

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

Among the research projects that ADRC engaged in FY2024 includes the Advanced Studies on Climate Change Projection ([SENTAN](#)), Citizen Empowerment Program for DRR, [Mt. Fuji Disaster Drill](#), and SATREPS.

5.1.1 Advanced Studies on Climate Change Projection

ADRC, together with over 120 researchers and 43 cooperating organizations, is engaged in Area Theme 4: “Development of Hazard Integrated Prediction Model” of the SENTAN Program. Researchers aim to assess the future impacts of climate change, particularly, to water-related disasters (e.g., storm and flood), by analysing historical and current data through climate downscaling techniques and applications. Additionally, social trends and technological innovation information are also analysed to update policy. Through a webinar series on Climate Change Projection for DRR, ADRC shares the products of the study to improve climate change literacy among DRR practitioners, researchers, and engineers as well as inform policy updates. In FY2024, webinars were co-organized with Cambodia and Malaysia.

(1) Webinar on Climate Change Impact Projection for DRR with Cambodia

The webinar with Cambodia was organized on 19 August 2024. During their presentation, Dr Hak Mao (Director, Department of Climate Change) and Mr Sem Savuth (Vice Chief, Climate Change Information Management, Department of Climate Change) reported that 44% of all communes in Cambodia are vulnerable to the increasing frequency and intensity of flood, drought, and storm due to climate change. By 2050, when sea-level rise is projected to reach 1,302 mm, about 242 km² of coastal areas in Cambodia will be inundated, resulting to an estimated economic loss of USD304 million. If the government does not offer additional action to combat the impacts of climate change, the planned GDP for 2050 will be 10% lower.

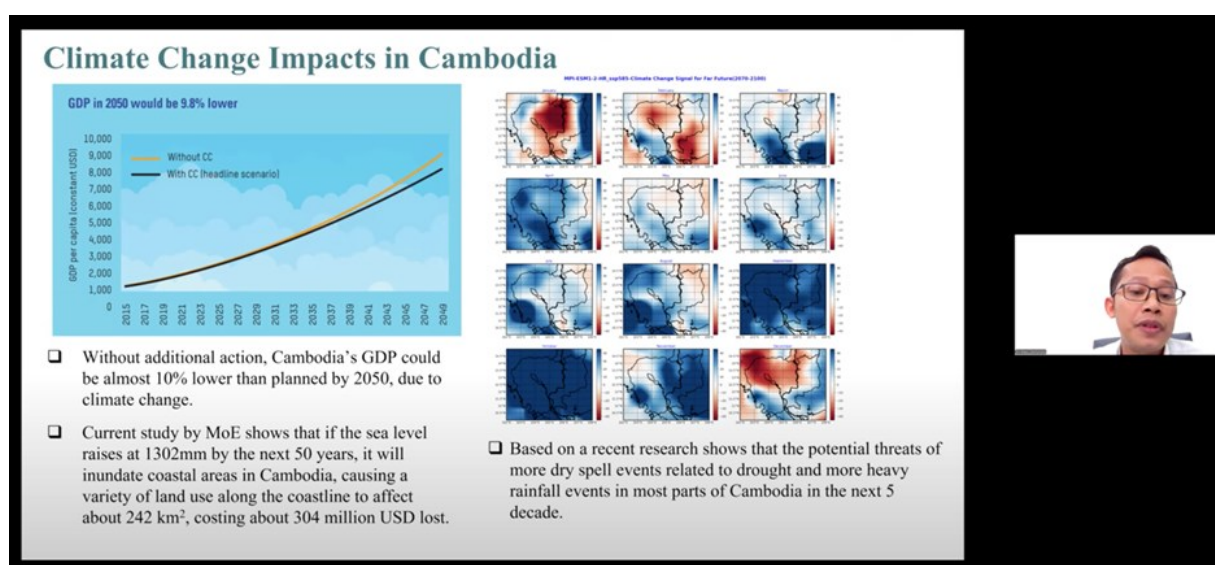


Figure 5.1 Presentation by Mr Sem Savuth, Department of Climate Change, Cambodia

Among the climate change countermeasures in Cambodia are aimed at: 1) increasing the current 62% usage of renewable energy to 70% by 2030; 2) ensuring that 70% of motorcycles and 40% of cars are EVs by 2050; and 3) planting of one million trees annually until 2050 to achieve 60% forest cover. The main challenge, however, is that these are broad actions that don't project specific impacts caused by climate-related disasters, such as extreme flood or storm. In order to do this, downscaled climate data is essential. Currently, historical climate data in Cambodia is sparse. This problem is compounded by limited tools and technologies within the government to measure the impacts or to make accurate projections of climate change.

In view of these concerns, other panellists introduced some of the initiatives and tools for climate change projection that may complement the ongoing climate actions in Cambodia. Prof. MORI Nobuhito (Research Division of Atmospheric and Hydrospheric Disasters, Disaster Prevention Research Institute, Kyoto University) introduced the SENTAN Program, and the potential collaboration with Cambodia, for assessing the effects of extreme water-related events and analysing the changes of hazards with rising global surface temperature as downscaled to countries in the Asia-Pacific region. Dr NAKAEGAWA Toshiyuki (Head of Second Laboratory, Department of Applied Meteorology Research, Meteorological Research Institute of Japan Meteorological Agency) introduced tools using high-resolution models and supercomputers to project a future climate at the local level. Dr MURATA Akihiko (Head of First Laboratory, Department of Applied Meteorology Research, Meteorological Research Institute of Japan Meteorological Agency) introduced tools and methods for dynamical downscaling to simulate localised climate change. Mr MORI Noriyuki (Deputy Director, International Center for Water Hazard and Risk Management) introduced a comprehensive platform on water resilience and disasters that includes data-integration for hazard, damage, and socioeconomic factors. On this platform, various agencies provide their respective climate data for integration in order to effectively forecast the impacts and provide early warning to communities-at-risk. In his closing remarks, Prof. TACHIKAWA Yasuto (Hydrology and Water Resources Research Laboratory, Kyoto University) emphasized the potential contributions of SENTAN Program (e.g., tools, technologies, and datasets) to the climate change countermeasures that Cambodia is undertaking.

