SDG 17 | Indicator 17.2.3

ISU International Collaboration on Gathering and Measuring Data for the SDGs (2025)

In 2025, Isabela State University (ISU) took part in international collaboration to gather and measure data for the Sustainable Development Goals. Through the Japan–Philippines NEXUS Program on Water Security with the Disaster Prevention Research Institute (DPRI) of Kyoto University, Japan, funded by the Department of Science and Technology (DOST) and the Japan Science and Technology Agency (JST), ISU and its partners collected river basin, flood and rainfall data used to build hazard and risk maps, early warning systems and decision-support tools for dam operations. The following reports document this work and the agreements that formalized it, in support of SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

1 ISU and Kyoto University Gather Data to Future-Proof Water Resources and Dam Management in the Cagayan Valley

January 22–24, 2025 | Cauayan City, Tuguegarao City and Isabela



PHOTO

Kyoto University–ISU team, January 2025 (board presentation, courtesy calls and field surveys)

Use the photos posted with the original article:

https://isu.edu.ph/leveraging-global-synergy-isu-collabs-with-kyoto-university-government-agencies-to-future-proof-water-resources-and-dam-management-in-the-cagayan-valley-region

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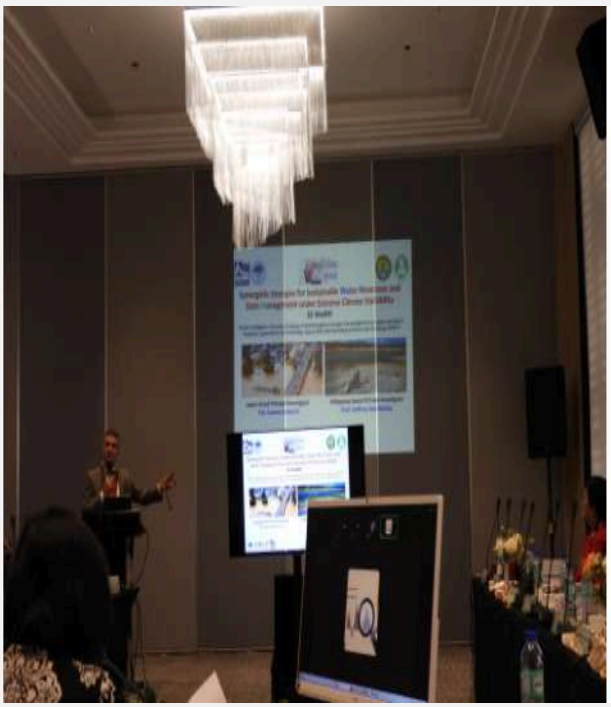
A team of researchers from the Disaster Prevention Research Institute (DPRI), Kyoto University, Japan, worked with Isabela State University (ISU) in January 2025 to gather data on water resources and dam management in the Cagayan Valley Region. The work forms part of the Japan–Philippines NEXUS Program on Water Security, a research project funded by the Philippine Department of Science and Technology (DOST) and the Japan Science and Technology Agency (JST). It aims to develop strategies for managing water and dams under extreme climate conditions.

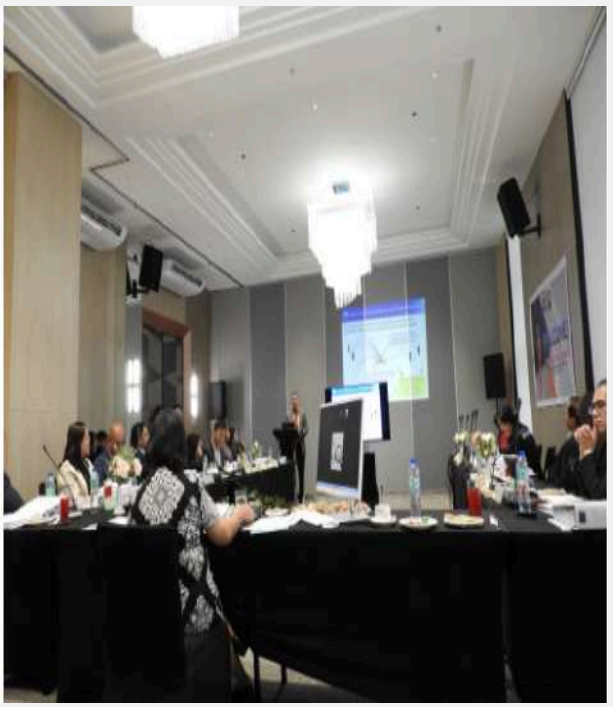
Prof. Sameh Ahmed Kantoush of Kyoto University led the Japanese team, with Associate Professor Mohamed Saber and PhD student Engr. Jerome Gacu of Kyoto University, and Dr. Nguyen Quang Binh of The University of Danang – University of Science and Technology, Vietnam. Prof. Jeoffrey Lloyd R. Bareng led the Philippine team, with the support of then ISU President Prof. Ricmar P. Aquino and Vice President for Research and Development, Extension and Training Prof. Orlando F. Balderama.

