- ✓ BCP targeting local governments and small and medium-sized enterprises
- ✓ Strengthening of local DRR information infrastructure by using cutting-edge technology such as satellite imagery and ICT equipments.

2-2. Promotion of World tsunami awareness day

2-2-1. Background of ADRC Tsunami DRR workshops

Based on the UN Resolution designating November 5th as the World Tsunami Awareness Day, a new series of awareness raising activities have been initiated by UNISDR, government of Japan, and many other relevant countries and international organizations. ADRC, together with Cabinet Office had long been undertaken Tsunami DRR since the Indian Ocean Tsunami in 2004 by dispatching teams to investigate the damages in collaborating with ADRC counterparts and published awareness raising material of “Inamurano-hi” in more than 10 languages.

In order to further promote tsunami DRR and the World Tsunami Awareness Day, in the fiscal year 2016, two workshops on tsunami DRR were held, one in Lima, Peru and another in Krabi, Thailand for the purpose of sharing lessons learnt from tsunami in the past and discussing future challenges towards effective tsunami disaster risk reduction through multi-sectoral and inter-disciplinary efforts.The former highlighted effects of tsunami on economy and supply chain as well as tsunami DRR policies, while the latter addressed the challenges at local and community level facing tsunami.

2-2-2. Workshop focusing on tsunami DRR policies at national level Tsunami Disaster Risk Reduction in APEC economies

The workshop was organized by ADRC in collaboration with INDECI, Peru and Cabinet Office, Japan, back to back APEC emergency preparedness working grope, EPWG meeting during August 15-16, in Lima.The purpose of the workshop included:

1) Identifying the status of anti-tsunami policies and measures
2) Discussing major challenges
3) Strengthening partnership with private sector in promoting anti-tsunami measures.

It was attended by USA, Vietnam, Chile, Philippines, Chinese Taipei, Thailand as well as Peru and Japan. Participants discussed a wide range of tsunami DRR policies, challenges and trans border effects through supply chain. Private sector in Peru and JICA also provided inputs on their tsunami DRR efforts.

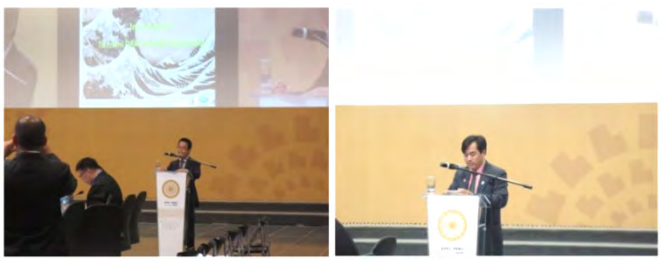

Fig. 2-2-1 Photo on Conference

Session 1: Anti-Tsunami measures by APEC region: Sharing experiences

The first Session, chaired by Mr. Salonga, Office of Civil Defence, Philippines explored tsunami DRR policies including those of Peru, Thailand, Chile, as well as Japan. From Peru, major anti-tsunami measures focusing on non-structural measures taken in Peru were reported by Ms. Gomez Bolivar, INDECI, followed by a presentation on the National Tsunami Warning System in Peru, including Tsunami numerical modelling software and automated software for dissemination by Mr. Vásquez Gianella, Direction of Hydrography and Navigation, DHN.

Mr. Pinta, DDPM, Thailand then shared with the participants the lessons learnt from the Indian Ocean Tsunami, 2004 and tsunami warning system and policy measures established after the disaster. DDPM announced also about another tsunami workshop scheduled in Krabi in September (See 2-2-2.).

Ms. S. Bustos, ONEMI, Chile first summarized the emergency Actions and responsibilities of National Seismological Centre (CSN) and Hydrographic and Oceanographic Service of the Chilean Navy (SHOA) as well as ONEMI and explained about its Integrated System of Forecast and Tsunami Warnings (SIPAT) Developed between 2012- 2015 by Universidad Técnica Federico Santa María and SHOA, which can provide Tsunami estimation based in pre–modelled events in a very short time. The national territory of Chile is divided according its threat level. She also referred to the National Policy for DRM and a guidance framework to develop an integrated DRM across sectoral policies.

ADRC then reported Anti-Tsunami measures defined after the severe experiences of the Great East Japan Earthquake covering both structural and non-structural measures for prevention, preparedness, emergency response, recovery and BBB. At the end of the 1st session, Ms. Morikawa, JICA Perú Office presented anti-Tsunami measures in Asian Pacific region undertaken by JICA.

Fig. 2-2-2 Photo on Conference

Session 2: Collaboration with private sector facing Tsunami Disaster Reduction

The second session was moderated by Dr. Li Weisen, Secretary General, National Science& Technology Center for Disaster Reduction and discussed public-private collaboration based first on the presentation on the NOAA Tsunami Warning System made by Ms. Fischer, Principal APEC Coordinator & Economic Policy Advisor. She briefed also about NOAA tsunami programme including outreach and Education to improve community awareness.

Mrs. R. Grijalba, National Society of Industries, SNI, Perú then talked about SNI activities of the Working group of business support for disaster including works with National Fisheries Association and the efforts in favour of the communities near the coast. Mr. Ninanya, Head of IT Strategy and Mr. Rebolledo, Responsible for the Administration and SST from Toyota, Peru commented on it from the viewpoint of the private sector located in Peru from their experiences.

Major comments and opinion

A roundtable followed by the presentations discussed priorities of anti-tsunami measures raised throughout two sessions. A mega tsunami may bring about significant impacts on Asia Pacific region directly and through supply chain that could affect world economy as well. In order to face mega tsunami, local participation is a key. In Peru, it was pointed out that many people remain living in disaster prone areas unaware of the risks of tsunami. A whole of community approach is important facing tsunami disasters including both local people and non-residents, visitors towards tsunami awareness. Early warning system is another point of discussion that 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 and to get prepared against mega tsunami which may involve world economy through global value chain.