(2) Webinar on Climate Change Projection for DRR with Malaysia

This webinar was held on 27 February 2025. In his presentation Dato' Ir Mohd Zaki bin Mat Amin (Director General, National Water Research Institute Malaysia) reported that by 2100, climate change in Malaysia is projected with increase in the following: 1) annual surface temperature between 1.85°C–2.08°C, 2) annual rainfall between 14%–25%, and 3) sea level between 0.71m–0.74m. These figures imply that if Malaysia does nothing to mitigate climate change, its regions will experience more occurrences of drying rivers (e.g., Bukit Merah in February 2022), pluvial flooding (e.g., Selangor, December 2022), and fluvial flooding (e.g., Batu Pahat, August 2021).

In view of this projection, other speakers from Malaysia shared information on some ongoing initiatives. Mr Ambun Dindang (Deputy Director General, Malaysian Meteorological Department) said that his department considered climate change projection data in monitoring and forecasting severe weather due to monsoon surges. Ms Lavanya Rama Iyer (Director of Policy and Climate Change, WWF-Malaysia) said that the World-Wide Fund for Nature in Malaysia has integrated climate resilience and governance into their programmes. Gs. Dr Norfashareena binti Muhamad (Head, Southeast Asia Disaster Prevention Research Initiative) said that their disaster databases integrated climate change data and made it available for local scale application.

Furthermore, Dato' Ir Mohd Zaki bin Mat Amin said that the Government of Malaysia expects to release two relevant documents in 2025—the Climate Change Act of Malaysia and the Malaysia National Adaptation Plan (MyNAP).

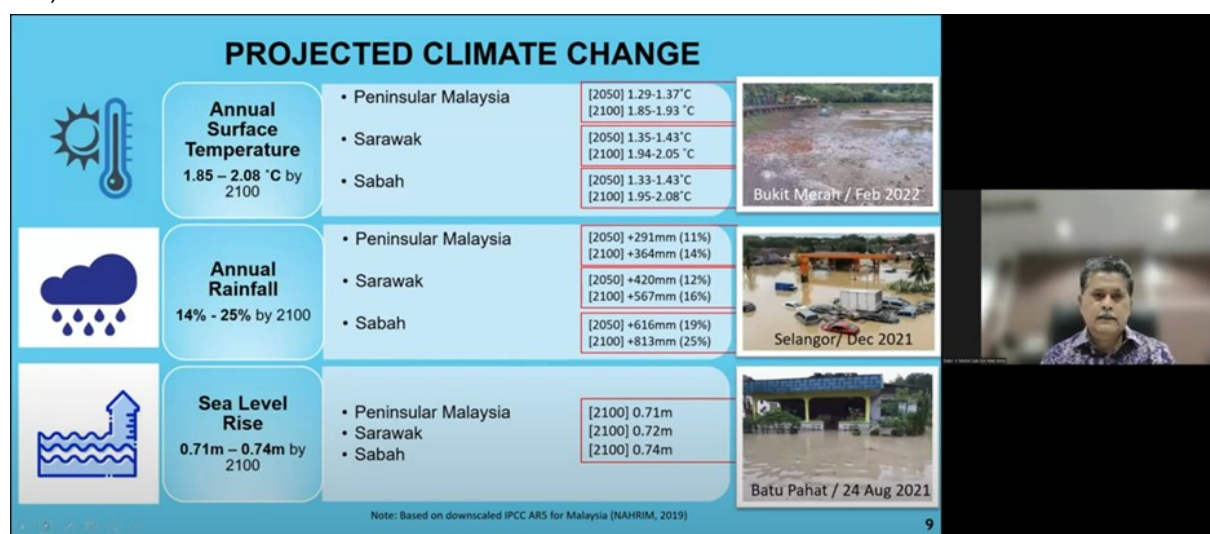


Figure 5.2 Dato' Zaki Amin presenting the projected climate change in the regions of Malaysia

Members of Area Theme 4 of the SENTAN Program also spoke in the webinar to explain the project, the technologies and tools, and the studies on climate change projections. The speakers included Prof. MORI Nobuhito of Kyoto University, Dr NAKAEGAWA Toshiyuki of Japan Meteorological Agency, Dr MURATA Akihiko of Japan Meteorological Agency, Mr MORI Noriyuki of International Center for Water Hazard and Risk Management, and Prof. TACHIKAWA Yasuto of Kyoto University. Dr IKEDA Makoto and Dr Gerald Potutan, both from ADRC, co-facilitated the event.

5.1.2 Joint Development of Citizen Empowerment Program for DRR in Asia

On 7 September 2024, ADRC served as a supporting organization for the implementation of the project, “Joint Development of Citizen Empowerment Program for Disaster Risk Reduction in Asia” organized by the Kansai University of International Studies (KUIS) in Yogyakarta, Indonesia. This project utilized ICT in conducting community-based disaster management drill.

The drill targeted the Jogoyudan community along the Code River in Yogyakarta City, which is vulnerable to flooding and cold lava flows from volcanic ash. In this drill, KUIS and the local University of Atma Jaya Yogyakarta (UAJY) coordinated with the provincial/municipal disaster management agency (BPBD) and the community. Students from KUIS and UAJY actively participated in the drill activities by utilizing a community disaster information sharing system ([geoBingAn](#) + WhatsApp system) promoted by ADRC. This system enables simultaneous broadcasting to registered WhatsApp users and facilitating two-way information exchange. This system effectively collects information in the form of text, photos, and videos among registered members of the WhatsApp group. As observed during the evacuation drills, the utilization of ICT tools contributed in effective evacuation of people with injuries, pregnant women, and persons with disability.



