

5. Cooperation and Partnerships

ADRC forges cooperation and partnerships among member countries and partner organizations to advance disaster resilience. In particular, ADRC engages in research cooperation (e.g., feasibility study on application of new technology) and partnerships with international institutions in organizing learning events.

5.1 Research Cooperation

In FY2022, much progress was made in the research projects pertaining to QZSS, Climate Change Impact Projection Study (SENTAN4), and Economic Research Institute for ASEAN and East Asia (ERIA).

5.1.1 QZSS DC Report Demonstrations

ADRC is member of Japan Project Team that promotes the Satellite Report for Disaster and Crisis Management (DC Report), which is an early warning service (EWS) of the QZSS. With this service, DRM agencies can transmit warning message via satellites. When the message is received on the earth's surface it can be sent over to mobile phones, street lights, car navigation systems, and other terminals allowing emergency evacuation or self-help during disasters. In FY2021, the project team showed notable progress in promoting the QZSS DC Report service. In terms of creating and sending warning message using the MT44 format, the team reported the availability of free software from the QGIS (i.e., QGIS plugin). This allows staffers of disaster management offices (DMOs) to easily create the warning message. In terms of performance of the QZSS device, it was found that it worked very well in receiving the message from satellite, even if it is outside the cellular network area. Considering these achievements, the project will continue the feasibility studies and demonstrations before the actual operations of the DC Report service in target countries beginning 2024.

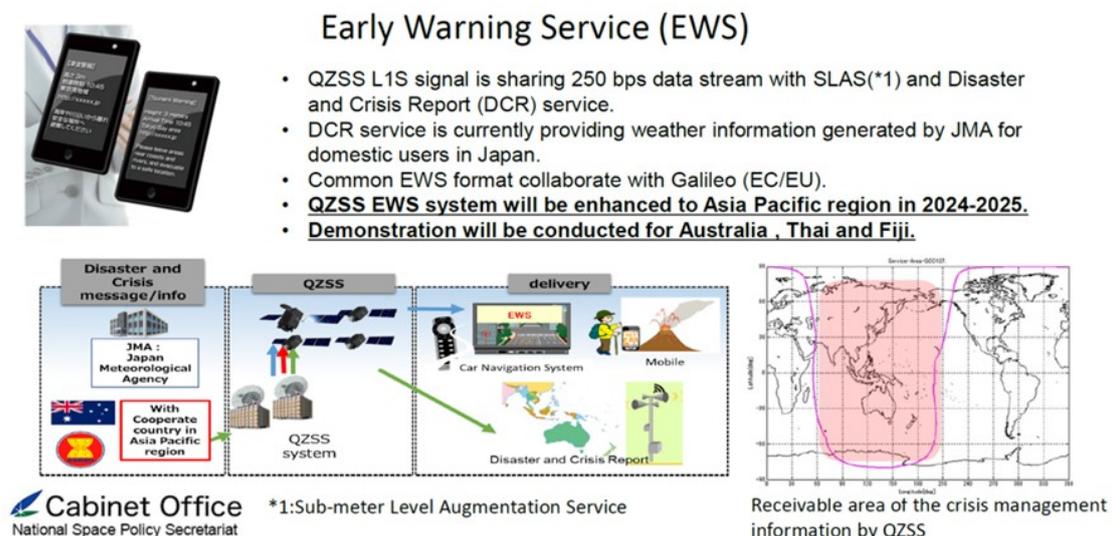
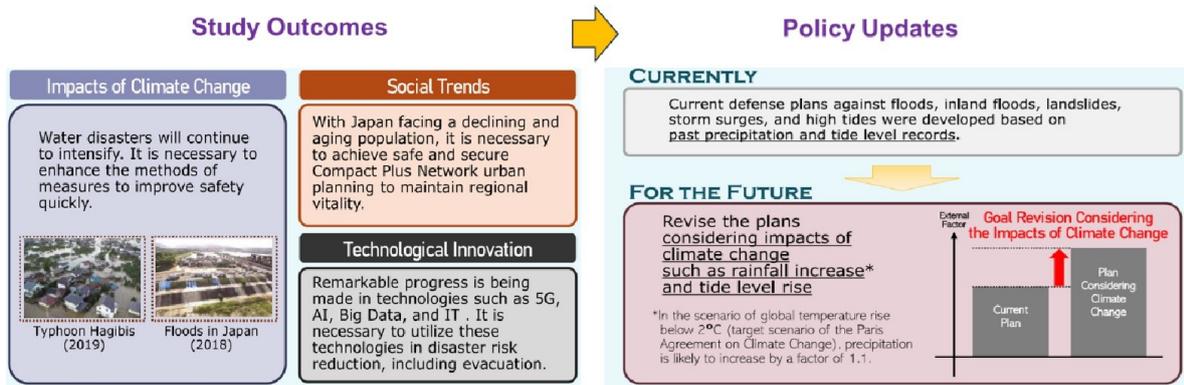


