

# IAC News

***Japan Society of Civil Engineers International Activities Center***

## About IAC News

IAC News highlights JSCE's international activities, including:

- Updates from JSCE International Sections (UK, Korea, Taiwan, Turkey, etc.)
- ACECC initiatives and global committee efforts
- Introductions to active professionals and unique projects in civil engineering

**We introduce the lively and engaging views of the current civil engineering field through JSCE's global network.  
Your feedback and suggestions are always welcomed!**

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- 3) ICES Seminar: International Engineers' Career Path in Japan
- 4) Messages from Japan at the 10th World Water Forum in Bali\*

\*Supported by FY2025 International Scientific Exchange Fund

## Japanese Civil Engineers the Global Leaders Symposium Series No. 24



**Masaru Suzuki**

Leader of Internationally Minded Talent  
Development and Project Group,  
International Activities Center, JSCE

The Japanese Civil Engineers the Global Leaders Symposium Series No. 24 was held online and in person at the JSCE Auditorium on July 3, 2025. The theme for this symposium was titled 'The Development of Asian Cities and Railway Infrastructure'.

The first half of the symposium was conducted by JICA Deputy Director Akiko Sanada and ALMEC Corporation President Tetsuji Masujima on the relationship between an urban development master plan and improving railway infrastructure. The second half of the symposium featured lectures about railway-related construction technologies and safety practices, as well as the efforts of upcoming engineers, presented by Deputy Director Nakaba Yamashita of Shimizu Corporation, Chair of the Railway Subcommittee at Japan Transport Safety Board Fuminao Okumura, and Section Manager Kenichi Koga of Japan

International Consultants for Transportation Co., Ltd.

Although this was the first symposium since No. 23, approximately 18 months ago, we were blessed with 582 online attendees and close to 20 in-person attendees. There is always a wide range of individual attendees in addition to construction companies, consultants, and government officials. There were also lots of online attendees in and outside the Tokyo areas. In fact, this was the largest number of attendees we've had since the first symposium in April 2014, when we covered the Bosphorus Strait Railway Construction Project.

Of the keynote speakers, we were also joined by Tetsuji Masujima of ALMEC Corporation, remotely from Bangladesh. This is another unique trait of online events nowadays, following the COVID-19 pandemic.

Former International Activities Center Director Yukihiro Koizumi of JICA offered his help from the preparation stage of this symposium. We are extremely grateful as not only did he serve as a facilitator for that symposium, but he also undertook meticulous preparations, such as deciding the framework of the event and making requests to each keynote speaker.

I would like to take this opportunity to say a big thank you to Mr. Koizumi for his hard work. This symposium has a history dating back over 10 years, since 2014. The symposium covers the efforts, projects, and themes of Japanese engineers working overseas. The program has also been

designed in such a way to help support the efforts of upcoming Japanese engineers overseas.

There are many challenges to Japanese engineers working overseas, such as technological development, health assurance, public safety issues, and contractual issues. Along with this, young engineers are expected to play an active role overseas.

The symposium aims to provide information on the challenges I just mentioned and to support Japanese engineers in their overseas endeavors.

After holding the symposium, on the 11th, Mr. Koizumi of JICA was appointed as an advisor to the Ministry of Public Works and Transport of Cambodia. I wish Mr. Koizumi the best of luck in his new role.



At the Auditorium

**[Symposium Program]**

Facilitator: Yukihiro Koizumi, Logistics Advisor to the Ministry of Public Works and Transport of Cambodia at Japan, International Cooperation Agency (JICA)

|                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>■ <b>Opening Remarks</b></p> <p>Akihito Sanjo (General Manager of Social Infrastructure Division at Japan International Cooperation Agency (JICA))</p>                                                                                                                 |
| <p>■ <b>Lecture #1 : ‘Master Plan 2.0: A Master Plan to Support Urban Development’</b></p> <p>Akiko Sanada (Deputy General Manager of the Infrastructure Management Department and Head of the Transportation Group at Japan International Cooperation Agency (JICA))</p> |
| <p>■ <b>Lecture #2 : ‘The Evolution of Urban Transportation Planning and Railway Infrastructure Improvements in Ho Chi Minh’</b></p> <p>Tetsuji Masujima (Managing Director at ALMEC Corporation)</p>                                                                     |
| <p>■ <b>Lecture #3 : ‘Jakarta MRT Project: Large-Scale Subway Entrance Construction with Shallow Overburden’</b></p> <p>Nakaba Yamashita (Deputy Director, Jakarta Metro CP201 Construction Site, International Civil Engineering Division, Shimizu Corporation)</p>      |
| <p>■ <b>Lecture #4 : ‘Survey and Training Regarding Railway Accidents in India: Transitioning from Who to Why’</b></p> <p>Fuminao Okumura (Chair of the Railway Subcommittee at the Japan Transport Safety Board)</p>                                                     |
| <p>■ <b>Lecture #5 : ‘Involvement in the Vietnam Urban Railway Project: Stories from the Opening of Ho Chi Minh City</b></p>                                                                                                                                              |

|                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Metro Line 1 and the Vietnam Railway School Project'</b></p> <p>Kenichi Koga (Section Manager of Railway Engineering and Consulting Headquarters at Japan International Consultants for Transportation Co., Ltd.)</p> |
| <p>■ <b>Closing Remarks</b> by Masaru Suzuki<br/>(Project Group Leader, IAC)</p>                                                                                                                                            |

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Reported by Masaru Suzuki,  
Leader of Internationally Minded Talent  
Development and Project Group, IAC, JSCE

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## Committee Report: ACECC

### The Asian Civil Engineering Coordinating Council the 48<sup>th</sup> ECM

～ 48th Executive Committee Meeting  
in Yangon, Myanmar ～

#### ■ Overview

The Asian Civil Engineering Coordinating Council (ACECC) is an organization established in September 1999 to improve and develop sustainable social capital in the Asian region.