Figure 5.3 Community evacuation drills utilizing WhatsApp-based ICT tool in Yogyakarta, Indonesia

The BPBD and the community members found this system convenient and user-friendly platform for information sharing, as they were already familiar with using WhatsApp. Even after the drill, BPBD asked some questions about future collaboration and expressed interest in continuing to use this system.

5.1.3 Mt. Fuji Disaster Drill Project

The Mt. Fuji Disaster Drill Project also utilizes ICT-based technology, particularly geoBingAn + LINE or WhatsApp systems (Figure 5.4).

Mt Fuji Report

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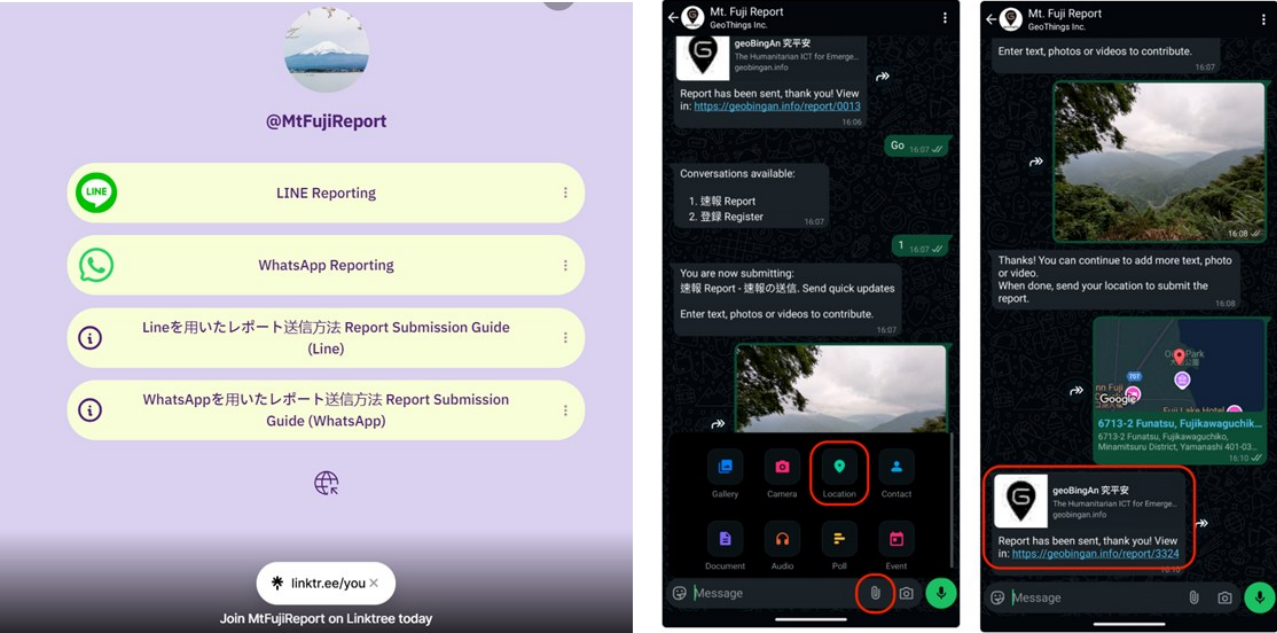


Figure 5.4 Utilizing WhatsApp or LINE systems with geoBingAn in Mt. Fuji Disaster Drill

In FY2024, ADRC collaborated with [GeoThings](#) in conducting a comprehensive disaster drill simulating a volcanic eruption in the Mt. Fuji area. A technological tool called “[geoBingAn](#)”, showcased its utility in disaster data collection and information sharing, providing robust support for the smooth execution of the exercise. The

drill simulated volcanic eruption and pyroclastic flow scenarios near the 5th Station of Mt. Fuji, involving around 200 personnel from relevant organizations, including the Fujikawaguchiko Town Government, Yamanashi Prefecture Government, police, and fire departments. During the drill, geoBingAn demonstrated its core functions in data integration and visualization. Participants used the LINE application to quickly upload photos, videos, and other disaster-related information from the field. geoBingAn instantly consolidated this data and integrated volcanic eruption warnings from meteorological agencies to produce intuitive visual outputs. The platform's real-time disaster distribution maps and evacuation route suggestions enabled decision-makers to quickly grasp the overall situation and formulate effective response strategies. This approach not only reduced learning costs but also significantly improved the speed and accuracy of information transmission.

In this drill, the platform incorporated multilingual support for foreign tourists, ensuring users of different languages could promptly understand evacuation information. This enhanced the comprehensiveness and practicality of the drill. Throughout the exercise, geoBingAn's outstanding features provided participating organizations with real-time and accurate disaster information, validating its potential in complex disaster scenarios. Mr KAJIWARA Toshiaki, a section chief from the Fujiyoshida Police Station, commented that the drill effectively demonstrated the practicality of advanced technologies, including geoBingAn, and plans to further integrate such tools into future disaster responses.

5.1.4 SATREPS Earthquake Early Warning and Response System Feasibility Study and Preparatory Period in FY2024

In FY2024, ADRC participated in the feasibility study and preparatory period for the project entitled "Development of End-to-End Earthquake Early Warning and Response System (EEWRS)" provisionally accepted as one out of ten new projects for the Science and Technology Research partnership for Sustainable Development (SATREPS) funded by Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA).

The feasibility study (FS) and preparatory period include a one-week mission to Indonesia on 26–31 August 2024. During this period, ADRC had three days of intensive technical sessions at BRIN and BMKG respectively to discuss and deliberate the project design with the Indonesian counterparts. The team also had a courtesy meeting with the BRIN's Deputy Minister, BMKG's Deputy Minister, BNPB's Deputy Minister for Disaster Management and Strategy, and the Deputy Minister of Ministry of Information and Communication. As part of the mission, the ADRC also visited the Headquarter of Jakarta Special Region Disaster Management Agency (BPBD) that house its Emergency Operations Center and public disaster education center, which mirror Japan's life-safety learning center. The mission also visited High School #57 in Jakarta as well as the residential areas in Western part of Jakarta to understand the housing structural conditions and public awareness towards the potential application of an earthquake early warning system. The ADRC also facilitated visit to three industrial estates in the Greater Jakarta area to identify the potential industrial users of an EEWRS. The three industrial estates are all developed by Japanese business groups and also housing major Japanese companies in Indonesia whereby their application of EEWRS in Japan may ease quicker adoption of the system to protect their businesses in Indonesia. At the end of the mission, a Minute-of-Meeting (M/M) document and Project Design Matrix (PDM) final draft were developed and agreed by researchers from both Japan and Indonesian sides.