Figure 5.1 Outline of the Concept of QZSS DC Report

5.1.2 Climate Change Impact Projection Study

ADRC, together with over 120 researchers and 43 cooperating organizations, is engaged in the SENTAN 4 Project, “Development of Hazard Integrated Prediction Model” (i.e., multi-hazard model for storm and flood, <http://www.climate.dpri.kyoto-u.ac.jp/sentan4/?p=224>). Under this project, the researchers aim to assess the

future impacts of climate change, particularly, to water-related disasters (e.g., storm and flood), by analyzing historical and current data as well as through climate downscaling techniques and applications. Additionally, social trends and technological innovation information are also analyzed to update policy. ADRC shares the products/outcomes of the study to improve climate change literacy among DRR practitioners, researchers, and engineers as well as inform policy updates.



<https://www.mlit.go.jp/river/kokusai/pdf/pdf21.pdf>

Figure 5.2 Example of using the outcomes of the climate change impact project study to inform policy

5.1.3 ERIA Research Project

Under the ERIA, ADRC works on two research projects: 1) Disaster Mitigation Policies and Methods for Sustainable Economic Development; and 2) Verification of Economic Rationality of Disaster Risk Reduction Investment. During the “Workshop for Climate Change Vulnerabilities, Social Impacts, and Education for Autonomous Adaptation” that was held in Siem Reap, Cambodia on 12–14 September 2022, ADRC presented examples of countermeasures against floods and landslides in Japan.

5.2 International Engagements and Partnerships

In FY2022, ADRC co-organized and/or engaged in many events, including those with APEC-EPWG, Sentinel Asia, UNDRR, ESCAP/WMO, ASEAN, and other networks and partnerships.

5.2.1 APEC-EPWG

ADRC continues to serve as co-chair of the Asia Pacific Economic Cooperation - Emergency Preparedness Working Group (APEC-EPWG), and in FY2022, organized and participated in the following activities:

- 18th APEC Emergency Preparedness Working Group (EPWG) Meeting, 18 August 2022

Mr SUZUKI Koji, who serves as current co-chair of the APEC-EPWG, participated in-person in Chiangmai, Thailand while Mr SASAHARA Akio, Dr SHIOMI Yumi, and Dr Gerald Potutan participated online. The government of Thailand hosted the meeting with the theme, “Promoting Disaster Risk Reduction and Strengthening Partnership Toward Resilient Recovery After COVID-19.” ADRC gave two presentations. The first presentation showed the application of the GLIDE numbering system and the utilization of satellite images in documenting recent disasters (2021–2022) in Asia and the Pacific region. The second presentation showed the potential contribution of Japan’s early warning service (EWS) using the QZSS to support

evacuation and response activities. As indicated in both presentations, ADRC has been implementing DRR projects in the Asia-Pacific region and would like to further leverage greater partnerships in the EPWG to strengthen regional efforts.