At present, with the help of the 17 engineering-related academic societies affiliated with the ACECC, the organization is engaged in various activities to promote learning and skills. The Executive Committee Meeting (ECM), the highest-level decision-making body of the ACECC, is held twice a year by affiliated academic societies on a rotating basis. The 48th

Executive Committee Meeting was held from April 7 to April 9, 2025, in Yangon, Myanmar. Due to the earthquake that struck central Myanmar on March 28, 2025, it was not clear whether the Executive Committee Meeting would go ahead. However, because the meeting was due to take place in Yangon, which is located over 600 km from the epicenter of the earthquake in a region that barely suffered any subsequent damage, plus the fact that the hosts, the Federation of Myanmar Engineering Society (Fed.MES) indicated that the event would take place, it went ahead as scheduled. Attending in person from the Japan Society of Civil Engineers (JSCE) were JSCE Representative Eiki Yamaguchi (Kyushu Institute of Technology), Chairperson Hironori Kato (The University of Tokyo), and myself. The schedule of each event is shown in Table 1.

#### ■ The 48th ECM

##### (1) Technical Coordination Committee Meeting (TCCM)

The Technical Coordination Committee Meeting (TCCM) played host to reports on the activities of the 12 active Technical Committees (TC). There were also reports on TC21 (Transdisciplinary Approach for Building Societal Resilience to Disasters, Co-chair: Mikio Ishiwatari (Meiji University)), TC28 (Application of Monitoring Technology for Infrastructure Maintenance, Chair: Eiki Yamaguchi, TC30 (Digital Technologies for Smart Construction, Co-chair: Pang-jo Chun (The University of Tokyo)), and TC33 (Advancing Artificial Intelligence Education in Civil

Engineering, Co-chair: Ji Dang (Saitama University)), for which JSCE members are either the Chair or Co-chair. A new framework was introduced in which the performance of the TCs would be assessed by the TCCM participants of each society, based on the contributions of the JSCE members. The results of these assessments will be used in making decisions regarding budget support provided by ACECC to the TCs, as well as to help assess which TC should win the ACECC award.

## (2) Planning Committee Meeting (PCM)

At the PCM, in addition to reports on the preparations for the 10th Civil Engineering Conference in Asian Region (CECAR 10) to be held during October 21–24, 2025, on Jeju Island in South Korea, there were also discussions on reducing the annual membership fees of each society and about reviewing the

Constitution & Bylaws. As for CECAR 10, there was a report that approximately 460 abstracts had been posted (58 of which were from JSCE). A draft of the Jeju Declaration to be adopted at CECAR 10 was also shared. Before the PCM, there was also the Financial Committee, which is chaired by Hironori Kato. Discussions took place on budget implementation checks and budgeting for the next fiscal year.

## (3) Executive Committee Meeting (ECM)

At the ECM, the decisions made at the TCCM and PCM were approved. One of the approved items was a 20% reduction in the annual membership fees of each society. The schedule for the upcoming ECMs was also discussed. It was decided that the 49th ECM would be held in Korea along with CECAR 10, the 50th ECM in Nepal in the spring of 2026, the 51st ECM in Taiwan in the autumn of 2026, and the 52nd ECM in India in the spring of 2027.

**Table 1: ECM Schedule**

| Date                          | Local Time              | Event                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mon.<br>April 7 <sup>th</sup> | 8:30 a.m. - 10:30 a.m.  | Technical Coordination Committee Meeting (TCCM)                                                                                                                                                                                                                                                                             |
|                               | 11:30 a.m. - 12:30 p.m. | Finance Committee Meeting (FCM)                                                                                                                                                                                                                                                                                             |
|                               | 1:30 p.m. - 5:00 p.m.   | Planning Committee Meeting (PCM)                                                                                                                                                                                                                                                                                            |
|                               | 7:00 p.m. - 9:00 p.m.   | Welcome Reception                                                                                                                                                                                                                                                                                                           |
| Tue.<br>April 8 <sup>th</sup> | 8:30 a.m. - 12:30 p.m.  | Executive Committee Meeting (ECM)                                                                                                                                                                                                                                                                                           |
|                               | 2:00 p.m. - 3:30 p.m.   | [Technical Sessions]<br>TC22: The Current State of Earthquake Disaster Risk Reduction in the Asian Countries<br>TC32: Disaster-Resilient Infrastructure in Coastal Areas and Cyclone/Typhoon Risk Mitigation<br>Future Leader Forum: Leadership, Engineering, Adaptability, and Development - L.E.A.D. in Civil Engineering |
|                               | 4:00 p.m. - 6:00 p.m.   | [Technical Sessions]<br>TC26/TC31: Capacity Building Towards Sustainable Water Security and Infrastructure Resiliency<br>TC30/TC34: Digital Transformation for the Sustainable Built Environment: Innovations, Technologies, and Strategies for Sustainability                                                              |
|                               | 7:00 p.m. - 9:00 p.m.   | Farewell Dinner                                                                                                                                                                                                                                                                                                             |
| Wed.<br>April 9 <sup>th</sup> | 8:30 a.m. - 10:00 a.m.  | Technical/Sightseeing Tour                                                                                                                                                                                                                                                                                                  |
|                               | 10:15 a.m. - 12:30 p.m. | Special ECM Brainstorming Session on ACECC's Earthquake-Related Support to Myanmar                                                                                                                                                                                                                                          |