Between September 2024 and January 2025, ADRC team attended three technical meetings at JST and JICA offices in Tokyo for finalization of the SATREPS project. Finally, the Record of Discussions for the SATREPS was officially signed by representatives of Government of the Republic of Indonesia and Government of Japan on February 2025 to officially mark the start of the project from Japanese Fiscal Year 2025 to 2029.



Figure 5.5 Clockwise from upper left: opening, technical session, visit to BPBD, and visit to residential area in Jakarta

5.2 International Engagements and Partnerships

In FY2024, 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

Under the auspices of the Cabinet Office of Japan, ADRC participates in the APEC Emergency Preparedness Working Group (EPWG). It seeks to build capacity in the region so that APEC member economies can better mitigate, prepare for, respond to, and recover from emergencies and natural disasters. Among the usual activities that ADRC engages include building resilience of businesses and communities, fostering private-public partnerships to protect communities and businesses from disruption; and sharing information, knowledge and technology to improve regional capacity on disaster risk reduction. ADRC participated in a number of EPWG activities in fiscal year 2024.

(1) 17th Senior Disaster Management Officials Forum

EPWG organized the 17th session of the Senior Disaster Management Officials Forum (SDMOF-17) on 13 May 2024 at Cerro Juli Convention Center in Lima, Peru. It adopted the theme, “Emergency Preparedness for Sustainable Growth and Sound Development with an Inclusive and Community Approach”.

ADRC Project Director Mr SUZUKI Koji, who co-chaired the EPWG from 2020 to 2023, headed the Japan delegation and introduced the project “Public private partnership for decision making support system with AI technology” in one of the SDMOF’s sessions. At its core, this collaborative project advances the use of satellite big data and spatial artificial intelligence (AI) to model decision-making processes related to disaster risk reduction and management. In particular, Mr Suzuki highlighted the following features of the project: 1) integration of social factors in applying scientific innovations, e.g., remote sensing technology, AI data analysis science, and digital twinning; 2) modelling of decision criteria for decision-making based on scientific facts, including collaboration between public and private sectors in verifying test results; and 3) real-time understanding of damage situations based on big data analysis and research prediction.



Figure 5.6 17th Senior Disaster Management Officials Forum in Peru

Participants of the SDMOF gained greater insights on the importance of cooperation through public-private partnerships to improve responsiveness with a focus on interoperability of information systems for decision making. Mr Suzuki noted that the lead agency of this project is the Center for Environmental Remote Sensing of Chiba University with ADRC, Japan Aerospace Exploration Agency (JAXA), Nagoya Institute of Technology (NITech), Oriental Consultant Global (OCG), Weather News INC., and Aioi Nissay Dowa Insurance Co., Ltd as participating agencies. The project also partners with the Italian space agency, Centro Italiano Ricerche Aerospaziali (CIRA).

(2) EPWG Workshop on Strengthening Early Warning Early Action for the Vulnerable Communities in APEC

The EPWG Workshop on Strengthening Early Warning Early Action for the Vulnerable Communities in APEC took place in Da Nang, Viet Nam, on 24–25 June 2024. Thirty experts from the APEC region participated in the workshop that was aimed at sharing professional and technical information in natural disaster risk management.

The Viet Nam Disaster and Dyke Management Authority, Ministry of Agriculture and Rural Development organized the workshop. ADRC Research Director Ms KODAMA Miki and Senior Researcher Ms SHIOMI Yumi participated in the event. In Session 3 (Best Practices and Lessons Learned), Ms Shiomi made a presentation entitled “Utilization of State of Art Communication Technologies for CBDRM and Emergency Management”. Through the workshop, participants actively shared their lessons learned and views on Early Warning and Early Action for the vulnerable communities.



Figure 5.7 Group of the participants of EPWG Workshop in Viet Nam

(3) Online APEC Viet Nam Workshop

APEC Viet Nam organized an online workshop on “Improving the Resilience of Vulnerable Coastal Communities to Climate Change” on 24–25 July 2024. This workshop comprised four thematic sessions, and ADRC moderated Session 1 on the topic Resilience of Vulnerable Coastal Communities to Climate Change in the Asia-Pacific: Prospects and Challenges. This session featured five speakers. The two speakers from Viet Nam reported the climate-related challenges at the national and local levels respectively, such as sea-level rise that caused intense typhoons and frequent flooding. Other speakers presented the prospects of addressing climate-related challenges: 1) UNDRR reported that the Sendai Framework for Disaster Risk Reduction provides guidance for integrating climate change adaptation and disaster risk reduction measures; 2) Republic of Korea reported that new tools are now available to monitor and predict storm surges; and 3) Australia reported its leadership in promoting strategic partnerships for coastal resilience in the Asia-Pacific region.