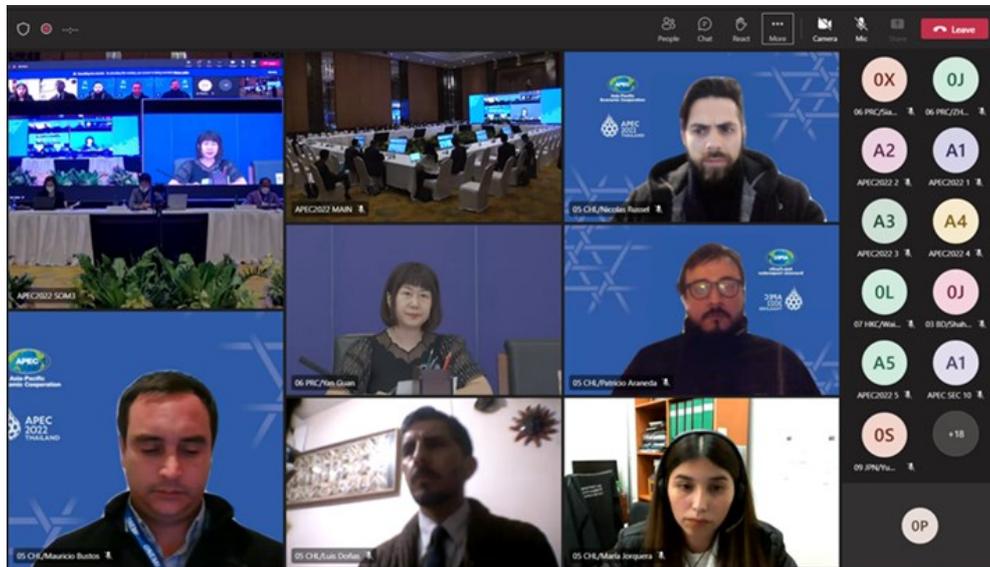


Figure 5.3 Screenshot of the 18th EPWG Meeting

- 15th Senior Disaster Management Officials Forum (SDMOF15), 19 August 2022

During this meeting, ADRC expressed support for updating the 2015 APEC Disaster Risk Reduction Framework and its corresponding DRR Action Plan to make these documents more responsive to post-pandemic recovery efforts in the region as well as to align them with the Putrajaya Vision 2040 and its corresponding Aotearoa Plan of Action. The Framework, and its corresponding DRR Action Plan, recognizes that addressing the impacts of disasters requires holistic, more proactive, multi-stakeholder, multi-sectoral, and strategic interventions to make our economies more resilient. After seven years of implementation, the economies of Chinese Taipei, the Philippines, and Chile expressed the need to review and update the documents.

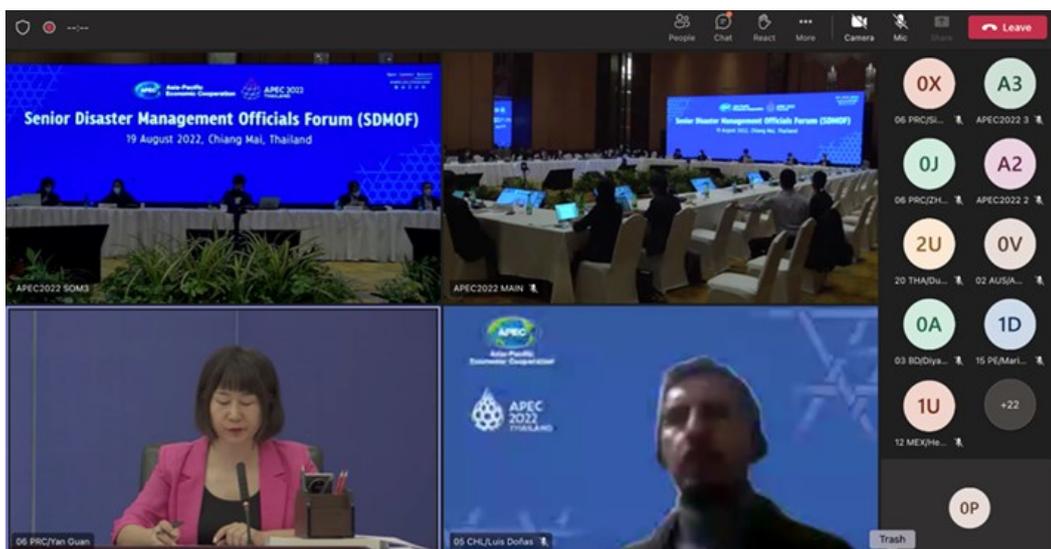


Figure 5.4 Screenshot of the 15th SDMOF Meeting

- Workshop on Strengthening Fire Prevention Capacities in Wildland Urban Interface, 28 Nov–1 Dec 2022 (Online)