**ACECC ECM**

#### **(4) Seminars**

This ECM included TC22 and Future Leaders Forum (FLF) seminars, as well as joint seminars between TC26 and TC31 and TC30 and TC34, respectively. The TC30 and TC34 joint seminar was on the topic of ‘Digital Transformation for the Sustainable Built Environment: Innovations, Technologies, and Strategies for Sustainability.’ Along with Pang-jo Chun, its members from Taiwan, Thailand, Indonesia, Cambodia, India, and Vietnam presented research and case studies of infrastructure maintenance using Building Information Modeling (BIM)/Construction Information Modeling (CIM) and AI technologies. The attendees engaged in lively discussions.

#### **(5) Brainstorming session based on the earthquake in Myanmar that occurred on March 28, 2025**

About a week or so before this ECM, a large-scale earthquake struck Myanmar, with the epicenter in the center of the country. In response, an urgent brainstorming session was arranged to discuss the possibility of assisting the Fed.MES.

This session began with the Fed. MES providing an overview of the damage. Support measures and technical proposals were then made by the TC related to disaster prevention, such as TC21, and affiliate societies. After the discussions that took place during this session, it was decided that an online seminar should be held regularly for each society to share lessons and experiences related to past disasters and recovery efforts, as part of medium- to long-term technical assistance.

#### **■ Conclusion**

As part of this ECM, a joint seminar was held between TC30 and TC34. Vigorous discussions took place on the initiatives and challenges of each country regarding BIM/CIM. The new TC established in recent years has seemingly become a more effective forum than in the past for exchanging information and engaging in discussions on the latest civil engineering technologies and their application in society. As part of the Committee on Asian Civil Engineering Coordinating Council, I want to continue to support greater cooperation and collaboration at an academic society level.



After the ACECC Executive Committee Meeting



TC30 and TC34 Joint Seminar

This article is a reprint from the JSCE Magazine "Civil Engineering", Vol. 110, No.8, August 2025.

## ICES Seminar "International Engineers' Career Path in Japan"



**TAN YEN XIN**  
(Nippon Koei Co., Ltd.)



The International Civil Engineers Support Group Japan (ICES) held a seminar on April 11, 2025, under the title "International Engineers' Career Path in Japan." That seminar brought together approximately 84 participants from Japan and abroad, where international engineers active in Japan shared their experiences. Discussions centered on the opportunities and challenges of career development, with particular attention to diversity. The seminar featured lively exchanges, highlighting concrete examples of career development for international engineers in Japan and mentioning of the importance of diversity within the industry.

### ■ Seminar Overview

|                               |                                                                  |
|-------------------------------|------------------------------------------------------------------|
| <b>Date and time</b>          | April 11, 2025 (Fri)<br>15:00 - 17:30                            |
| <b>Venue</b>                  | JSCE Meeting Room & Online                                       |
| <b>Number of Participants</b> | Approximately 84 people<br>(20 in-person / 64 online)            |
| <b>Organizer</b>              | International Civil Engineers Support Group Japan (ICES)         |
| <b>Program</b>                | Keynote presentations (2),<br>panel discussion, group discussion |

## ■ Lessons and Insights Gained from the Event

Many participants shared positive feedback, such as: “It was a valuable opportunity to learn about the possibilities and specific challenges of building a career as an international engineer, and it gave me a chance to reexamine my own goals,” and “The chance to connect with international peers was extremely meaningful, and I hope this seminar will continue regularly.” Participants also expressed strong interest in concrete future initiatives, including opportunities to hear directly from corporate executives, case studies from the field, discussions on support systems for international engineers, site tours, and casual networking events.

Key takeaways of the seminar emphasized that career advancement for international engineers in Japan is closely tied to proactive Japanese communication, the effective use of individual expertise, and a willingness to learn from cultural and technological differences. It also highlighted the value of experience gained from international organizations and overseas projects, while showcasing real examples of international engineers successfully stepping into leadership roles within Japanese companies. These insights served as strong encouragement for the participants, fostering a more positive outlook and greater motivation for shaping their future career paths.



