

managing the impacts of COVID-19 pandemic. Example of indicative variations of these measures are shown in Table 2.1.

Table 2.1. Variation of Countermeasures Japan & Philippines

Preventive Action	The Philippines	Japan
<i>Staying Home</i>	<ul style="list-style-type: none"> • Mandatory • Imposition of lockdowns (<i>military, police, and related enforcement agencies are engaged</i>) 	<ul style="list-style-type: none"> • Non-Mandatory • No imposition of lockdowns (<i>drawing on individual responsibility and cooperation</i>)
<i>Social/Physical Distancing</i>	<ul style="list-style-type: none"> • Cancellation of group events (e.g., church worship, beach parties, and cockfights) 	<ul style="list-style-type: none"> • Avoidance of 3Cs: crowds, closed spaces, closed contacts; • Also, cancellation of group events (e.g., marathons)
<i>Wearing Mask</i>	<ul style="list-style-type: none"> • Legislated at local governments (penalty for violation of ordinance) 	<ul style="list-style-type: none"> • Encouraged but not legislated • National Government announced giving out masks
<i>Washing Hands</i>	<ul style="list-style-type: none"> • Encouraged (on your own) 	<ul style="list-style-type: none"> • Encouraged (with wide establishments' support)

ADRC member countries vary in the degree of implementing the common countermeasures for COVID-19 due to differences of local situations, including socio-political contexts. For instance, Japan and the Republic of Korea did not implement a nationwide lockdowns or total travel restrictions while countries like India and the Philippines imposed strictest lockdowns, even commanding the military to enforce those restrictions.

2.3. Tsunami DRR Seminar Series

ADRC organized a series of online Tsunami DRR Seminars, during FY 2020, to share the latest research findings and experiences on the topic. The seminars also provided the opportunity to promote the World Tsunami Awareness Day to ADRC member countries, DRR stakeholders, and the general public.

2.3.1. First Seminar: 24 November 2020

Speakers:

- Prof. IMAMURA Fumihiko
Professor, International Research
Institute of Disaster Science (IRIDeS),
Tohoku University
- Dr. Anawat Suppasri
Associate Professor, International
Research Institute of Disaster
Science (IRIDeS), Tohoku University



Summary

Prof. IMAMURA recalled the Great East Japan Earthquake of 11 March 2011, and explained that it was a triple disaster tragedy simultaneously experiencing earthquake, tsunami, and nuclear power plant failure. It was the time, where DRR experts including those from Tohoku University realized the limitations of knowledge (e.g., multiple disasters) and technology (e.g., real-time early warning tools) in Tsunami DRR. To help address knowledge and technology gaps on tsunami DRR, the Tohoku University established IRIDeS by building on its existing group of interdisciplinary experts. Dr. Anawat Suppasri shared lessons from the 2011 Tsunami experience in Japan. In Kamaishi, all students (of nearly 3,000) survived because they calmly evacuated to the higher location, following what they learned from tsunami mitigation training and drills. Based on these lessons, tsunami countermeasures improved, such as by classifying tsunamis into two-levels. Level 1 tsunamis are those frequently occurring, and less powerful. In this case, structural measures such as levees and seawalls are useful. By contrast, Level 2 tsunamis are those that occur once in hundred or thousand years, and very powerful. In this case, non-structural measures such as evacuation and awareness raising are important to save all human lives.

2.3.2. Second Seminar: 22 December 2020

Speaker

Dr. Khaerunnisa, Associate Professor
University of Atma Jaya Yogyakarta
(UAJY)



Summary

Tsunami education in Indonesia is carried out using different media, including tsunami education programs in TV, digital fun games for smart phones, YouTube channel, posters, guidelines, and formal education in schools. To describe the tsunami awareness of people in Indonesia, Dr Khaerunnisa presented a result of a survey that she administered to 100 respondents, and highlighted the following:

- Majority of the respondents know whether they live in tsunami-prone area or not. Their assessment of hazard is based on experience, knowledge of past tsunamis, and information government websites and local news.
- Majority of the respondents said that in the scale of 1-5, their level of awareness increased up to 4th level, noting that they are receiving education and training related to tsunami.
- Majority of the respondents said that social media and evacuation drill are the most effective means to increase the level of awareness.

Dr. Khaerunnisa pointed that it is essential to cross analyze the survey responses with factual data such as record of tsunami-prone areas and existing hazard maps for validation. In doing so, she observed that there is no significant correlation between the actual experience of tsunami and the current knowledge and behavior. In view of this, she suggested that education programs should be accompanied with regular training and drills to make comprehension more effective.

2.3.3. Third Seminar: 26 January 2021

Speaker

Dr. OHTSU Nobuhito

Senior Researcher, National Research Institute of Fire and Disaster Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications



Summary

Dr. OHTSU said that to ensure safety from tsunami, the ideal option is to resettle vulnerable people as well as relocate vulnerable building away from the anticipated tsunami inundation areas in advanced. If this option is difficult, then the next option is to understand and implement measures on:

- How a safer space design can reduce the necessity of evacuation
- What method can be used to measure and predict evacuation speed/time
- How to apply this practical evacuation method for zoning

In tsunami-prone areas, space-related factors such as: evacuation routes, distance of evacuation sites from residence, location of higher grounds, target evacuation points, and location of tsunami evacuation building can affect total evacuation time. To improve space design of evacuation for pedestrian, planners need to evaluate various options (e.g., relation, vertical evacuation, horizontal evacuation, or secondary evacuation) of saving lives from tsunami. To ensure safe evacuation of vulnerable people, Dr. OHTSU stressed that it is important to measure the speed of evacuation to determine a successful evacuation.