In this workshop, Dr Gerald Potutan gave a presentation that highlighted the contribution of climate change impact projection to inform plans, strategies, or policies on climate change adaptation. While climate change does not directly cause a wildfire, it greatly contributes in creating the conditions for wildfire to easily spark and spread with extremely devastating impacts. One of the projected climate change scenarios is that if human activities continue emitting greenhouse gases (GHGs), such as carbon and methane, the global temperature becomes much warmer. This creates the condition for “tinderbox effect”, where summer becomes hotter and drier – a situation wherein wildfire can easily start and quickly spread. After the workshop, participants from 21 APEC member economies and government officials from Chile gained insights on applying climate change impact projection to inform the mitigation and adaption strategies for fire prevention in wildland-urban interface.

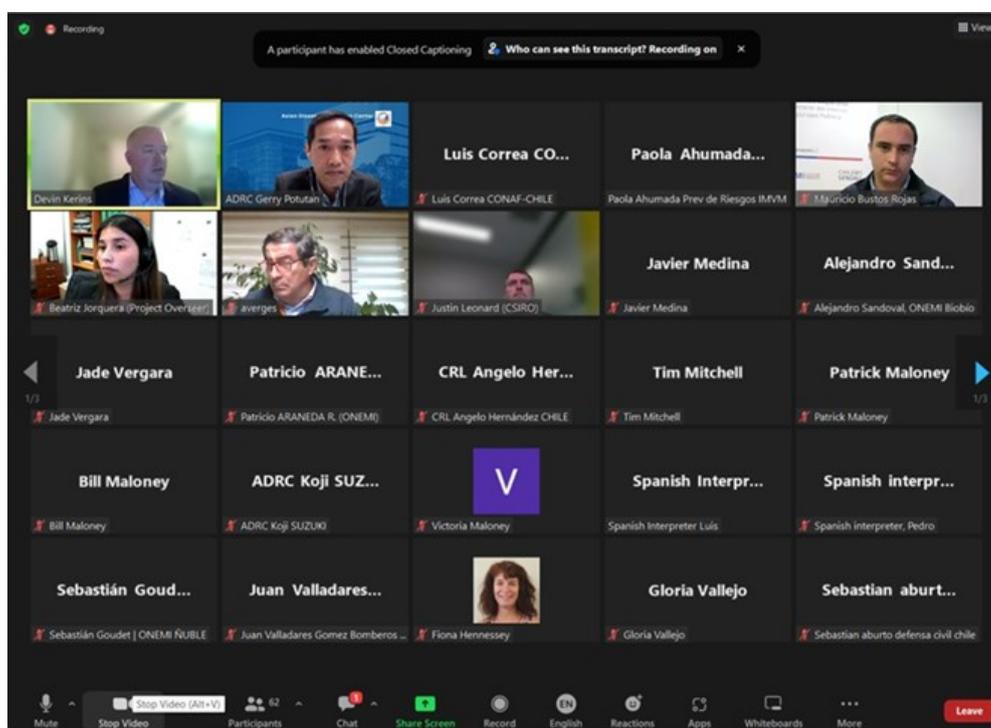


Figure 5.5 Dr Potutan served as speaker at the workshop

5.2.2 APRSAF/Sentinel Asia

Under the framework of the Sentinel Asia – an initiative led by the Asia Pacific Regional Space Agency Forum (APRSAF) to support disaster management with WEB-GIS technology and earth observation satellite data – ADRC functions as the focal point to receive emergency observation requests as well as participate in related activities.