Keynote presentations by two presenters



Panel Discussion

## ■ Prospects for ICES and Member Recruitment

The ICES team will continue organizing seminars that feature real-world case studies and insights from industry leaders, while creating engaging spaces that blend both online and in-person participation. By expanding opportunities for people from diverse backgrounds to learn and grow together, we hope to foster greater diversity and strengthen the international competitiveness of Japan’s civil engineering field. To take this initiative even further, we are excited to welcome new members to the ICES team. Whether you are a civil engineer, researcher, or professional from any civil engineering field or nationality, we value the unique perspectives you can bring. If you'd like to get involved, please join our events or feel free to contact : [iad@jsce.or.jp](mailto:iad@jsce.or.jp) (JSCE International Activities Center)



**Current ICES Team Members**  
 (From left: Nguyen, Tan, Hou.,  
 circled: Desmy)

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 Reported by TAN YEN XIN,  
 (Nippon Koei Co., Ltd.)  
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## Messages from Japan at the 10<sup>th</sup> World Water Forum in Bali Policy Brief by the Japan Water Forum



### Key messages



To transform towards quality-oriented society:

1. Realizing “Water *Minfra* of all, by all and for all”: Implement water infrastructure in an inclusive manner to maintain or recover a sound water cycle
2. Building resilience together: Create disaster resilient communities through

sharing of responsibilities and resources among multiple stakeholders

3. Empowering innovation: Foster science and technology and youth-led initiatives to solve a wide range of water problems

4. Integrating culture in water management:

### ■ Introduction

**Participants from Japan to the 10th World Water Forum, which took place in Bali, Indonesia, from 18 to 25 May 2024 was large and diverse.** The forum

brought together multiple stakeholders under the unifying theme “Water for Shared Prosperity”. Participants included the delegation led by Mr. Koyari, Parliamentary Vice-Minister of Ministry of Land, Infrastructure, Transport and Tourism (MLIT), government agencies, universities, research centers, local governments, including several governors and mayors, private companies and non-governmental organizations. The Keynote Lecture given by His Majesty the Emperor of Japan at the Bandung Spirit Water Summit was among the forum’s most significant moments. The award ceremony of the Kyoto World Water Grand Prize was also a major highlight.

**Common threads and key messages emerged from the Japanese interventions at the Forum.** This policy brief aims at presenting key messages, future prospects, challenges, solutions, reflections on the overall conference and recommendations from Japan. The policy messages are introduced with a focus on

Japan's viewpoints and contributions from Japanese activities. Japan has been active on the international water agenda for several decades. The hosting of the 3rd World Water 2 Forum in Kyoto, Shiga and Osaka and of two Asia-Pacific Water Summits in Beppu and Kumamoto, which brought together the leaders of the region to discuss water, are significant milestones<sup>1</sup>.

### 1. Overall concept: water *minfra*

**“Water *minfra* of all, by all, and for all” serves as the backbone of society.**

Water-related infrastructure or “water *minfra*” includes not only conventional centralized systems, but also green infrastructure (GI), as well as small, decentralized infrastructure, tailored for local communities, such as wells and rainwater-harvesting facilities.

“By all” emphasizes the importance of co-designing water infrastructure with all its beneficiaries and other stakeholders. “For all” means that no one must be left behind, while conceiving water services.

**First developed in Japan, the application of the concept of “water *minfra*” has the potential to improve the way water-related systems are designed, built, and operated in Asia and the Pacific, as well as in the rest of the world.** Water *minfra* fosters water resources while respecting the natural water cycle. Too often, conventional approaches disrupt the water cycle. The concept of water *minfra* emerges as a solution to make water-related systems more sustainable.



日本の水に関するステークホルダーで構成される日本水フォーラム（JWF）は、アジア・太平洋水サミットの開催支援や世界水フォーラムへの参加支援を行う NGO です。また、JWF は世界水会議の理事も務めています。

Source: [www.tkfd.or.jp/research/detail.php?id=4388](http://www.tkfd.or.jp/research/detail.php?id=4388)

For example, many developed and developing countries face difficulties because of aging and malfunctioning water systems. To achieve sustainability, it is required to invest in proper pricing and full cost recovery, diversify through rainwater and recycled water, and develop capacity.

The future of water *minfra* hinges on a collective effort to forge an integrated, long-term vision, balancing centralized and decentralized approaches to maintain or recover a sound water cycle.

### **Japanese approach to addressing climate and socioeconomic challenges**

**Japan is striving to build a resilient society to water-related crises through formulating new policies and plans and combining grey and green infrastructure.**

The new policy “River Basin Disaster Resilience and Sustainability by All” provides overall guidance for climate change adaptation (CCA) and is a concrete example of water *minfra*. Water resource management plans are shifting from water resources development to crisis management. GI is increasingly employed alongside grey one to leverage the power of nature.

### **River Basin Disaster Resilience and Sustainability by All**

**In the face of climate change, a comprehensive, multi-layered strategy for disaster risk reduction (DRR) is imperative.** Business as usual is simply not possible in our rapidly changing world.

Conventional structural measures alone cannot respond to increasing risks under a changing climate. The frequency and intensity of extreme events is increasing, weather patterns and climatic conditions are being modified, but also social and economic conditions are changing. The implementation of the new “River Basin Disaster Resilience and Sustainability by All” policy is a step towards the goal of a comprehensive, multi-layered strategy for water-related DRR. This policy has been guiding the latest water-related DRR efforts in Japan. It is the most advanced approach to water-related disasters Japan can offer.

