

Asian Conference on Disaster Reduction 2019

Summary

A. Introduction

1. ADRC member countries, along with observers and partner organizations, gathered at Sheraton Hotel in Ankara, Turkey, 25-27 November 2019 for the Asian Conference on Disaster Reduction (ACDR2019). The conference focused on exploring context-specific experiences and lessons to help address common challenges in disaster risk reduction (DRR). ACDR2019 aimed to contribute in accelerating the implementation of the Sendai Framework for Disaster Risk Reduction and the Sustainable Development Goals (SDGs) in the Asian region.
2. The Disaster and Emergency Management Authority (AFAD) of Turkey, the Cabinet Office Government of Japan, and the Asian Disaster Reduction Center (ADRC) jointly organized ACDR2019. At the opening, H.E. Mr. Süleyman Soylu (Minister of Interior) and Dr. Mehmet Güllüoğlu (Head of AFAD) represented the Government of Turkey. H.E. Mr. Taira Masaaki (State Minister of Cabinet Office) and H.E. Mr. Miyajima Akio (Ambassador of Japan to Turkey) represented the Government of Japan. Prof. Dr. Masanori Hamada represented ADRC. All speakers affirmed the importance of sharing experiences and strengthening collaboration among member countries to further improve the activities of ADRC. Strengthening the *Visiting Researcher* (VR) program and further exploring *public-private cooperation for DRR policies* were recommended as priority activities.
3. Prof. Dr. Zeki Hasgür (Altınbaş University) delivered the keynote speech which looked back at Turkey's earthquake experiences. He described how the government continuously learn and apply new lessons from each experience, including collaboration with Japan (and other countries) to greater understand the role of culture, context, technology, and science in reducing the loss of lives and impacts of earthquakes. He stressed that *retrofitting* of physical infrastructures (e.g., hospitals, schools, and bridges) as well as implementing *measures* to prevent secondary disasters (e.g., fire) are essential activities to enhance resilience from earthquake disaster. As a segue to the keynote speech, Mr. Paul Rosenberg (UNDRR) made a special presentation emphasizing the relevance of monitoring government's DRR efforts by using the *Sendai Monitor*. The presentation argues that "what gets measured get managed". He encouraged ADRC member-countries to monitor their efforts in implementing the priority for actions of the Sendai Framework.

B. Outcomes

4. ACDR2019 focused its sessions on five thematic areas that are aligned with the Sendai Framework for Disaster Risk Reduction and Sustainable Development Goals.

Session 1: Recent Challenges and Innovative Approaches for Disaster Risk Reduction

5. Mr. Miyoshi Takanori (JAXA) highlighted the advantages of using satellite emergency observations to improve disaster response. He cited the *Aybasti Landslide* of May 2019 in Turkey, where AFAD requested a satellite photo image of the impacted area. Along with the web-based GIS information, the disaster responders understand the nature and depth of landslide. Dr. Meltem Şenol Balaban (METU-DMC) showed how some engineering research activities inform innovative approaches in DRR. These researches include: understanding the relationship between unsaturated soils and rain-triggered landslides; ground motion and the estimation of multi-component loss; and tsunami numerical modeling. Ms. Nagihan Gök (Ministry of Environment and Urbanization, Turkey) shared the *Urban Transformation* initiative of the Turkish government to enhance resilience. This initiative targets to renew 6.5 million building units in five years, especially in areas with high risk of earthquakes, floods, and landslides. It also uses 'digital twin' with GIS to monitor the project areas. Dr. Hasi Bateer (Asia Air Survey Co., Ltd)

introduced a new technology called *Red Relief Image Map* (RRIM) that can visualize ground surface from multiple viewing angles without using specialized hardware. RRIM is a useful tool for interpreting topographical characteristics of slopes, can be used to detect and evaluate slope disaster risks, such as landslide, debris flow. Dr. Manzul Kumar Hazarika (AIT) demonstrated the functions of the Integrated Emergency Management System (IEMS) as applied in Uttarakhand State, India. The functions of IEMS include: monitoring and observation of hazards, evacuation instructions, collection and reporting of damage information, settlement of emergency operation center, monitor shelter establishment, and road traffic control. He argues that IEMS improves disaster management.

6. Session 1 showcased new and updated technologies that are useful for disaster risk management. It affirmed the importance of conducting meaningful research activities, as these often lead to innovative approaches in DRR. Session 1 cautioned that the application of new technologies and research outcomes need to consider culture, capacity, and local practices of communities to ensure effectiveness.