On January 22, 2025, the team presented the results of its joint research at the 241st Special Board Meeting of ISU at The Maximillian Hotel, Cauayan City, where the University's governing board approved the NEXUS program. The team also met with division managers of the National Irrigation Administration – Magat River Integrated Irrigation System (NIA-MARIIS) to secure NIA's long-term commitment as a partner. The discussions covered flood control, dam and reservoir operations, and reservoir sedimentation, and the team proposed an AI-powered flood hazard map. The data gathered will feed a decision support system for optimizing dam operations.

On January 23 and 24, 2025, the team paid courtesy calls on the Cagayan River Basin Management Council, the Office of Isabela Governor Rodito T. Albano III, and the Department of Environment and Natural Resources (DENR) Regional Office in Tuguegarao City, led by Regional Executive Director Gwendolyn Bambalan, to request relevant data, including data on damage from recent typhoons.

The researchers also conducted field surveys in Tuguegarao City, Cagayan Segment 1, the Ganano Sub-Watersheds, the Addalam Watershed, and the municipalities of Cauayan, Angadanan, Echague and Jones, as well as at Magat Dam in Ramon, Isabela. The surveys measured flood depths that will be used to build hazard and risk maps for early warning systems in the region.





Source Isabela State University News

Photo credit River Basins for Sustainable Development

2 ISU and Japanese Partners Launch the Japan–Philippines NEXUS Program on Water Security

March 12–13, 2025 | Kyoto University, Uji, Japan



ISU helped lead the Inception Workshop and Ministerial Level Meeting of the Japan–Philippines NEXUS Program on Water Security at Kyoto University's Disaster Prevention Research Institute (DPRI) in Gokasho, Uji City, Kyoto, Japan. The program builds on a partnership between ISU and Kyoto University that dates back to 2019 and focuses on integrated water resources management (IWRM) in river basins. Prof. Sameh Ahmed Kantoush, President of the International Organization on Climate Change Adaptation and Disaster Risk Reduction Management Inc. (IO-CCA-DRRM), serves as principal investigator, and Prof. Jeoffrey Lloyd R. Bareng, ISU University Director for Research and Development, serves as project leader.

The sessions focused on the data and tools the program uses to measure and manage water resources. The Japan Science and Technology Agency presented the NEXUS Program as an R&D platform for research collaboration between Japan and ASEAN. Prof. Kantoush presented the proposed methodology for the Magat Dam, including post-flood fieldwork by the NEXUS R&D team and the optimization of dam operations amid climate change and sedimentation, toward a decision support system for dam and reservoir operation. Mr. Kitani Kazuhiro of the

Japan Weather Association presented ensemble rainfall prediction for the Magat River Basin using data from the European Centre for Medium-Range Weather Forecasts (ECMWF). Dr. Mohamed Saber discussed hydrological and machine learning tools, and the Japan Water Agency (JWA) presented reservoir-scale IWRM.

Philippine Ambassador to Japan Mylene J. Garcia-Albano delivered the keynote on behalf of Isabela Governor Rodito T. Albano III, Chair of the Cagayan River Basin Management Council. Philippine participants included the Department of Science and Technology, represented by Ms. Ninaliza Escorial, Deputy Executive Director of PCIEERD; Commission on Higher Education Commissioner Dr. Marita R. Canapi; National Irrigation Administration Administrator Engr. Eduardo Eddie G. Guillen; Department of Agriculture – Bureau of Agricultural Research Director Dr. Junel Soriano; and Department of Agriculture – Bureau of Soils and Water Management Assistant Director Ms. Denise Solano. Japanese participants included DPRI Director Prof. Tomoharu Hori; Kyoto University Vice President for International Strategy Prof. Yasuyuki Kono; Prof. Tetsuya Sumi of Kyoto University, Vice President of the International Commission on Large Dams; JWA Director General for International Affairs Mr. Takaaki Kusakabe; and Ms. Kaori Yamada of the Japan Science and Technology Agency. Industry partners SN Aboitiz Power, IHI Construction Service Co., Ltd., and Pacific Consultants Co., Ltd. joined leaders from Ryukoku University, Romblon State University (RSU), Bulacan State University (BulSU), the University of Science and Technology of Southern Philippines (USTP), and Mountain Province State University (MPSU).

Three agreements were signed: a Letter of General Agreement among the Japan Water Agency, the National Irrigation Administration and SN Aboitiz Power; a Memorandum of Understanding between ISU and the Provincial Government of Isabela to establish a Disaster Prevention Center; and a Memorandum of Understanding among IO-CCA-DRRM, ISU, RSU, MPSU, USTP and BulSU to form a Disaster-Related Consortium. The meeting also positioned ISU as a planned Kyoto University–DPRI ASEAN Satellite Hub, alongside universities in Singapore, Vietnam, Malaysia and Cambodia, for interdisciplinary research, knowledge sharing and policy development on disaster prevention, response and recovery.