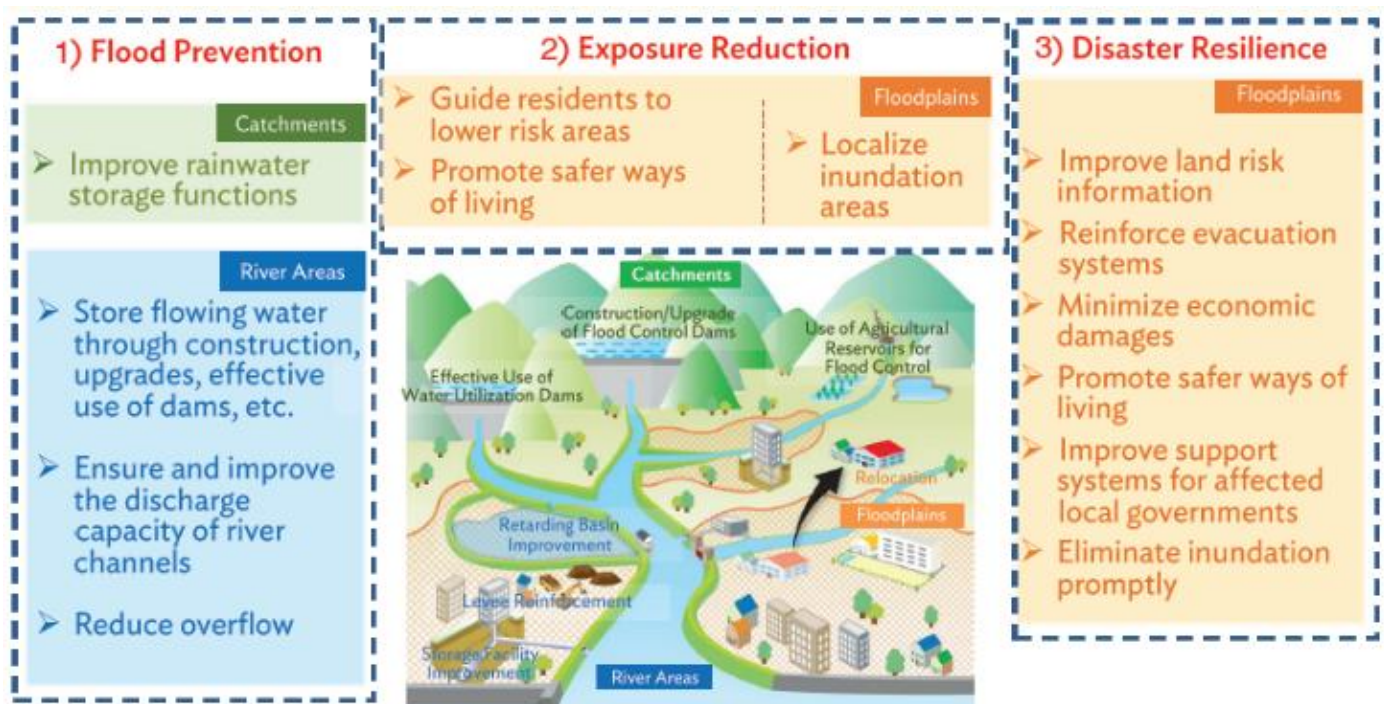
**This new policy revitalizes traditional river engineering methods for flood protection**, which had been widely used in Japan before the introduction of Western technology. They include the strategic use of farmland and paddy fields as temporary flood reservoirs, through taking into consideration local specificities. Additionally, the approach of preserving storage functions in specific areas is inspired by the traditional open levee method, the so-called “Kasumi Tei”, which further reinforces the resilience of river basins. This holistic strategy not only adapts to the changing climate but also preserves the ecological balance and cultural heritage associated with traditional agricultural practices.

**A wide range of countermeasures when combined with state-of-the-art technology create a robust defense against water-related disasters.**

Targeted flood volumes are estimated by

climate and hydrological models. Also, projects like the revitalization of the Shin-Katsura and Shin-Maruyama Dams using existing structures and advanced technology have been introduced. To combat the reduced water storage due to sedimentation, initiatives at Sakuma, Changankou, and Saigo Dams are underway.

Additionally, countermeasures against sediment-related disasters, such as Sabo dam and sediment management, have proven to be effective in mitigating disaster damage.

