



**Asia-Pacific  
Economic Cooperation**

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## **Workshop on Tsunami Disaster Risk Reduction**

Submitted by: EPWG Co-Chairs



**APEC PERU**  
2016

**10<sup>th</sup> Senior Disaster Management Officials Forum**  
**Iquitos, Peru**  
**8–9 October 2016**



# Workshops on Tsunami Disaster Risk Reduction



As one of the follow-ups to the WCDRR in Sendai, a resolution designating November 5<sup>th</sup> as the World Tsunami Awareness Day was jointly proposed by 142 countries and adopted at the UN General Assembly, in December. Effective Tsunami Disaster risk reduction requires multi-sectoral and inter-disciplinary efforts by sharing lessons learnt from tsunami in the past. For this purpose, in 2016, Cabinet Office, Japan, close collaboration with Asian Disaster Reduction Center, ADRC organised two workshops in Lima, Peru and in Krabi, Thailand.

WS1 focusing on tsunami DRR policies at national level

### APEC Workshop :Tsunami Disaster Risk Reduction in APEC economies

Date: 16 August, Venue: Lima, Peru

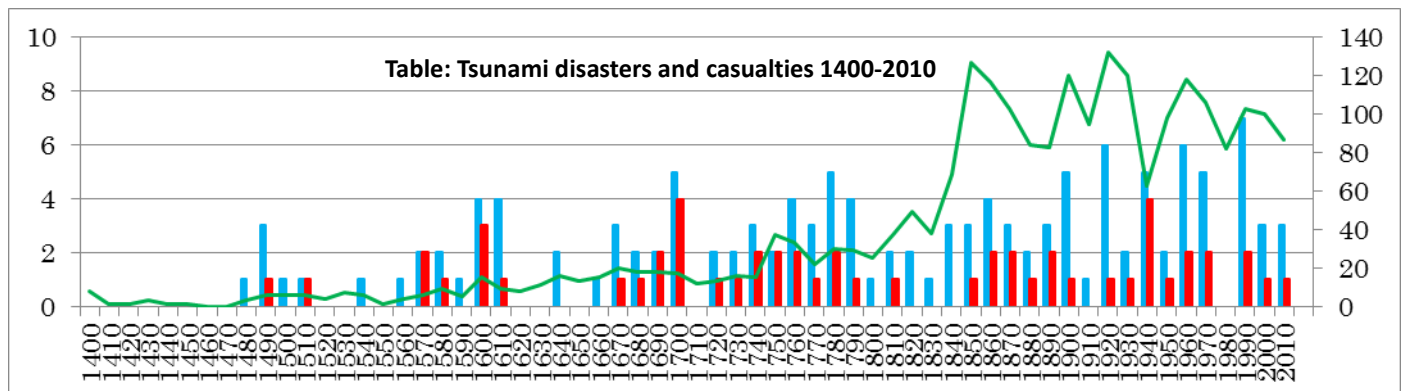
WS2 focusing on community level tsunami DRR measures

### Thai- Japan Workshop: Tsunami Disaster Risk Reduction in Krabi

Date:22 September, Venue: Krabi, Thailand

Tsunami disaster reduction relates to all the phases of DRR including prevention, preparedness, early warning, evacuation and other emergency operation, and recovery, rehabilitation and reconstruction. Tsunami directly affects both maritime cities and rural areas near the coast dependant on diverse economic activities, in particular, fishing, aquaculture and fish processing industries, agriculture at coastal areas, petrochemical complexes and other factories, and coastal and marine tourism including seaside commercial areas. Anti-tsunami measures need also to be designed by taking well into consideration of all the vulnerable groups in need of assistance for evacuation.

Anti-tsunami policy is supported by broad inter-disciplinary knowledge extending from seismology, oceanography, disaster prevention engineering, land use and urban planning to sociology, psychology, and communication studies. History and archaeology also provides us lessons learnt in the past that will help us to get prepared against tsunamis in the future. Both structural and non-structural measures are necessary to face tsunami, and the best mix of cross-sectoral measures needs to be identified for individual economies.



Source: NOAA

Blue: Aggregate of the number of the killed by tsunamis that brought about more than 100 death toll.  
 Red: Aggregate of the number of the killed by tsunamis that brought about more than 1000 death toll.  
 --- : Number of Tsunami

# Workshop1 focusing on tsunami DRR policies at national level

## Tsunami Disaster Risk Reduction in APEC economies

August 16, Lima, Peru

APEC Region is situated in the Pacific Ring of Fire and many of the economies have been directly suffering from damages of Tsunami disasters, while today's increasingly integrated and interlinked production, and supply chains could indirectly be affected, once a huge tsunami will hit some of the economies. This half a day workshop was organised to

- identify 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



**Opening** Mr. Icochea Iriarte, Director, National Institute of Civil Defense, INDECI, Peru,  
Mr. Yamashita, First Secretary, Embassy of Japan,  
Dr. Le Quang Tuan, co-chair, EPWG, MARD, Vietnam