- 28th Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-28), 15–18 November 2022 (Hanoi, Vietnam)

In the APRSAF-28, which was held from 15–18 November 2022 in Hanoi, Vietnam, ADRC participated in the working session of the Space Applications Working Group (SAWG) and gave the first presentation on

Sentinel Asia emergency observation requests (EOR) and future action plans. The Sentinel Asia initiative involves the use of space-based information in the form of satellite images for disaster management. ADRC has been tasked with the responsibility of receiving emergency observation requests from ADRC member countries and Joint Project Team (JPT) members. ADRC gave the second presentation on the activities for "Demonstration Experiment using MICHIBIKI (Quasi-Zenith Satellite System: QZSS)." This activity, which mainly targets the Asia-Pacific region, aims to develop early warnings to encourage residents to take prompt evacuation actions. ADRC will continue to actively participate in activities related to the utilization of space technology in the field of disaster prevention.



Figure 5.6 Dr Ikeda delivered a presentation at APRSAF-28

5.2.3 UNDRR/APP-DRR

- 7th Session of the Global Platform for DRR, 23–28 May 2022 (Bali, Indonesia)

ADRC participated in the following events during the Global Platform: (1) Multi-Hazard Early Warning Conference, 23–24 May, where we learned new developments relating to impact-based forecasting, forecast-based financing, early warning/early action, anticipatory action, and the effectiveness of early warning; (2) World Reconstruction Conference, 23–24 May, which showed pathways to a



Figure 5.7 7th Session of the Global Platform in Bali, Indonesia

greener and more resilient future as well as recovery models for a post-COVID-19 world; and 3) Midterm Reviews of the Sendai Framework Plenaries, 26–27 May, which offered insights on progress made in the fields of financing and governance multi-hazards and the systemic nature of risk, and the operating environment. ADRC also participated in separate meetings with officials from the Asian Development Bank (ADB), ASEAN Secretariat, Department of Disaster Prevention and Mitigation of Thailand, and the Office of Civil Defense of the Philippines, as well as with officials from Fiji and Cambodia. Moreover, ADRC delivered a statement expressing ADRC's commitment to improving regional partnerships to address transboundary risks in the Asia Pacific region. You can read the full statement here: <https://bit.ly/3tHvFuQ>

- Asia Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR), 19–22 September 2022 (Brisbane, Australia)

In this conference, ADRC organized a partner event entitled, “Building Resilient Communities by Investing in DRR Literacy for Proactive Actions focusing on Leave No One Behind” moderated by Ms KODAMA Miki. The discussions in this event affirmed that: 1) building a culture of DRR and having various people actively participate in DRR activities are effective for increasing DRR literacy; 2) targeting the younger generation in particular will lead to the development of leaders in the next generation; and 3) it is important to sustainably link daily life, welfare, and social



Figure 5.8 ADRC Partner Event at the APMCDRR in Brisbane, Australia

protection during normal times with DRR during emergencies, especially at the local level. It also recognized that institutional and financial support for community disaster management activities is needed to ensure the sustainability of these activities. ADRC displayed two posters: “Quasi Zenith Satellite System (QZSS) for Early Warning Message Platform” and “Applying Space-Based Technology and ICT to Strengthen Disaster Resilience.” Other key sessions that ADRC engaged in included: 1) Risk-Informed Investments and Scaling Up Financing for Disaster Risk Reduction; 2) Governance and Stakeholder Engagement for Resilient Infrastructure Services; and 3) Human Capacity Building that Supports Community Disaster Management by the City of Sendai. Executive Director SASAHARA Akio also issued an official statement introducing ADRC’s efforts for enhancing disaster resilience in the Asia Pacific region.

5.2.4 ESCAP/WMO: Typhoon Committee

Under the auspices of the Cabinet Office Government of Japan, ADRC has been engaged in the activities of the ESCAP/WMO Typhoon Committee. ADRC participated in most of its activities in FY2022.

- Working Group on Disaster Risk Reduction of the Typhoon Committee, 21 October 2022 (online)

In this annual Working Group on Disaster Risk Reduction (WGDRR) meeting, three key items were discussed: the progress of implementing the projects for 2022, proposed projects for 2023, and participation in the Integrated Workshops (IWS). As reported, all seven projects for 2022 were implemented, including the “Knowledge Sharing in DRR” that was held in Guam in the summer. For 2023, WGDRR proposed 7 projects: 1) Capacity Building and Knowledge Sharing in DRR; 2) Setting-up Early Warning and Alert System; 3) WGDRR Annual Meeting; 4) Benefit Evaluation of Typhoon DRR; 5) Sharing Information on DRR; 6) Education Video on DRR; and 7) Seminar for Crowd-Sourcing. At the 17th Integrated Workshops of the Typhoon Committee, WGDRR reported the progress of the projects.