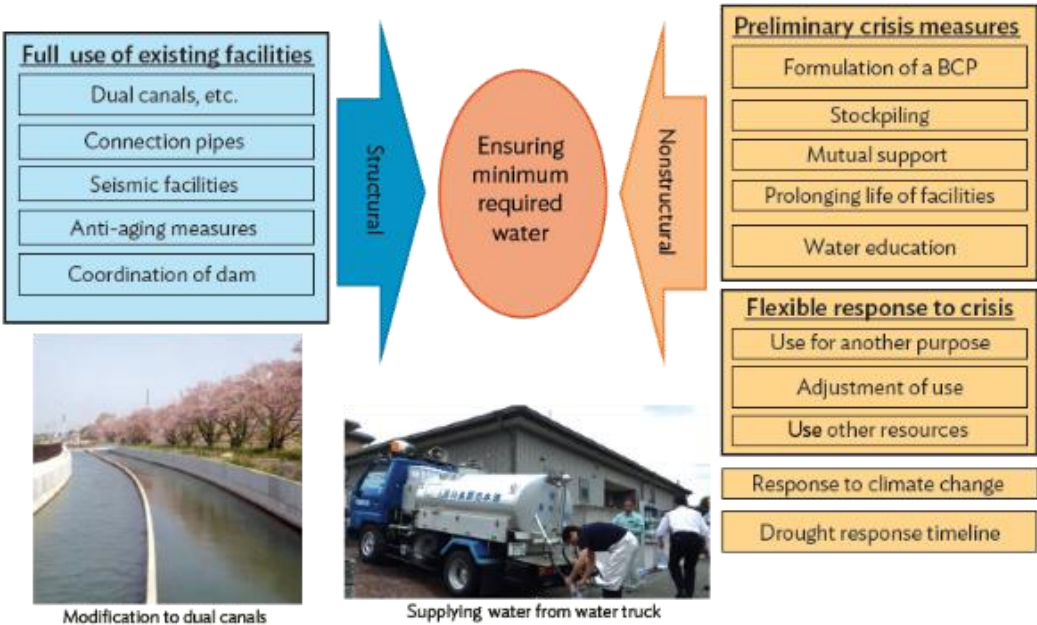


River Basin Disaster Resilience and Sustainability by All  
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

**Water resource management plans for crisis management**

Japan's water resources planning is evolving from a focus on development to crisis management. While past infrastructure projects successfully met growing demand during periods of high economic growth, the current emphasis is on managing uncertainties. Modern water resources management plans must be based on thorough assessments of supply and demand under changing climate conditions. They should strategically utilize existing infrastructure while incorporating diverse non-structural measures involving public, private, and community stakeholders. These plans need to be founded on diligent preparation to effectively address potential uncertainties.

When a crisis does occur, organizations concerned must respond with composure and impartiality, guided by the established plan to ensure balanced and effective solutions. Organizations concerned should diligently implement contingency plans, which are designed to reduce damage for the greater good of society, the economy, and the environment. Also, flexible response is crucial in managing unforeseen crisis. This approach underscores the importance of foresight and structured planning in managing water resources amidst unpredictable societal and environmental changes.



Source: Water Resources Development Committee, National Land Council Editec

## Green infrastructure

**GI, which leverages for water *minfra*, is increasingly employed for river restoration.** Its economic cost and impact on the environment are typically lower than conventional infrastructure. For example, ecological flood protection can be achieved through interventions such as wetland restoration and greenery sloping, including improvement projects at the Kamisaigo River. These actions also produce important co-benefits for climate change mitigation and adaptation, as well as biodiversity conservation. Landscaping plays a significant role, engaging local communities and providing the places of environment education for children. Intergenerational learning is essential to raise awareness about the importance of GI.



**Kamisaigo River**  
**Source: Fukutsu City**

**GI usually offers multiple benefits and often helps simultaneously address water quantity, water quality and water-related risks.** The combination of green and grey Infrastructure, such as dams and canals, is necessary to supply

ecosystem services. Paddy fields produce rice, a staple food in many countries, and provide multiple benefits as GI. These benefits include groundwater recharge, flood protection and water purification. Little or no maintenance costs are required for the delivery of the related ecosystem services. Lake Biwa, the largest lake in Japan, had suffered from deteriorating water quality and ecosystem due to pollution and eutrophication. However, local government, citizens, and other stakeholders in Shiga Prefecture have been working to improve it.

**The city of Shizuoka successfully reduced the risk of flood through a combination of green and grey infrastructure.** After being devastated by massive floods in 1974, the city's river necessitated decisive action to mitigate flood damage. Initial efforts included the construction of a diversion channel as basic structure for flood protection. The subsequent step was to build retention basins in flood plains. A comprehensive catchment-wide flood risk management approach involving public-private partnerships was then adopted, utilizing 70% of the land from schools, parks, and the private sector for water retention. Additionally, households were equipped with tanks for temporary water storage and rainwater harvesting, supported by city subsidies. These collective measures bore fruit when, in 2022, Shizuoka withstood heavier rainfall than in 1974, without catastrophic outcomes. Cooperation between the public and private sectors is

essential to install temporary storage everywhere possible. This is achieved through empathy and social co-creation.

### 3. Policy recommendations

#### Five recommendations for policymakers emerged from the interventions of Japanese participants in the Forum.

The Asia-Pacific region faces mounting challenges related to climate change and maintaining or recovering a sound water cycle. The recommendations can strengthen the development of “water *minfra*” and to resolve issues in the region. First of all, the Kumamoto Declaration was identified as a key document whose guidance to follow. Second, finance for resilience and recovery must be enhanced. Third, it is important to leverage science and technology. Fourthly, innovation and youth must be fostered, as many solutions remain to be found. Finally, sociocultural aspects need to be incorporated in management.

#### 3.1 Follow the guidance of the Kumamoto Declaration

**The Kumamoto Declaration guides Asia and Pacific regions to transform toward a quality-oriented society and achieve the SDGs.** The declaration was adopted by the Heads of State and Government at the 4th Asia-Pacific Water Summit, held in Kumamoto, Japan, in April 2022. Asia and the Pacific suffer from chronic under-investment in water.

The Kumamoto Declaration set the goal of doubling investment to address water-related disasters. In the aftermath, several countries and partners have increased their investment.

#### The Concept of Kumamoto Declaration



However, most countries have not yet been able to meet the goal set by the region’s leaders. It is important to reflect on how to mobilize funding sources. Multistakeholder efforts to invest in DRR and CCA are promising and may produce good results. The level of effort must be kept up and even increased to meet the ambitious goal of doubling investment.

