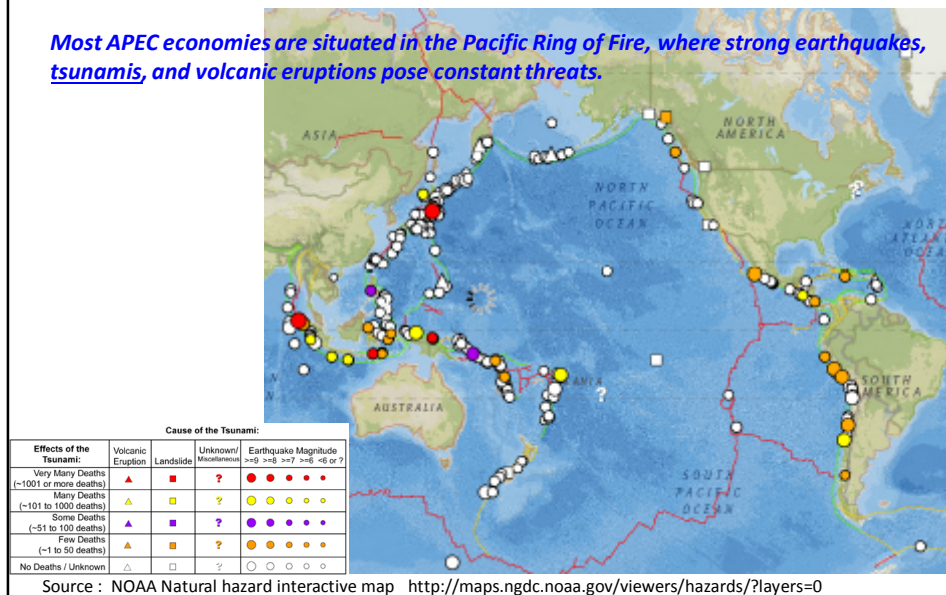


Tsunami DRR and APEC Economies

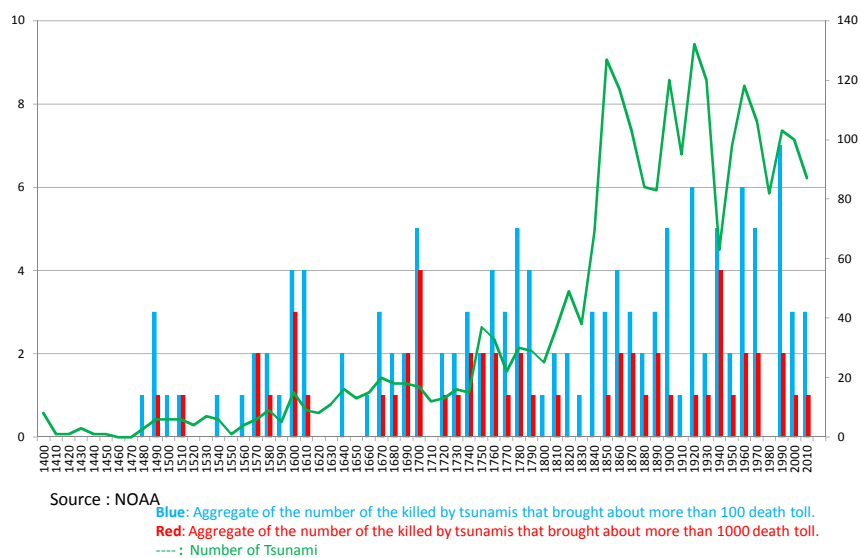
1. APEC economies and Tsunami: an Overview
 - Tsunami disasters and Asian Pacific region
 - Indian Ocean Tsunami, 2004
 - The Great East Japan Earthquake and Tsunami, 2011
2. Shared Challenges we face
 - Necessity of an integrated anti-tsunami DRR
 - Needs of cross sectoral collaboration, and close collaboration with private sector
 - Needs to examine the effects by mega disasters over world economy through GVC

Tsunami 1990-2016 in Asia Pacific Region

Most APEC economies are situated in the Pacific Ring of Fire, where strong earthquakes, tsunamis, and volcanic eruptions pose constant threats.