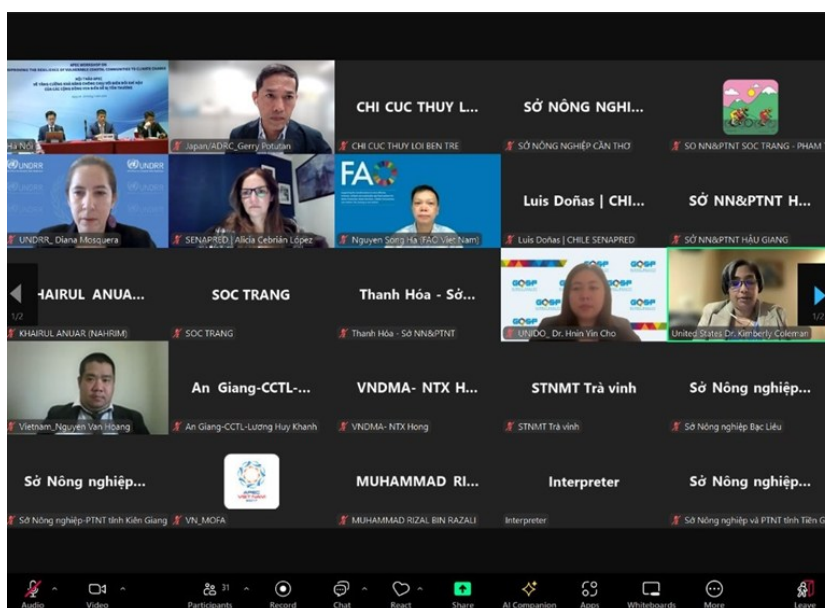


Figure 5.8 Participants of APEC Viet Nam Online Workshop

In Session 2 (topic: Scaling up efforts on strengthening resilience of vulnerable coastal communities to climate change), Mr Gerald Potutan (Senior Researcher, ADRC) made a presentation about “Utilizing climate change impact projection data to strengthen the resilience of coastal communities”. ADRC, along with a number of research institutes and agencies, introduced its engagement in the Advanced Studies of Climate Projection (SENTAN) in developing integrated hazard models on storm-and-flood hazards for the Asia-Pacific region. Mr Potutan highlighted the utilization of downscaling tools to produce localized climate projection data to inform

adaptation and mitigation measures. ADRC's participation in this workshop provided an opportunity to learn from other economies' experiences and actions in addressing climate-related challenges at the local level.

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 (EORs) as well as participate in related activities.

(1) Update on the UN-SPIDER RSO Meeting

On 10 June 2024, an online meeting was held for the United Nations Platform for Space-Based Information for Disaster Management and Emergency Response (UN-SPIDER) Regional Support Office (RSO). UN-SPIDER is a multilateral platform promoted by the United Nations Office for Outer Space Affairs (UNOOSA) to facilitate the use of space-based technologies in disaster risk reduction and emergency response. UNOOSA is the UN agency responsible for space-related policies, and is headquartered in Vienna, Austria.

At meeting, ADRC Project Director SUZUKI Koji presented the progress of a project for use of the Quasi-Zenith Satellite System (QZSS) in disaster risk reduction. QZSS is a system that the National Space Policy Secretariat, Cabinet Office of Japan, is deploying in cooperation with nine countries in the Asia-Pacific region. The QZSS (known as Michibiki in Japan) is a Global Navigation Satellite System (GNSS) developed and operated by the Japanese government to transmit disaster-related information. This advanced technology can provide disaster-related information even in areas where regular communication infrastructure is lacking or is disrupted due to disaster. In Japan, partial operation began in 2018. The feasibility for general implementation of the technology in the Asia-Pacific region is being evaluated through surveys and by taking prototype receivers to the region to conduct demonstrations.

(2) 9th Joint Project Team Meeting

The 9th Joint Project Team Meeting was held from 5 to 7 November 2024 in Quezon City, Philippines. It was co-organized by the Philippine Space Agency (PhilSA) and JAXA.

ADRC participated in a training session held on 6 November, reporting on the status of Sentinel Asia's EOR and end-user feedback on the various data provided. ADRC also introduced the Standard Operation Procedures (SOP) being developed in each Sentinel Asia member country and activities of the related workshops in each country.



Figure 5.9 Dr IKEDA Makoto making a presentation at the 9th Joint Project Team Meeting

(3) 24th Steering Committee Meeting

ADRC attended the meeting for the 24th Sentinel Asia Steering Committee held at IWMI (International Water Management Institute) in Sri Lanka, on 12–13 December 2024. Also attending the meeting were JAXA, which served as the secretariat of the Sentinel Asia Joint Project Team, other space agencies in Asia, and organizations that deal with image analysis.

JAXA started the meeting by sharing the current status of Sentinel Asia operations and issues. In line with the Sentinel Asia Strategic Plan, the

organizations in charge of each category reported on their progress, and participants discussed issues and potential improvements. In addition, the space agencies and organizations dealing with image analysis shared their current activities, knowledge, and technologies. ADRC reported on the progress of its category of the Sentinel Strategic Action Plan (Step-3 Activities, and communication, collaboration, and cooperation), including the results of the workshops and interviews held in Nepal, Türkiye, and Kyrgyz Republic. ADRC also reported the status of collaboration with the UNDRR and other organizations.



Figure 5.10 Group Photo of the 24th Steering Committee Meeting of Sentinel Asia

(4) Sentinel Asia Workshop in Kyrgyz Republic

In line with Sentinel Asia's objective to promote international cooperation in monitoring natural disasters in the Asia-Pacific region, ADRC collaborates in conducting workshops introducing earth observation satellites and other space technologies to collect disaster-related information, and shares it over the internet. The aim is to mitigate and prevent damage caused by natural disasters such as typhoons, floods, earthquakes, tsunamis, volcano eruptions and wildfires. One of the workshops on utilization of satellites' systems for disaster risk reduction was conducted in Kyrgyz Republic in October 2024.



Figure 5.11 Sentinel Asia Workshop in Kyrgyz Republic, October 2024

(5) Sentinel Asia Workshop in Fiji

Following an EOR from The Pacific Community (SPC) on the impact of Vanuatu Earthquake on 17 December 2024, ADRC facilitated the sharing of the satellite images of disaster impacted areas from Sentinel Asia. Additionally, ADRC provided analysed maps and issued GLIDE number.

Since many of officers at National Disaster Risk Management Office (NDRMO) and SPC's Fiji office require capacity building in the use of satellite-based data for disaster management, ADRC visited Fiji in January 2025 to conduct interviews and to co-organize the Sentinel Asia Workshop.