**The Kumamoto Initiative for Water announced by the Japanese Prime Minister at the Summit is providing financial assistance worth about 500 billion yen over five years.** This funding is specifically dedicated to the development of “Quality Infrastructure”, capitalizing on

Japan's advanced technologies and based on a "A New Form of Capitalism". These could promote public-private partnership and foster digitalization and innovation as a growth engine for sustainable development and the formation of a resilient society and economy. Poor quality infrastructure and planning is in fact often behind failures that can turn even relatively minor events into major disasters. The Kumamoto Initiative for Water is meant as a contribution to the implementation of the Kumamoto Declaration. This underscores Japan's commitment for contributing the solution of water-related social issues faced by the Asia-Pacific region.

### 3.2 Enhance financing for resilience

**Water *minfra* requires innovative funding.** This needs to address uncertainties and evaluate multifaceted benefits, including poverty alleviation and ecosystem restoration. In Asian developing countries, the current level of investment in flood protection is estimated at USD 33.6 billion per year, which is projected to increase to USD 94.5 billion per year before 2030. This reaches USD98.4 billion per year when adaptation to climate change is included. Investment in resilience is not only business of the national government, but local governments, communities, and the private sector should share costs based on their common responsibilities. Private enterprises play an increasingly important role in water disaster countermeasures. The financial market and society are requesting private companies to disclose

the sustainability of their business in a context of climate change, contribute to SDGs and enhance their corporate social responsibility.

#### **Contribution to quality-oriented growth, including addressing poverty and inequality, should be valued and understood.**

Research institutes need to develop new approaches to evaluate the multiple benefits of reducing the risk of water-related disasters and create a reliable method for cost-benefit analysis. These benefits include poverty alleviation and ecosystem restoration. DRR should help protect the most vulnerable from disproportionate impacts. To make robust financing under deep uncertainties, it is important to establish scientific understanding, scenario-based economic analysis and a decision support framework.

### 3.3 Leverage science and technology

#### **Effective decision-making requires more accurate climate change predictions, which involve global modeling and subsequent downscaling.**

These data are then integrated into hydrological models to estimate potential change. The goal is to conduct a holistic impact assessment that identifies adaptation options, such as early warning systems, technological innovations, land use change, and contingency planning. It is crucial to quantify uncertainties to assess risks. When managed effectively, this approach allows for increased post-flood water utilization for hydropower generation. In Japan, observation data and climate change predictions are driving the

development of new river improvement plans, leading to a transformation in river basin management. The disconnection between climate and water sectors often leads to compartmentalized responses. By integrating strategies across various sectors and disciplines, we can create a more resilient and sustainable water management framework. Also, targeted early warning is crucial to bridge the gap between information dissemination, people and action that saves lives and property.

**Cutting-edge technologies are used for water resources management, DRR and CCA with the support of facilitators.**

In Japan, three-dimensional modeling is essential for understanding floodplains, which constitute only 10% of the land where densely populated and heavily developed infrastructure. This and other innovative technologies are revolutionizing river restoration: Airborne Laser Bathymetry enables detailed river basin modeling; game engines offer powerful visualization tools; also, Environmental DNA, set to be adopted after 2026, will serve as a useful indicator of 7 freshwater biodiversity. These approaches represent the forefront of ecological innovation. To implement technologies on the ground, facilitators should be trained to connect science, society, and local needs. Regarding applications, the city of Kumamoto collects data from 33 observation wells across 20 locations. These data are crucial in understanding groundwater movement and identifying optimal sites for projects like infiltration forests for groundwater

recharge. As a result, the city provides such good water to its users that it can be considered as mineral water directly from the tap.

**Smart water technology can create circular economy in urban areas.**

It showcases integrated flood protection through sewage, blending hardware with software and inter-departmental collaboration, including storm storage and pump systems, rainwater information systems, and flood hazard maps. Key technologies from Japan include sewerage pipe-jacking methods and pump gate equipment. The circular economy of wastewater management is also important. Sewage water and sludge should be regarded as resources in urban areas. In Saga City, the sludge generated from wastewater treatment plants is used as fertilizer to grow vegetables; recycling treated wastewater is also used for households, supported by artificial intelligence for operation guidance and energy efficient wastewater monitoring.

**3.4 Foster innovation and youth**

**Youth engagement leads to a societal transformation from hierarchical structures to a more inclusive approach.**

Acknowledging our awareness of both the problems and solutions, it is time to take decisive action. For instance, the award of the Kyoto World Water Grand Prize to the Youth Sanitation Concern of Indonesia reflects its efforts, which include the construction of public toilets and a public awareness campaign to instill hygiene

habits among residents. After the project's completion, facilities are managed with community members. This was done during the challenging times of the COVID-19 pandemic, showing how youth can turn difficulties into innovation.



**Automated charge collection system with mobile money for handpump**  
Source: Sunda Technology Global

**Youth engagement is increasingly crucial to resolve water issues in the dynamic landscape of water management.** There are several cases where youth participate actively in research and development activities to better manage water and biodiversity. Japan promotes intergenerational initiatives to achieve a sound water cycle. For instance, there is an initiative by the Japan International Cooperation Agency that champions youth-led initiatives and promotes inter-generational collaboration, providing innovative solutions for a sustainable water cycle. The program has garnered significant interest from participants who are eager to contribute more actively to the water sector, primarily

through volunteering opportunities. This engagement reflects a collective desire to address water-related challenges and ensure clean water access for all.