Session 2: Earthquake and Tsunami Risk Management Practices

7. Prof. Dr. Ömer Aydan (University of the Ryukyus) demonstrated how reconnaissance improves our understanding of disaster impacts and informs recovery efforts. He cited the case of 1995 Kobe Earthquake, where findings of the reconnaissance contributed to the modification of *Japanese Seismic Design Code*. Dr. Murat Nurlu (AFAD) reported the following benefits of their research activities on earthquakes: (i) it informs the specifications for buildings to be built in seismic zones, (ii) it improves its structural health monitoring system, and (iii) it offers insights to introduce structural innovation projects for earthquake-resilient bridges and buildings. Dr. Öcal Necmioğlu (Kandilli Observatory and Earthquake Research Institution) underscored the importance of tsunami-preparedness and tsunami early warning system (EWS) in Eastern Mediterranean. He presented different tsunami simulations and scenarios, and argued that the effectiveness of any tsunami early warning depends on the awareness and preparedness of the civil protection authorities and the public. Mr. Pema Singye (Bhutan) presented the government's initiatives to reduce the impacts of earthquakes and Glacial Lake Outburst Floods (GLOF). He highlighted the structural mitigation effort (under the SATREPS Project) that includes the development of seismic technology for constructing and strengthening composite masonry buildings. Ms. Susana Gonzales Juangco (Philippines) shared the government's initiatives to reduce the impacts of two potential earthquakes in the Philippines (i.e., 7.2M West Valley Fault and 8.3M Manila Trench Earthquake and Tsunami). She emphasized the following key preparedness activities: harmonization of disaster preparedness policies, structural retrofitting, quarterly earthquake drills, and awareness-raising campaign.
8. Session 2 showed different options of improving earthquake and tsunami risk management. Earthquake reconnaissance can inform the design of resilient infrastructure and build back better in recovery. This session acknowledged that disaster drills and simulations are essential activities to prepare for the impacts of earthquake, tsunami, and GLOF. It also recognized that more efforts are needed to improve the effectiveness of EWS for earthquake and tsunami, particularly in terms of time and reach.

Session 3: School DRR Education for Enhancing Capabilities to Cope with Unexpected Situation in Disasters

9. Mr. Takada Yuichiro (JICA Turkey Office) presented JICA's contribution to enhance the school DRR education in Turkey. He mentioned at least three DRR education projects that helped strengthen community resilience: (i) School-based Disaster Education, (ii) Country-focused Disaster Education, and (iii) Joint DRR Programs with Turkish Japanese Foundation. Dr. Tuba K. Gokmenoglu (Ministry of National Education, Turkey) shared details of the *Innovative DRR Training Program for School Teachers in Turkey*. This in-service training is innovative, as it can

either be through e-learning portal for basic skills or face-to-face for mastery. She argued that “school-based disaster education saves lives”. Ms. Ariunaa Chadraabal (Mongolia) shared the process of integrating DRR education in the school curriculum in Mongolia. She emphasized the development of the *Life-Safety Education Guidelines* that are aligned with the Sendai Framework, SDGs, and major local DRR legislations. She noted that compiling good practices and providing opportunities to share these among teachers remains a big challenge. Mr. Rasulov Akylbek (Kyrgyzstan) and Ms. Mariko Kato (UNICEF Kyrgyzstan) jointly presented the progress of *Safe School Project* in Kyrgyzstan, which aimed at increasing children’s resilience to disaster. As of October 2019, the project reached out to over 47,500 children from 83 schools who benefitted from *school-based disaster risk reduction* (SBDRR) activities, such as: hazard mapping, preparedness planning, emergency drills, and establishment of *Young Lifeguards* teams. Dr. Narayan Marasini (NSET, Nepal) shared key activities of the *School Earthquake Safety Program* (SESP) in Nepal. Among the activities he mentioned are *Children Safety Club* to raise the level of awareness and *training of local masons* to retrofit school buildings. The SESP concept is replicated in 17 countries, including Pakistan and Bangladesh. Mr. Pusat Can Dinçer (Çankırı TOBB Science High School) reported his experience as Youth Ambassador in World Tsunami Awareness Day 2019 in Japan. He identified three future actions based on what he learned from the event: *raise awareness, proper disaster plans, and reinforced buildings*. He noted that awareness-raising should be made interesting to high school students by using mediums such as video games, movies, series, books, and interactive simulations.

10. Session 3 reaffirmed that school DRR education pays in the long-term. School DRR offers opportunity to enhance coping capacity for unexpected situations in disasters. Session 3 illustrated that school DRR is more effective if implemented collaboratively.