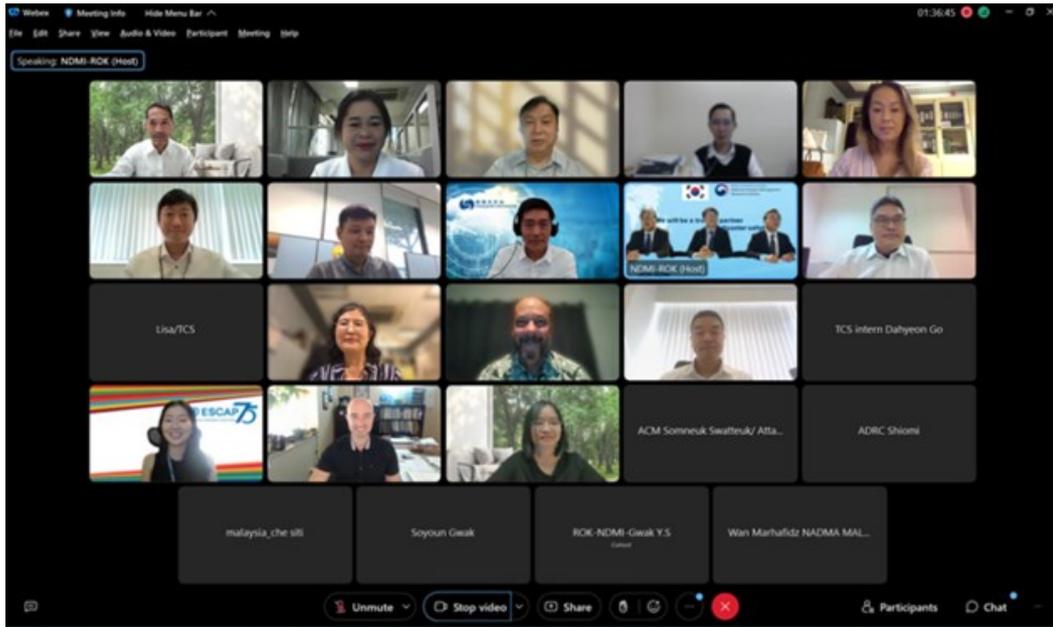


Figure 5.9 Screenshot of the 17th WGDRR Meeting

- 17th Integrated Workshops (IWS) of the Typhoon Committee, 29–30 November 2022 (online)

With the theme, “Tropical cyclone planning, forecasting, and response services for early warning and early action”, the Typhoon Committee Secretariat (TCS) organized the 17th IWS online, on 29–30 November 2022. ADRC participated in this event along with the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan. One of the keynote presentations was from MLIT, dwelling on, “Use of Satellite Data for Flood Simulation and Risk Evaluation”. The value of satellite data is that it informs the mitigation measures and facilitates early action for flood prevention.