### **3.5 Incorporate sociocultural aspects in water resource management**

**Flood risk management systems must be developed in collaboration with local communities, considering the historical context that shaped society over time.**

The insights gained from such evaluations can be used to build consensus in the community. The quest for human prosperity and happiness has also been pursued through developing *minfra* by the construction of water facilities, the formation of water cultures, and the conservation of the water environment and natural ecosystems.

The case of traditional Anpachi levees constructed in the early modern period in current Gifu Prefecture, Japan, serves as a compelling example. With their distinctive circular design, these levees demonstrated superior protection for communities during the devastating floods of 1976. The effectiveness of these traditional structures highlights the importance of considering local knowledge and practices in the development of flood defenses. Moreover, the integration of modern engineering with time-tested techniques can lead to the creation of innovative solutions that are both effective and culturally sensitive.

**A cooperative and adaptive approach that integrates sociocultural aspects is essential for effective governance under socioeconomic transformation and climate change.**

This approach involves incorporating local knowledge, traditions, and customs into decision-making processes, ensuring that traditional wisdom is not only preserved but also utilized to inform adaptive responses. Community participation is crucial, as it facilitates the transfer of this valuable traditional knowledge to the next generation.

Moreover, the synergy between traditional knowledge and state-of-the-art technology can lead to more resilient and culturally informed climate change strategies. To further enhance this integration, research to understand how cultural values can be incorporated into governance structures should be encouraged.

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Edited by

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## Announcements

### ■ Information

#### ◆ Interview to FY2024 JSCE Outstanding Lifetime Contribution Awardees and International Outstanding Collaboration Awardees

▶ [https://committees.jsce.or.jp/kokusai/interview\\_FY2024](https://committees.jsce.or.jp/kokusai/interview_FY2024)

#### ◆ Invitation for Nomination of FY2025 JSCE Outstanding Lifetime Contribution Award and International Outstanding Collaboration Award

▶ [https://committees.jsce.or.jp/kouken\\_sho/node/34](https://committees.jsce.or.jp/kouken_sho/node/34)

#### ◆ Exhibition “JSCE Civil Engineering Collection 2025 – HANDS & EYES”

▶ <https://dobocolle.jsce.or.jp/2025/10/01/post-2012-2/>

#### ◆ Concrete Committee Newsletter No.75

▶ <https://www.jsce.or.jp/committee/concrete/e/newsletter/newsletter75/index.html>

#### ◆ IABSE Newsletter October 2025

▶ <https://mailwizz.mail-iabse.org/index.php/campaigns/so072ansloc6f/track-url/ce7732y72le76/899ae31e577f32c15c13503103c711f7e522ed5c>

#### ◆ ECCE 81st General Meeting Press Release

▶ [https://www.dropbox.com/scl/fi/1b3kgm20120zkt5mrcv8w/ECCE\\_Press\\_Release\\_20251021\\_81-ECCE-GM.pdf?rlkey=njodsejul95r6619yqeqlul6h&st=khis3fb9&dl=0](https://www.dropbox.com/scl/fi/1b3kgm20120zkt5mrcv8w/ECCE_Press_Release_20251021_81-ECCE-GM.pdf?rlkey=njodsejul95r6619yqeqlul6h&st=khis3fb9&dl=0)

#### ◆ IAC News No.147

▶ 日本語 : [https://committees.jsce.or.jp/kokusai/iac\\_news\\_2025\\_10](https://committees.jsce.or.jp/kokusai/iac_news_2025_10)

▶ 英語 : <https://www.jsce-int.org/pub/iacnews/147>

## ■ Call for Committees' Reports, Technical Essays, Project Briefs, Opinions and More

The JSCE International Center invites you the JSCE members to share your committee reports, technical essays, project briefs, and opinions and findings in and outside professional activities. There are no specific format or length requirements, so please feel free to send yours to the JSCE International Center.

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•Submission & Inquiries: International Activities Center (IAC),  
Japan Society of Civil Engineers : iad@jsce.or.jp  
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## ■ Reader Survey & Feedback Request

We would greatly appreciate your thoughts and feedback on this publication.

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Survey Form ▶ <https://forms.gle/3AVxpF8nPBK27Xpv8>  
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【Subscription Form】

◆Japanese: <http://committees.jsce.or.jp/kokusai/node/31>

◆English: <http://www.jsce-int.org/node/150>

## SNS & Web Resources

Learn more about the latest activities of the JSCE IAC via the following platforms:

◆JSCE Website (English): <https://www.jsce-int.org/>

◆JSCE Website (Japanese): <https://www.jsce.or.jp/>

◆International Center Website: <https://committees.jsce.or.jp/kokusai/>

◆【Facebook】 [https://www.facebook.com/JSCE.en/?locale=ja\\_JP](https://www.facebook.com/JSCE.en/?locale=ja_JP)

◆【YouTube】

[https://youtube.com/channel/UCGIs6DHrzX\\_cGDmHUrRlKA?feature=shared](https://youtube.com/channel/UCGIs6DHrzX_cGDmHUrRlKA?feature=shared)