SA Workshop in Fiji (2025)



Figure 5.12 Sentinel Asia Workshop in Fiji, January 2025

5.2.3 UNDRR/APP-DRR

ADRC engages with the Asia Pacific Partnership for Disaster Risk Reduction (APP-DRR) to support the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030, particularly the Asia Regional Plan. In FY2024, ADRC participated in many activities of UNDRR/APP-DRR.

(1) TCS-UNDRR Inter-Regional Dialogue 2024

The Inter-Regional Dialogue 2024, with the theme “Tools and Technologies for Multi-Hazard Risk Assessment and Early Warning: Sharing Experience among Countries in the Asia Pacific Region”, was held on 27–29 May 2024 in Incheon, Republic of Korea. This event was jointly organized by the Trilateral Cooperation Secretariat (TCS) and the United Nations Office for Disaster Risk Reduction Office for Northeast Asia & Global Education and Training Institute (UNDRR ONEA & GETI) in support of the Early Warnings for All (EW4All) initiative, which the UN Secretary-General launched in 2022 to ensure a universal coverage of early warning systems by 2027.



Figure 5.13 Dr Gerald Potutan of ADRC made a presentation on QZSS DC Report

In this dialogue, participants from the trilateral cooperating countries China, Japan, and Korea (CJK) shared their respective experiences, tools, and technologies on multi-hazard early warning systems (MHEWS) with other countries in Asia-Pacific region, including Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam as well as Bangladesh, Bhutan, India, Maldives, Mongolia, Nepal, Pakistan, Sri Lanka, and Kazakhstan. The common MHEWS issues in these countries are: 1) warning information is not targeted to specific communities-at-risk; 2) warning information dissemination is usually one-way communication, and there is no feedback on whether the communities-at-risk have successfully evacuated; and 3) different warning agencies maintain their own databases that need to be integrated to achieve reliable forecast and warning.

Japan made two presentations at the plenary. One concerned the “QZSS DC Report”, an early warning message dissemination service of Japan using the “Michibiki” satellites system known as QZSS, presented by Dr Gerald Potutan, Senior Researcher at ADRC. The other concerned the “Nankai Trough Earthquake Warning Information” delivered by Mr UMETSU Togo, Policy Office International Cooperation Division, Disaster Management Bureau, Cabinet Office, Government of Japan.

This inter-regional dialogue facilitated greater regional collaboration in terms of: 1) available MHEWS tools and technologies; 2) effective practices for risk reduction among disaster-prone countries in relation to early warning; and 3) community-level capacity development in disaster risk reduction between Northeast Asia and other sub-regions of the Asia-Pacific region.

(2) Asia-Pacific Ministerial Conference on Disaster Risk Reduction

In the partner event that ADRC co-organized with JICA, JAXA, and other regional and local partners at the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR), 14–18 October 2024 in Manila, Philippines, Dr Gerald Potutan, Senior Researcher at ADRC, highlighted the contributions of QZSS (also known as “Japanese GPS”) in improving early warning systems. Firstly, QZSS can transmit early warning message to mountainous and island areas that have limited access to Wi-Fi, internet, or cellular networks, thereby augmenting their early warning systems. Secondly, QZSS can serve as a back-up system for transmitting warning messages to communities-at-risk when ground telecommunication systems are damaged in a disaster. Since QZSS is also a positioning satellite system, warning messages can be transmitted specifically to disaster-affected communities.

ADRC also exhibited posters showcasing its activities on: 1) promoting satellite observation and messaging services for disaster risk management, 2) utilizing Information and Communications Technology for Community Based Disaster Risk Management (ICT for CBDRM), and 3) implementing capacity building programmes for comprehensive disaster risk reduction.

On the last day of the conference, ADRC representatives joined a field visit to Marikina City and Pasig City to learn more about the JICA project “Pasig-Marikina River Channel Improvement”, which includes river widening to further minimize the impact of flooding in Metro Manila.



Figure 5.14 ADRC served as panellist (left), ADRC Exhibit (right) during the APMCDRR in Manila

5.2.4 ESCAP/WMO: Typhoon Committee

Under the auspices of the Cabinet Office Japan, ADRC engages in ESCAP/WMO Typhoon Committee. In FY2024, ADRC participated a number of activities of the Typhoon Committee.

(1) 19th Meeting of the Working Group on Disaster Risk Reduction of the Typhoon Committee

The annual meeting of the Typhoon Committee (TC)'s Working Group on Disaster Risk Reduction (WGDRR) was held on 25–28 June 2024 in Seoul, Republic of Korea on the theme “EW4All: Bridging Gaps for Effective Disaster Risk Reduction”.

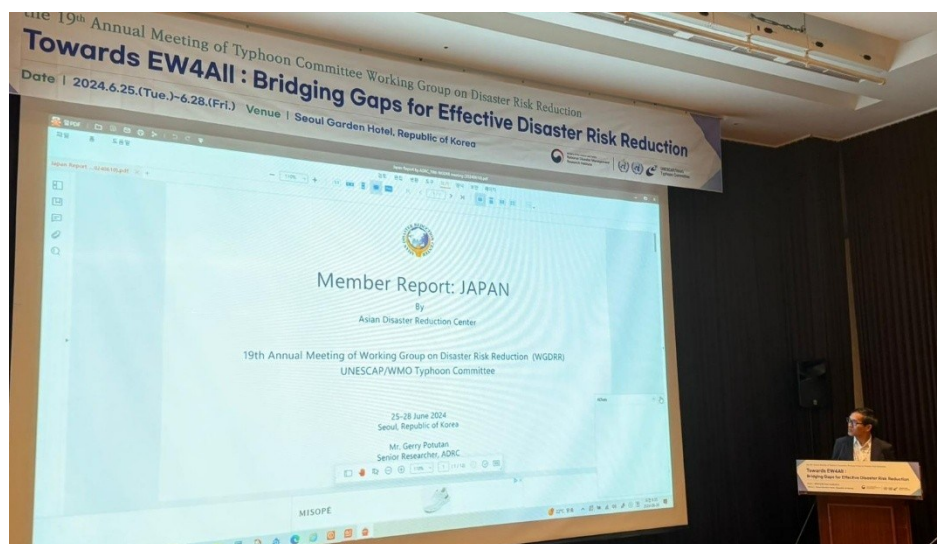


Figure 5.15 ADRC presented the Member Report of Japan at the 19th WGDRR Meeting

ADRC, on behalf of the Cabinet Office Japan, made the following contributions:

- 1) Presented Japan's member report highlighting the milestones on DRR activities implemented by ADRC in 2023 (e.g., GLIDE, Sentinel Asia, QZSS, training, webinars, Asian Conference on Disaster Reduction (ACDR), website, and other information-sharing activities)
- 2) Announced the host, theme, dates, and venue of the next ACDR2024 to the WGDRR members
- 3) Noted the key technical presentations related to the theme of ACDR2024, particularly the “Urban inundation response technology using deep learning and sensor data” by the National Disaster Management Research Institute (NDMI)/ Republic of Korea and the “Role of Impact-Based Forecasting in Early Warnings for All (EW4All) initiative” by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
- 4) Affirmed a continuing collaboration with WGDRR in information sharing through GLIDE, the website, and online databases to be reflected in the working group's Annual Operations Plans (AOPs)
- 5) Discussed with the participant from Viet Nam regarding ADRC's engagement in the forthcoming APEC Viet Nam Online Workshop on “Improving the Resilience of Vulnerable Coastal Communities to Climate Change”, 24–25 July 2024. The WGDRR is one of the working groups under the UNESCAP/ WMO Typhoon Committee, comprising 14 members (i.e., 12 countries and 2 regions) in Asia-Pacific region.

(2) ESCAP/WMO Typhoon Committee Attachment Training 2025

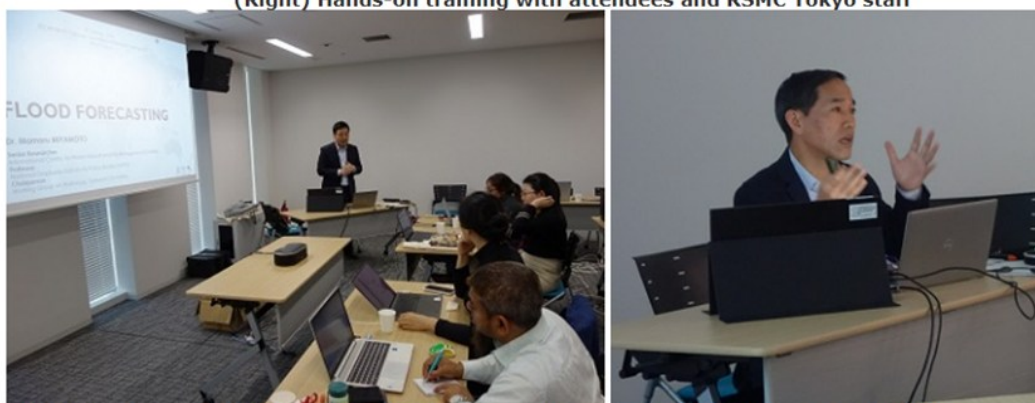
In line with the regularly activities of ESCAP/WMO Typhoon Committee, the Japan Meteorological Agency (JMA) organized a training to forecasters in Asia, 14–23 January 2025 at the Regional Specialized Meteorological Center (RSMC) Tokyo. Mr Gerald Potutan, Senior Researcher of ADRC, was invited to serve as lecturer. He

shared the DRR work of ADRC and discussed the activities related to promoting technology for early warning dissemination like QZSS DC Report and disaster data sharing like GLIDE number system. Most of the participants were from Typhoon Committee member organizations, who actively participated in lively discussions. After the lecture, the participant from Pakistan said that the presentation inspired him to be a "good forecaster", as he gained understanding of the linkage between his forecasting work to disaster risk reduction.



(Left) Opening presentation by Dr. Ishihara Koji, Head of the Tokyo Typhoon Center at the Japan Meteorological Agency

(Right) Hands-on training with attendees and RSMC Tokyo staff



(Left) Dr. Miyamoto Mamoru from the International Centre for Water Hazard and Risk Management under the auspices of UNESCO

(Right) Dr. Gerald Potutan from the Asian Disaster Reduction Center

Figure 5.16 Attachment Training of Typhoon Committee at RSMC Tokyo

5.2.5 ASEAN

ADRC participated in the following ASEAN-related events during FY2024.

(1) 7th ASEAN Committee on Disaster Management (ACDM) + Japan Meeting

The 7th ASEAN Committee on Disaster Management (ACDM) + Japan Meeting was held on 9 May 2024 in Bandar Seri Begawan, Brunei Darussalam. As a part of the programme, Mr SASAHARA Akio, Executive Director of ADRC, gave presentations on the final outcome of two projects: "Promotion of Database Linkage and Capacity Enhancement through Utilization of GLIDE" and "Pilot Project on Utilization of State-of-the-Art Communication Technologies for CBDRM and Disaster Emergency Management", which were implemented to promote the "ASEAN-Japan Work Plan on Disaster Management 2021–2025".

Regarding the CBDRM activities, the delegates from Malaysia, the target country of the project, expressed their gratitude for its successful completion. Additionally, proposals for the intended next phase of these projects were explained. In the meeting, there were also reports on the progress of various activities of the ASEAN-Japan Disaster Risk Reduction Action Plan. Furthermore, ADRC participated in a field visit held on the last day, which facilitated interaction among the meeting participants.

As Brunei, the host country of the ACDM + Japan Meeting, officially became a member of ADRC on 1 May 2024, a meeting was held with the Director of Brunei's National Disaster Management Centre (NDMC) to discuss future cooperation activities. Meetings with representatives from Malaysia, the ASEAN Secretariat, and the AHA Centre were also organized.



