

**CHINA-ASEAN WORKSHOP
ON EARTHQUAKE-GENERATED TSUNAMI WARNING
Beijing, China 25-26 January 2005**

**Action Plan to Formulate the Technology Platform for
Earthquake-Generated Tsunami Warning System**

As a follow-up action to the announcement of H. E. Mr. Wen Jiabao, Premier of China at the Special ASEAN Leaders' Meeting on Aftermath of Earthquake and Tsunami in Jakarta, Indonesia on 6 January 2005 to help ASEAN countries to establish Strong Earthquake and Tsunami Warning Network, the China-ASEAN Workshop on Earthquake-Generated Tsunami Warning was held in Beijing on 25-26 January 2005.

The Workshop aimed to exchange experiences and lessons learned from the recent Indian Ocean tsunami disaster; exchange information on technology in the field of tsunami warning; and explore ways to carry out joint activities in the field of tsunami early warning through earthquake monitoring. The Workshop was attended by officials, emergency response managers and scientists from ASEAN countries, Australia, China, India, Japan, Korea, Maldives, Seychelles, Sri Lanka and USA; and representatives from ASEAN Secretariat, OCHA/UN, UNESCO, ESCAP/UN, ISDR/UN, WMO/UN, Asian Disaster Preparedness Center (ADPC) and Asia Seismology Commission (ASC).

H. E. Mr Hui Liangyu, Vice Premier of China officiated the opening ceremony of the Workshop, calling for the establishment of Indian Ocean tsunami warning system through global planning and coordination, and reaffirming China's commitment to supporting the capacity building of earthquake-generated tsunami monitoring in ASEAN countries.

The country reports and technical presentations by ASEAN countries and the international organizations covered the wide spectrum of tsunami-related issue ranging from extent of damage of the Indian Ocean tsunami, state-of-the-art of earthquake and tsunami monitoring, and capacity building of warning system in the region to post-tsunami emergency response.

After extensive discussion and consultation among all the parties, the following action plan was recommended for the establishment of earthquake-generated tsunami warning system in this region:

Establishment of Tsunami Warning System in Indian Ocean and Southeast Asian Region

- 1. Due to the unavailability of the tsunami warning system in Indian Ocean and Southeast Asian region, the Workshop recognized the urgency in putting in place tsunami warning system at the earliest date. The Workshop also recognized that a tsunami warning system in the Indian Ocean and Southeast Asian region has to cater for the specific requirements and circumstances of the countries in the region. The Workshop recognized that the tsunami warning system be established by building on the existing regional and international capabilities and capacities in earthquake and tsunami with the cooperation and support of these countries and international organizations such as UNESCO/IOC, UN/ISDR and WMO.**
- 2. The Workshop recognized that the establishment of tsunami warning system would require concerted efforts across the whole chain of tsunami warning including establishment of technical facilities, continuous surveillance, awareness and education, and effective delivery of early warning information to the local communities.**
- 3. The timely establishment of a tsunami warning system in the Indian Ocean and Southeast Asian region can be assisted by effective utilization of relevant existing institutions and mechanisms in ASEAN countries such as the ASEAN Earthquake Information Centre (AEIC), ASEAN Specialised Meteorological Centre (ASMC) and Asian Disaster Preparedness Center (ADPC):**
 - a) AEIC: Has established networking with key national and international institutions involved in earthquake monitoring and exchange of data for the ASEAN region;**
 - b) ASMC: Has established networking with key national and international institutions involved in monitoring and forecasting of atmospheric and marine meteorology for the ASEAN region;**
 - c) ADPC: Has established networking with key national and international institutions involved in disaster awareness and management.**

4. Since earthquakes are the major force triggering the local and distant tsunamis that are threatening the countries around the Indian Ocean and Southeast Asian region, the first step would be to enhance the earthquake and tsunami monitoring capability leading to the establishment of the tsunami warning system in the Indian Ocean and Southeast Asian region. The system should be economically maintained, fulfill the multiple purposes and be in the long-term perspective.
5. Effective and active resource mobilization is essential for the timely establishment of a tsunami warning system in the Indian Ocean and Southeast Asian region. Therefore, the Workshop noted that the availability of funding is critical to supporting the establishment process of such an early warning system. The Workshop also noted Thailand's proposal on setting up a Voluntary Trust Fund to be discussed further during the Ministerial Meeting on Regional Cooperation on Tsunami Early Warning Arrangements in Phuket, Thailand from 28 to 29 January 2005, and that this could help contribute to this effort.

Establishment of an Asian Regional Seismographic Network (ARSN)

6. In view of the need to enhance the earthquake monitoring capabilities and coverage in ASEAN and South Asia regions and for the purpose of rapid, accurate and effective data exchange and warning, an integrated Asian Regional Seismographic Network (ARSN) covering the above areas should be set up in consultation with all parties concerned. The ARSN Network will consist of the seismographs, data processing and data transmission system. In this respect, the potential to utilize the existing telecommunication capabilities and technology, such as Global Telecommunication System (GTS) of WMO, should be explored.
7. The Workshop also recognized that bilateral cooperation between China and ASEAN countries and other interested parties could contribute to the establishment of the seismographic network.
8. The Chinese Government will provide assistance to the establishment of ARSN in the form of instrumentation, technical support, training, studies and research on earthquake forecasting and prediction, disaster assessment and emergency response as required under the coordination of the United Nations. The

Chinese Government will take measures to intensify scientific cooperation between China and ASEAN countries in the field of earthquake forecasting and prediction, disaster assessment and emergency response.

Capacity Building

- 9. To expedite technology transfer and information sharing, to prepare for the establishment of the tsunami warning system, to share experiences and lessons in emergency management and response from various disasters, and to conduct joint long-term multidisciplinary research to enhance better knowledge and understanding of the nature of earthquake-generated disaster, the Chinese Government agreed to:**
- a) organize training courses for ASEAN countries and other parties interested at an early date agreed upon;**
 - b) provide support for hazard mapping and needs and capacity assessment for ASEAN countries; and**
 - c) help strengthen the capacity of national seismology centers in ASEAN countries.**

Asian Conference on Disaster Reduction

- 10. The Workshop welcomed China's proposal to convene the Asian Conference on Disaster Reduction, scheduled to be held in the near future.**

Provision of Earthquake Data

- 11. For immediate action, China Earthquake Administration will provide the parameters of destructive earthquake events (such as magnitude, location, focal mechanism, etc) occurring in the ASEAN and South Asia regions to the interested countries and parties as soon as these events are detected by the China National Seismic Network.**

The action plan was adopted at the closing session of the China-ASEAN Workshop on Earthquake-Generated Tsunami Warning on 26 January 2005 in Beijing.