Session 4: Development of Strategy for Regional Sandstorm Disaster Risk Reduction

11. Prof. Ono Yuichi (Tohoku University) reported that sand and dust storm (SDS) affects health, agriculture, and industry. He pointed that in developing a *Regional Strategy for SDS*, it is essential to understand, monitor, and collaboratively prepare for better action in reducing its impacts. He added that poor land and water management results to large amount of SDS. Dr. Touge Yoshiya (Tohoku University) described an approach to understand SDS through “Hydrological modeling for inland lake toward sustainable water and land management”. This approach can estimate the impacts of SDS, factoring climatic event and land use change. Mr. Cihan Dündar (Turkish State Meteorological Service) highlighted the importance of monitoring SDS. He reported that in Turkey, laser spectrometers are installed in Şanlıurfa, Marmaris, and Ankara to monitor desert dusts that originated from the Middle East and Africa. Based on initial results, he argued that more technical and scientific research are needed to understand the trends and causes of SDS. Dr. Mostafa Mohaghegh (UNESCAP) identified three critical gaps in reducing SDS: (i) limited understanding of its sources, (ii) absence of robust policy, and (iii) lack of strong regional cooperation. He argues that addressing these gaps will offer opportunities for partnership and cooperation in developing the *Regional Action Plan for SDS*.
12. Session 4 implied the need for ADRC member countries to take greater actions to understand, monitor, and prepare for SDS. One activity to pursue is promoting sustainable land and water practices, as large amount of SDS is a result of poor land and water management. Additionally, ADRC can further engage in the regional networks on SDS, such as by supporting the activities of UN Coalition on SDS, UNCCD, and SDS-WAS (WMO).

Session 5: Recovery from Mega-Disasters

13. Dr. Sithamparapillai Amalanathan (Sri Lanka) shared how the government’s institutional structure evolves in managing disaster recovery. During the 2004 Indian Ocean Tsunami, the government did not have the capacity to assess recovery needs or plan for post-disaster recovery. Since then, the institutional structure has been improving to effectively manage

disaster recovery. It developed the capacity to conduct *Post-Disaster Needs Assessment* (PDNA) and *Post-Disaster Recovery Planning*. Following the floods of the 2016, the government also introduced the *National Natural Disaster Insurance Scheme* (NITF) to support recovery. Mr. Miyano Tomoki (Oriental Consultants Global Co., Ltd.) presented the challenges of “Owner-Driven-Reconstruction” (ODR) approach to housing recovery in Nepal. As far as the institutional arrangement is concerned, a key challenge is in *setting up the mechanisms* for regulation, inspection, masons, bank access, and reconstruction procedures. Yet, even if the mechanisms are set up, subsequent challenges can emerge such communication, facilitation, and mobilization. He argued that while housing is the core output of ODR, the social, institutional, and economic dimensions need to be integrated. Ms. Ishigaki Kazuko (Japan) shared key lessons on recovery from the 2011 Great East Japan Earthquake. This mega-disaster caused overwhelming impacts that the government established the *Reconstruction Agency* to accelerate the reconstruction process. Based on that experience, the government amended the *Basic Act on Disaster Risk Management* to encourage the development of *Community Disaster Management Plan* (CDMP), where preparations for recovery is integrated at the community level. Mr. Gerald Potutan (ADRC) shared insights on *improving recovery governance from mega-disasters* based on initial observations from the research jointly conducted by ADRC, JICA Tohoku Center, and University of Hyogo. He highlighted three insights to improve recovery governance: (i) putting up a permanent institution for recovery; (ii) institutionalizing ‘flexible processes’ for recovery; and (iii) maintaining an open recovery database to promote accountability.

14. Session 5 acknowledged that recovery is an opportunity to improve institutional arrangements for recovery to better address administrative challenges – the next time around. It is crucial that recovery function is integrated in the disaster risk management (DRM) system so that government can prepare to recover. If the government is not prepared to recover, disaster losses will exponentially increase and the recovery process will take a long period of time. This session recognized that effective recovery from mega-disaster starts before the disaster happens. This means that governments can be better prepared to recover by strengthening recovery institutions, performing pre-disaster mitigation activities, and engaging in pre-agreed arrangements.

C. Way Forward

15. Mr. Suzuki Koji (ADRC) moderated the closing session along with the thematic sessions’ co-chairs, namely: *Session 1*: Dr. Manzul Kumar Hazarika (AIT); *Session 2*: Ms. Susana Gonzales Juangco (Philippines); *Session 3*: Mr. T. Badral (Mongolia) and Dr. Narayan Marasini (NSET); *Session 4*: Prof. Ono Yuichi (Tohoku University) and Mr. Muhammet Maruf Yaman (Turkey); and *Session 5*: Ms. Indu Ghimire (Nepal). The closing session indicated that ACDR2019 offered several activities that ADRC member countries can consider in addressing the DRR challenges they encountered. It also showed new tools, technologies, and approaches to improve disaster risk management, including recovery from mega-disasters. ACDR2019 provided opportunity for ADRC to strengthen its existing programs (e.g., VR and regional cooperation) as well as explore new initiatives (e.g., public-private cooperation for DRR policies) in the near future.