Figure 5.17 ADRC Executive Director Sasahara at 7th ACDM + Japan Meeting (left), meeting the NDMC Brunei (right)

(2) Regional Workshop on Building Climate Smart ASEAN

On 4–6 September 2024, the Regional Workshop on Building Climate Smart ASEAN was held in Vientiane, Lao PDR, organized by the Economic Research Institute for ASEAN and East Asia (ERIA). Dr IKEDA Makoto, Senior Researcher at ADRC, participated in this workshop at the request of ERIA.

This regional workshop was aimed at equipping stakeholders with tools and knowledge necessary to build a climate-resilient ASEAN.

ADRC participated in Session 2 “From Vulnerability and Resilience: Planning Adaptation Strategies”. Dr Ikeda explained the effectiveness of investment in disaster prevention in advance as well as Japan’s regional disaster prevention plans and earthquake warning systems. In the panel discussion of the same session, ADRC was joined by Prof. YAMAJI Eiji of the University of Tokyo, and answered questions from participants (e.g., earthquake early warning systems).



Figure 5.18 Dr Ikeda with Prof. Yamaji at the panel discussion

(3) 8th ASEAN Committee on Disaster Management (ACDM) + Japan Meeting

From 21 to 25 October 2024, the 45th ASEAN Committee on Disaster Management (ACDM) Meeting, 12th ASEAN Ministerial Meeting on Disaster Management (AMMDM) Meeting, and other related meetings were held in Bandar Seri Begawan, Brunei Darussalam. The 8th Meeting of ACDM + Japan took place on 23 October, where ADRC gave presentations on the intended new activities of the projects “Promotion of Database Linkage and Capacity Enhancement through Utilization of GLIDE” and “Pilot Project on Utilization of State-of-the-Art Communication Technologies for CBDRM and Disaster Emergency Management”. During the meeting, reports were also made on the progress of various activities of the ASEAN-Japan Work Plan on Disaster Management 2021–2025.



Figure 5.19 ADRC Executive Director SASAHARA Akio at the 8th ACDM + Japan Meeting

5.2.6 Other International Engagements

Upon invitation of other organizations and partners, ADRC participated and shared information in a number of events in FY2024.

(1) Fourth Expert Forum for Producers and Users of Disaster-related Statistics and Associate Events

An Expert Forum for Producers and Users of Disaster-related Statistics is organized every year, by the United Nations in collaboration with its partners, to advance the production and use of disaster-related statistics for risk-informed development in support of the aim of the Inter-Agency and Expert Group on Disaster-related Statistics (IAEG-DRS) of the United Nations Statistical Commission. The Forum provides a platform where users and producers of disaster-related statistics collaborate and share knowledge. The Fourth Expert Forum for Producers and Users of Disaster-related Statistics took place in Addis Ababa, Ethiopia, in a hybrid format, back-to-back with the Ninth Session of the Statistical Commission for Africa (STATCOM-Africa) and Tenth Session of United Nations Global Geospatial Information Management for Africa (UN-GGIM Africa) from 28 October to 1 November 2024.

ADRC participated in these events, particularly in the discussions on effective communication of disaster statistics at both global and national levels and solutions for improving disaster data communication as well as on issues of capacity development and resources.



Figure 5.20 Opening Remarks by Mr Oliver Chinganya of the UN Economic Commission for Africa (ECA)

(2) Denizli AFAD Seminar

In recent years, a lot of DRR activities have been conducted between ADRC and Disaster and Emergency Management Presidency of Türkiye (AFAD), including international conferences and field survey missions. Dr IKEDA Makoto from ADRC attended the AFAD Seminar in Denizli, Türkiye as a speaker and made several presentations. He shared information about DRR structures in Japan and DRR efforts at the community and national level. Dr Fatma Canaslan Çomut reported on recent AFAD's DRR programmes such as an information sharing system. The participants also engaged actively in discussion with the two speakers, and the workshop proved to be a useful occasion for considering how to achieve better DRR in Türkiye going forward.



Figure 5.21 Poster on the Denizli AFAD Seminar

(3) Bosai Kokutai

On 20 October 2024, the ninth edition of the Bosai Kokutai (National Convention for the Promotion of Disaster Prevention) 2024 was held in Kumamoto City, Japan. With the participation of 404 exhibitors and more than 17,000 visitors, the event was the largest ever held. ADRC participated in the online session and gave a one-hour introduction of its activities under the title "Aiming to improve disaster preparedness in the Asian region". Videos were streamed live on YouTube, and recorded videos were made available on demand outside of the online session. It was noted that self-help and mutual help was recognized internationally, and the Disaster Prevention Promotion Council, consisting of experts from various fields and levels of society, was established in Japan following the adoption of the Sendai Framework for Disaster Risk Reduction during the Third United Nations World Conference on Disaster Reduction (WCDRR) in March 2015.



Figure 5.22 Bosai Kokutai 2024 Flyer

(4) World Bosai Forum 2025

One of the activities to promote the Sendai Framework for Disaster Risk Reduction is the World Bosai Forum, organized biennially since 2017, bringing together all sectors—domestic and international, industry, government and academia to discuss DRR measures. The World Bosai Forum 2025, held on 7–9 March 2025, was focused on the concepts of “Increasing Disaster Risks Due to Global Warming and Climate Change” and “Future Prospects”.

ADRC had a booth at the place of EXPO in the Forum and introduced the ADRC’s efforts such as promotion of DRR in Asia in cooperation with various stakeholders, advancement of DRR measures using ICT (e.g., QZSS, a disaster risk information transmission system), and disaster information sharing via mobile phones using GIS and social media as ADRC conducted projects in Mt. Fuji and Malaysia. In addition, six VRs from member countries (India, Republic of Korea, Türkiye, Fiji, Malaysia and Maldives) introduced the disaster situation and disaster risk management systems of their countries.



Figure 5.23 ADRC Booth at the World Bosai Expo 2025