Tsunami disasters and casualties 1400-2010

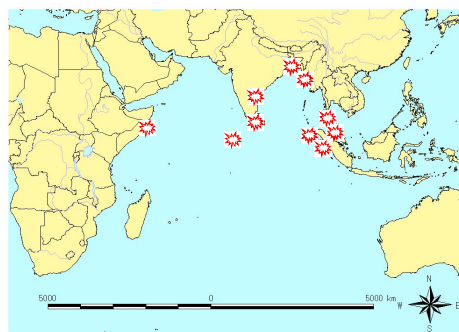


1. Tsunami disaster bringing about direct effects beyond borders

The Indian Ocean Tsunami

- Date: 00:58:49 December 26th, 2004
- Epicentre : off the west coast of Sumatra, Indonesia, 10 km
- Magnitude: 9.0
- Height of the Tsunami: beyond 40 m

- Affected coastal line: 15,000 km
Indonesia, Thailand, Sri Lanka, India, Malaysia, Myanmar, Bangladesh, Maldives, Somalia, Kenya, Tanzania, Seychelles, Madagascar
- Killed: 230,000 people in 14 countries and many tourists



2. Huge Tsunami indirectly affecting many economies through supply chain

Case :The Great East Japan Earthquake, March 11th,2011

Casualties: 15,884 Missing: 2,633

Evacuees: Max 470,000

Approximate damages



Miyagi Prefecture, March 12, 2011,
Source: Cabinet office



Miyako City, Iwate Prefecture
Photo: Tarocho Fisheries Cooperative Association



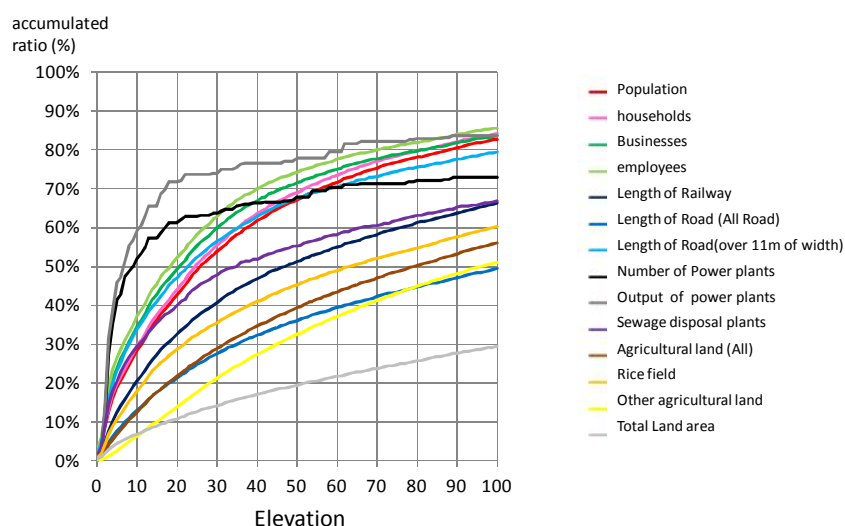
Kesen-numa City April 1st, 2011 Source:
Disaster Reduction & Human Renovation
Institution)

Facing Tsunami

- Tsunami DRR relates to all the phases including prevention, preparedness, early warning, evacuation and other emergency operation, and recovery, rehabilitation and reconstruction.
- Tsunami evacuation measures needs to be designed for all the vulnerable groups in need of assistance.
- Tsunami affects diverse industries
fishing, aquaculture, fish processing industries, agriculture, petrochemical complexes, MSMEs of all sectors, coastal and marine tourism, commerce.

Photo: Cabinet Office

Concentration of Population and infrastructure in low elevation and coastal area: Case of Japan



Source : Population and households / Population Census of Japan [2005]
 Establishments and persons engaged / Establishment and Enterprise Census [2008]
 Sewage disposal plants / National Institute for Land and Infrastructure Management [2010]
 Elevation / Digital Map data, Geospatial Information Authority of Japan [2000, 2001]
 Other facilities / National Land Numerical Information, MLIT

Source : MLIT, Japan 2012

8

Purpose of the workshop

- Identify the status of anti-tsunami policies and measures in member economies
- Discuss major challenges to be addressed by EPWG
- Strengthen partnership with private sector in promoting anti-tsunami measures

***Towards cross border collaboration
by bridging the both sides of the Pacific Ocean
From Peru to Vietnam and PNG***