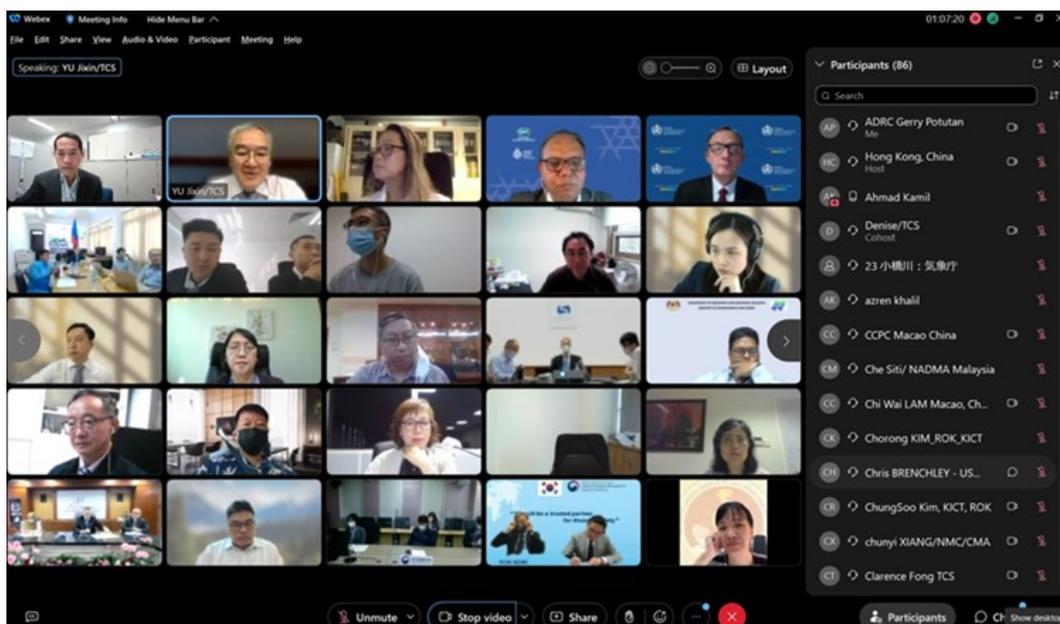


Figure 5.10 Screenshot of the 17th Integrated Workshops (IWS)

- 55th Session of Typhoon Committee, 7–9 March 2023 (online)

As observer, ADRC participated in the 55th Session of the Typhoon Committee (TC-55) which was held online on 7–9 March 2023. The Meteorological and Geophysical Bureau (SMG) of Macao, China hosted this event to: 1) Review the progress of the Typhoon Committee’s programs for 2022; and 2) Plan for activities to be undertaken in 2023 and beyond. The Japan Meteorological Agency (JMA) presented a summary of 2022 typhoon season in Asia and Pacific regions in this session.



Figure 5.11 Screenshot of the 55th Session of the Typhoon Committee

5.2.5 Spatial Planning Platform

ADRC engages with the Spatial Planning Platform (SPP) through co-organizing and participating in the SPP events. SPP is an initiative from HABITAT III that highlights the importance of spatial planning (e.g., urban, rural, and regional planning). In FY2022, ADRC participated online in the 5th SPP.

- 5th Spatial Planning Platform (5th SPP), 2–3 February 2023 (Kathmandu, Nepal)

Addressing the challenges in spatial planning due to increasing natural disasters and climate change was the overarching theme of the 5th Spatial Planning Platform (SPP) meeting held in Kathmandu, Nepal on 2–3 February 2023, which ADRC participated online. The 5th SPP tackled how to formulate and implement spatial plans that ensure prudent use of land and natural resources showcasing examples from Asia. For instance, in the Philippines, the government adopted an overall framework for spatial

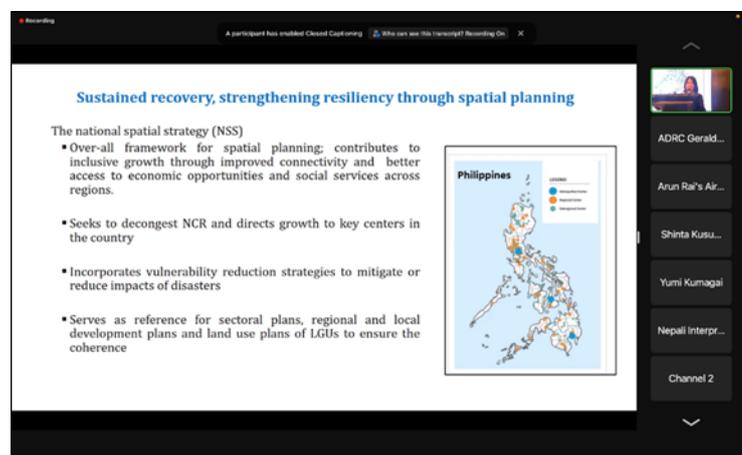


Figure 5.12 Study presentation at the 5th SPP meeting

planning that contributes to: 1) inclusive growth through improved connectivity and better access to economic opportunities and social services across regions; 2) decongestion of the national capital region and directing growth to key centers in the country; 3) incorporation of vulnerability reduction strategies to mitigate or reduce impacts of disasters; and 4) alignment of sectoral plans, regional and local development plans, and local governments' land use plans with the national framework to ensure their coherence. Details of the meeting can be accessed online: <https://www.spp-pr.com/conferences/5thMeeting/>