2-2-3. Community level tsunami DRR "Lessons learnt from the Indian Ocean Tsunami and way forward"

Thailand had never experienced tsunami disaster before the Indian Ocean Tsunami in 2004 that damaged broad areas of Indonesia, India, Sri Lanka, Myanmar, Malaysia, Maldives and so on, as well as Thailand. Many tourists from other countries also lost their lives as well. One hour after the quake, five southern provinces of Thailand including Phuket were hit by the tsunami, which killed more than 5,300 people and more than 3,000 remain missing in Thailand. DDPM, Thailand has made great efforts to establish a comprehensive tsunami warning system in close collaboration with local governments and communities. One day workshop was organized thanks to DDPM, and provinces which were affected by the Indian Ocean Tsunami, aiming at identifying tsunami related policies and challenges at community level emerging after the Indian Ocean Tsunami.

The focus of the workshop was placed on locally based DRR by using new technologies and through collaboration at local level. Effective anti-tsunami measures at local level require close collaboration among diverse local actors including local governments, local commerce and industries and local NGOs as well as national DRR authorities. Inter-regional collaboration among neighbouring provinces and towns is another key.

In the areas favored by tourists from all over the world, DRR policies need to take into consideration of visitors and tourists of multicultural backgrounds. Tsunami disasters may affect vulnerable groups in need of assistance for evacuation. In addition, it relates to all the phases of DRR including prevention, preparedness, early warning, evacuation and other emergency operation, and recovery, rehabilitation and reconstruction. With the above understanding, the main objectives of this workshop was defined to:

1) Identify major challenges facing diverse sectors including local governments, local commerce and diverse industries and NGOs working at community level,
2) Share lessons learnt from previous tsunami disasters
3) Develop new tools that will facilitate tsunami DRR at community level

Outcome of the workshop

The workshop was opened by an inaugural speech delivered by Mr. Supakit Phophapaphan, Deputy Director General, DDPM, Thailand, host country. ADRC made then introductory remarks and continued to present Tsunami DRR in Asia and Japan.

Fig.2-2-3 Tsunami DRR Workshop participants in Krabi

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

In the first session chaired by Mr. A. Pinta, DDPM, Rear Admiral Song Ekmahachai presented Tsunami Disaster Warning System and Policy in Thailand and Sub-Lieutenant Pongsatorn Sirisakorn, made a presentation on National Tsunami Response Plan & Implementation, representing DDPM.

DDPM Provincial Offices then reported their tsunami response plan & warning system at provincial level. Five provincial offices presented their tsunami DRR policies in individual provinces including Phuket, Phang Nga, Ra Nong and Trang as well as Krabi. From civil society, Thai Red Cross joined the workshop, while Thai Southern Hotel Association reported about the experiences at the Indian Ocean Tsunami and its efforts to hand down the lessons learnt to young generations.

Session 2 : Various efforts against Tsunami from international experiences

The second session first explored policies and countermeasures in Japan and Indonesia. Dr. Natt Leelawat, Tohoku University reported about evaluation of Post-Great East Japan Earthquake tsunami DRR measures in Japan focusing on the activities targeting communities, followed by Dr. Harkunti Rahayu, Institute of Technology, Bandung, ITB , who made a presentation on the evaluation of tsunami DRR policy in Indonesia after Indian Ocean Tsunami. From the private sector, possibilities of using advanced technologies such as mobile phone facilitating integration of DRR information easily, adapted to local tsunami DRR efforts were presented by the participants from Kawada Industries, Inc. and Kawada Techino system co., ltd., Japan

Demonstration and group training of Disaster Imagination Game, DIG

Last session was facilitated by Professor T. Komura, Tokoha University, who made first a presentation on Disaster Imagination Game, DIG, followed by group discussion and training on DIG. By using a map of Krabi area, participants actively discussed community based tsunami DRR measures, in particular, evacuation routes adapted to the area by developing a map together.

Major comments and opinion

A wide range of lessons could be drawn and shared with from the discussion of the one day workshop attended by locally based governmental sector, private sector, and civil sector in tsunami vulnerable areas.Amongst all, experiences as famous coastal resort areas affected by a mega disaster are useful for and to be applied to many other tourist destination areas.

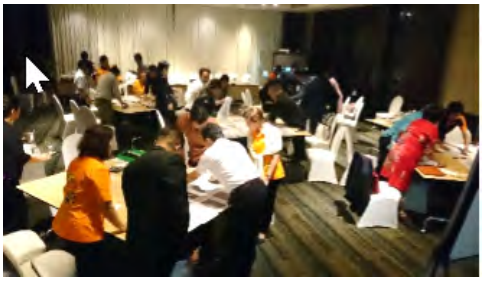

Fig.2-2-4 DIG Activity

Thailand experienced another tsunami on 11 April 2012 after the hardship of 2004. Evacuation from the Tsunami in 2012 was however chaotic despite the policies taken after 2004, due mainly 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, training with wide participation of tourists is indispensable as well as those just targeting local residents.

Regarding recovery and reconstruction, it should be noted that 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.

Another challenge for the affected areas include maintenance of tsunami tower and buoy: How to maintain awareness and continue financing DRR measures against a mega disaster that could happen after an interval of decades or a century.

Finally, it should be noted that in Thailand, 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 elaborate anti tsunami measures well adapted to individual areas, and high tech today will facilitate upgrading DRR measures.