Enhancing Digital Transformation Through Disaster Resilience: ITU and Japan's Partnership in Asia and the Pacific

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The Asia and the Pacific region is prone to a multitude of hazards, ranging from typhoons to earthquakes, volcanic eruptions and wildfires. In addition to human casualties and lives lost, these events undermine hard-won socioeconomic gains of developing countries and set back development.

There is a lot that digital technology can do to improve responses to disasters and mitigate these harms. Resilient digital infrastructure is key.

When hazards – such as cyclones or volcanic eruptions – cut submarine or terrestrial cables or knock down mobile towers, communication can instantly be affected, leaving the government unable to communicate with local, national and international partners.

Infrastructure damage hinders the ability of governments to mount an effective disaster response and communicate with citizens who need urgent support. Experience has taught us that ensuring resilience in digital infrastructure and enabling communication at a time of natural disaster is a matter of life and death.

Collaborating with Japan to save lives, protect development gains

Against this backdrop, ITU's Telecommunication Development Bureau (BDT) has been collaborating with Japan's Ministry of Internal Affairs and Communications (MIC) to enhance the resilience of digital infrastructure in Asia and the Pacific.

The joint projects seek to develop infrastructure that is affordable and reliable and enables digital transformation initiatives that deliver development gains.

Over the years, the BDT-MIC cooperation has expanded, and now supports ITU membership in developing technology-based solutions for disseminating alerts and improving communications through the Early Warnings for All (EW4ALL) initiative. ITU's role in the UN-wide effort is to ensure timely dissemination of disaster alerts.

Building policy and regulatory environments for affordable connectivity

Japan is a natural partner for ITU in advancing resilient digital infrastructure across Asia and the Pacific. When the devastating earthquake struck the Noto Peninsula of Japan on January 1, 2024, the immediate issuance of disaster alerts, including tsunami warnings, by the government across all media was truly remarkable. This prompt response likely minimized casualties despite the earthquake's magnitude. The successful response was a concrete result of the lessons and good practices Japan has accumulated over years of experience with hazards.

ITU-BDT has been partnering with MIC on a number of projects targeting the development of resilient digital infrastructure among developing countries in Asia and the Pacific. Such infrastructure is expected to be affordable, reliable, and redundant and deliver development gains through digital transformation.

The first phase of the MIC-ITU project focused on the development of a National Emergency Telecommunication Plan (NETP) and policy and regulatory environments that reinforce affordable ICT connectivity.

The NETP enables the exchange of information about hazards and the use of telecommunications/ICTs to respond to them at all government levels, within communities, and between public and private organizations.

The NETP provides a snapshot of available telecom/ICT resources and lines of responsibility for mitigating disaster risk and emergency response. The project helped Kiribati, Mongolia, and Lao P.D.R develop NETPs and worked with ASEAN Coordinating Centre for Humanitarian Assistance (AHA centre) to develop an Emergency Telecommunication Network (ETN) for ASEAN countries. The project brought policy support on affordable connectivity to Tonga, Iran, Bhutan and Samoa.

Tonga is working to enhance disaster preparedness through a NETP, part of an action plan the country undertook after a comprehensive assessment of connectivity disruptions caused by undersea volcanic eruptions in January 2022.

In Bhutan, the project activities identified gaps in the resilience of the Government Data Centre of Bhutan through a detailed technical assessment and made recommendations.

In Samoa, the project supported a three-day capacity-building event on the Manono Smart Island, organized by the Ministry of Communication and Information Technology (MCIT) in collaboration with the Food and Agriculture Organization (FAO) in Dec 2023.

Building on the success of the project's first phase, the second phase deepened the engagement with member countries. It

■ Figure 1: Tonga workshop, Nukualofa, April 2023

■ Figure 2: Bhutan, Thimphu, during the visit to conduct the assessment in June 2023

■ Figure 3: Samoa, Manono, December 2023

■ Figure 4: An EW4ALL workshop in Lao PDR, Vientiane, November 2023

focused on national gaps assessment for infrastructure resilience, preparedness, service affordability and EW4ALL; a national roadmap/framework for EW4ALL; and NETP development.

Gaps assessments have been conducted for the Solomon Islands, Tonga, and the Maldives, and are to be followed by assessments in Samoa and Kiribati. These assessments were key in developing national EW4ALL roadmaps for Tonga and the Solomon Islands. Stakeholder-validation workshops in Kiribati and Samoa are in the pipeline. Fiji's NETP update has been conducted, and Tuvalu's NETP is at the final stage of development after stakeholder consultation.

Building on Japan-ITU collaboration

Recognizing the success of the cooperation, discussions are already in the final stages for the third phase of the project, which will focus on studying the feasibility of cloud-based sub-regional solutions for cell broadcast and helping countries develop comprehensive plans for using resilient digital infrastructure to mitigate hazards and emergencies.

The achievements made possible through Japan's support form the foundation of inclusive, sustainable and resilient digital transformation in Asia and the Pacific.

Building on project achievements, the developing countries in Asia and the Pacific are launching initiatives, such as

Smart Islands and Smart Villages, digital inclusion, capacity development, policy and regulations, and cybersecurity, just to name a few.

These interlinked achievements will be shared widely at the upcoming Asia-Pacific Regional Development Forum (RDF) and Regional Preparatory Meeting (RPM) of ITU from 19 to 21 March 2025 in Bangkok, Thailand.

The project outcomes are expected to serve as a basis for formulating the next regional initiatives. They highlight the continuing importance of resilience in infrastructure development in this disaster-prone region.

The discussion outcomes and the proposed set of regional initiatives will feed into the upcoming World Telecommunication Development Conference (WTDC), scheduled from 17 to 28 November 2025 in Baku, Azerbaijan. In the process, the government, industry and academia outside Asia and the Pacific are expected to learn about the challenges and opportunities the region faces and about the initiatives, support and partnership between Japan and ITU.

The ITU is celebrating its 160th anniversary throughout 2025. Our work aims to set the stage for another 160 productive, meaningful, and impactful years. With such a committed and dedicated partner as MIC, we will strive to continue delivering benefits and making a positive impact on those who need it most.