> “ISU will serve as a national and regional hub for water resources management,” then ISU President Prof. Ricmar P. Aquino said.

During an orientation with the International Lake Environment Committee (ILEC) Foundation, delegates toured Lake Biwa, Japan’s largest lake, the Biwa Lake Museum and the Seta River Weir. Prof. Masahisa Nakamura, ILEC Vice President and former Director of the Lake Biwa Research Institute, discussed the lake’s management, flood management and water conservation. ILEC committed to work with ISU and its partner universities RSU, BulSU, USTP and MPSU on inland water conservation, supporting the program’s research on the Cagayan River Basin and other Philippine river basins.







Source River Basins for Sustainable Development

Source ISU, Kyoto University Expand Partnerships for Japan–Philippines NEXUS Program

Source ISU Executives and Japanese Experts Pioneer Innovations in Water Security

Source ISU to Become Kyoto University–DPRI ASEAN Satellite Hub

3 ISU and DPRI Kyoto University Formalize Research Ties through a Collaboration Research Agreement

November 25, 2025



PHOTO

CRA signing: Dr. Boyet L. Batang and Prof. Tomoharu Hori

Use the photos posted with the original article:

https://isu.edu.ph/isu-dpri-ku-formalize-research-ties-in-cra-signing/

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Isabela State University (ISU) and the Disaster Prevention Research Institute of Kyoto University (DPRI-KU) signed another Collaboration Research Agreement (CRA) under Project NEXUS, an initiative to improve Japan–Philippines cooperation in water security. ISU President Dr. Boyet L. Batang and DPRI Director Prof. Tomoharu Hori signed the agreement at the start of a two-day meeting that began on November 25, 2025.

The agreement continues the joint NEXUS research through which ISU and Kyoto University gather and analyze data on river basins, floods and dam operations in the Cagayan Valley. During the meeting, the partners discussed the proposed ASEAN DPRI Hub, a regional platform for research on disaster resilience and water-related challenges. They also presented ongoing and future initiatives under the WISER Program, a capacity-building effort, and held a dialogue among the participating institutions.

Source Isabela State University News

4 ISU and the Japan Water Agency Seal Partnership for Water Security and River Basin Management

November 27, 2025



PHOTO

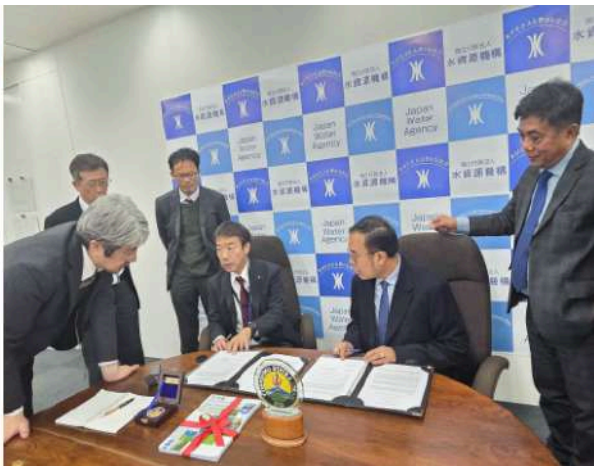
MOU signing: Dr. Boyet L. Batang and Mr. Takaaki Kusakabe

Use the photos posted with the original article:

https://isu.edu.ph/isu-jwa-seal-partnership-for-water-security-river-basin-management/

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Isabela State University (ISU) and the Japan Water Agency (JWA), a Japanese government institution, signed a Memorandum of Understanding (MOU) on November 27, 2025, for international collaboration on water security and sustainable river basin management in the

Philippines. ISU President Dr. Boyet L. Batang and JWA Director General for International Affairs Mr. Takaaki Kusakabe signed the agreement.

Under the MOU, the partners will jointly investigate flood and sediment management systems for the Magat Dam and the Cagayan River Basin, key waterways for agriculture, energy and communities in Northern Luzon, with possible application to other major river basins in the country. ISU contributes local expertise through its Smart Water Infrastructure and Management (SWIM) R&D Center, which addresses low water productivity, climate-induced hazards, and gaps in water monitoring, planning and governance. JWA contributes its global technical experience in integrated water resources management, dam and canal operation, and flood mitigation.

The partnership will be carried out through joint projects, technical missions, capacity-building initiatives and knowledge-exchange programs that produce actionable, science-based knowledge for water resources management. The expected outcomes include stronger community resilience, a stable water supply and progress on the Sustainable Development Goals. ISU is also an active member of the Network of Asian River Basin Organizations (NARBO).