### Session 1: Anti-Tsunami measures by APEC economies: Sharing experiences



- Chair: Mr. Salonga, Office of Civil Defence, Philippines
- Anti-tsunami measures in Peru, Ms. Gomez Bolivar, INDECI & Mr. Vásquez Gianella, Direction of Hydrography and Navigation, DHN
  - Lessons learnt from the Indian Ocean Tsunami, Mr. Pinta, DDPM, Thailand
  - Anti-tsunami measures in Chile, Ms. Silva Bustos, ONEMI, Chile
  - Anti-Tsunami measures after the Great East Japan Earthquake
  - Anti-Tsunami measures in Asian Pacific region, Ms. Morikawa, JICA Perú Office

### Session 2 : Collaboration with private sector facing Tsunami Disaster Reduction

- Chair: Dr. Li, Secretary General, National Science & Technology Center for Disaster Reduction
- The U.S. Tsunami Warning System, Ms. Fischer, Principal APEC Coordinator & Economic Policy Advisor
  - Tsunami and local economy by Mrs. Rosell Grijalba, National Society of Industries, SNI, Perú
  - Comment from Toyota, Perú, Mr. Ninanya, Head of IT Strategy & Mr. Rebolledo, Responsible for the Administration and SST
  - Roundtable on anti-tsunami measures to support APEC DRR framework



### **Major comments and opinions**

- A mega tsunami disasters could bring about significant impacts on global value chain. The effects of mega tsunami on world economy needs to be well discussed, earlier.
- Local participation is a key as in Peru, many people live in disaster prone areas unaware of the risk.
- A whole of community approach is important facing tsunami disasters.
- Local people and non-residents, visitors should be involved towards tsunami awareness
- Early warning system cannot work, if people do not respond to the alert.
- Tsunami DRR is a challenge facing Asia Pacific region and multi-lateral cooperation is essential to build up efficient early warning systems.

## Workshop2 focusing on community level tsunami DRR measures

# Tsunami Disaster Risk Reduction in Krabi

Lessons learnt from the Indian Ocean Tsunami and way forward  
September 22<sup>nd</sup>, Krabi, Thailand

Effective anti-tsunami measures at local level require close collaboration among diverse local actors including local governments, local commerce, industries and local NGOs as well as national DRR authorities. Inter-regional collaboration among neighbouring provinces and towns is another key. In the areas favoured by tourists from all over the world, DRR policies need to take into consideration of visitors and tourists of multicultural backgrounds. The workshop was organised to

- identify major challenges facing diverse local actors working at community level
- share lessons learnt from previous tsunami disasters
- develop new tools that will facilitate tsunami DRR at community level



### Opening:

- Mr. Supakit Phophapaphan, Deputy Director General, DDPM, Thailand
- Introductory remark on Tsunami DRR in Asia and Japan, Ms.K. Kondo, ADRC

### Session 1: Tsunami DRR efforts made in Thailand after the Indian Ocean Tsunami

Chair: Mr. A. Pinta, DDPM

- Tsunami Disaster Warning System and Policy, Rear Admiral Song Ekmahachai, DDPM
- National Tsunami Response Plan & Implementation, Sub-Lieutenant Pongsatorn Sirisakorn, DDPM
- Report from DPM Provincial Offices on Tsunami response plan & warning system at provincial levels
  - **Krabi** : Mr. Thalerngsak Phoowayanphong,
  - **Phuket** : Mr. Mongkol Temrat
  - **Nga** : Mr. Amornthep Buakhom Phang
  - **Rangon** : Mr. Paradon Roongrojtheera
  - **Trang** : Mr. Somchai Srimok
- Roll of Civil Society, Ms. A. Ngoon Wongcharoen Phang, Nga, Thai Red Cross
- Role of Private Sectors, Mr. Rong PhooklaoLuan, Advisor of Thai Southern Hotel Association



### Session 2: Various efforts against Tsunami from international experiences

Chair: Mr. Arakida, ADRC

- Evaluation of Post-Great East Japan Earthquake tsunami DRR measures in Japan, Dr. Natt leelawat, Tohoku University
- Evaluation of tsunami DRR policy after Indian Ocean Tsunami, Dr. Harkunti Rahayu, Institute of Technology, Bandung, ITB
- Advanced technologies for effective DRR against Tsunami, Kawada Industries, Inc. and Kawada Technosystem co., Ltd.



### Demonstration and group training of Disaster Imagination Game, DIG

Facilitator : Prof. T. Komura, Tokoha University

### **Major comments and opinions**

- In 2004 more than 20% rooms of 900 hotels in Krabi were damaged, although most of the small & middle sized hotels had not been insured.
- Evacuation from the Tsunami on 11 April 2012 was chaotic due to insufficient information for evacuation targeting tourists, and lack of experiences. Only 50 large hotels took responsibility of evacuation for their guests. Hotel branding in regard to evacuation measures can be an effective measure.
- In tourist destination areas, further training with the participation of tourists is indispensable
- Maintenance of tsunami tower and buoy is another challenges
- Those experienced 2004 tsunami have been retired and young generation does not share the hard experiences. Lessons learnt from the past experiences will help us to elaborate-anti tsunami measures well adapted to individual areas, while high tech today will facilitate improving and upgrading community based DRR.