5.2.6 Other International Engagements

- World Bosai Forum 2023: JICA Session, 10 March 2023 (Sendai, Japan)

ADRC cooperated with JICA in organizing the session “Achievements and Challenges towards the Mid-Term Review of the Implementation of the SFDRR 2015–2030” on 10 March 2023. ADRC member countries took part in a session to discuss how to increase pre-disaster investment to reduce disaster risks and achieve the SFDRR. Officials from respective DRR agencies of Mongolia, Pakistan, and Vietnam shared information on the following: 1) Achievements in Priority 3 of the SFDRR (Pre-disaster Investment), 2) Challenges to achieve the SFDRR, and 3) Future plans to accelerate the implementation of SFDRR as well as promote pre-disaster investment. Disaster management officials from, participants in ACDR2022, were one of speakers and reported on the progress of SFDRR on proactive disaster management investment in their countries.

- The Regional Forum: Meeting of the Heads of National Disaster Management Authorities of Central Asian Countries, 4–6 October 2022 (Dushanbe, Tajikistan)

ADRC participated in the regional Forum co-organized by the Centre for Emergency Situations and Disaster Risk Reduction (CESDRR) and the Committee of Emergency Situations and Civil Defence (CoES) of Tajikistan. In this forum, ADRC introduced current activities that contribute to capacity building in Central Asian countries, such as the visiting researcher program, the Sentinel Asia project, the GLIDE, and the preparations for a future ACDR in Tajikistan. The Regional Forum was attended by more than 70 people including heads of emergency authorities in the Central Asian countries and UN officials, donors, and representatives of international and local NGOs.



Figure 5.13 Group Photo of the Regional Forum in Dushanbe, Tajikistan

- Visit of the Survey Team from Uzbekistan, 21–28 October 2022 (Japan)

ADRC supported the delegation from Uzbekistan, an ADRC member country, by offering advice on the development of their agenda and accompanying the delegation to various sites. Mirzaev Sirojiddin Zaynievich, Vice-President of the Academy of Sciences of Uzbekistan, led the delegation in visiting various Japanese institutions, including Nagoya University and the University of Tokyo as well as government agencies such as the Disaster Management Bureau of the Cabinet Office, the Geographical Survey Institute, the Building

Research Institute, and the National Research Institute of Science and Technology for Disaster Prevention. The delegation was briefed on Japan's legal system and disaster prevention technologies and had opportunities to see actual observation devices and to visit facilities conducting relevant experiments.

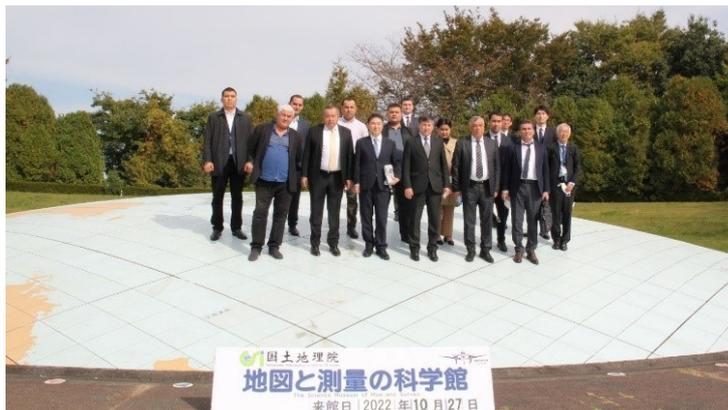


Figure 5.14 Survey Team from Uzbekistan during their visit in Japan

- 4th Meeting of the ACDM Working Group on Global Leadership, 7 September 2022

ADRC participated in the Fourth Meeting of the ACDM Working Group on Global Leadership to exchange views and explore future plans to contribute to the “Priority Programme 5: Global Leadership” of the AADMER Work Programme 2021–2025. In this meeting, ADRC proposed to conduct activities that will contribute to the ASEAN-Japan Work Plan on Disaster Management.