



10th World Water Forum - Water for Shared Prosperity

JAPAN WATER FORUM

20 May 2024 - Bali, Indonesia



① Status of Early Warnings for All Initiative

The EW4All Initiative, initiated by the United Nations Secretary-General, envisions universal coverage by an Early Warning System for all people by the end of 2027. The panel fostered discussions surrounding the obstacles, opportunities, and solutions related to the implementation of the initiative in diverse geographical contexts across the globe.

KOYARI Takashi, Parliamentary Vice Minister of Land, Infrastructure, Transport and Tourism

- **Both** infrastructure and early warning systems are important to increase resilience against disasters.
- **Updated** flood hazard maps are published for citizens to be better informed of potential risks.
- **Adapted** policies consider the maximum projected impact of climate change.
- **Accurate** forecasts are important for evacuation plans that are essential for community safety.
- **Kumamoto** Initiative underscores Japan’s commitment for water security and disaster resilience.

HIROKI Kenzo, Coordinator of the High-level Experts and Leaders Panel on Water and Disasters (HELP)

- **Targeted** early warning is crucial to bridge the gap between information dissemination and action.
- **Best** practices are powerful tools to persuade decision-makers to invest in disaster risk reduction.
- **Synergy** between EW4All and the Global Water Information System (GWIS) to work in tandem.

② Community-Based Participation: Combining Innovative Technologies and Approaches with Local Wisdom

While water offers many opportunities for the shared prosperity of people and societies, too much water can lead to floods. This session focused on the initiatives taken to integrate stakeholders, combining innovative technologies and approaches with local wisdom, codeveloping actions and holistic strategies, and implementing them.

Basin-Wide Flood Reduction in Tomoe River

NAMBA Takashi, Mayor of Shizuoka City

- **Catchment-wide** flood risk management approach was implemented after 1974 floods.
- **Empathy** and social co-creation are important to achieve common goals.
- **Cooperation** between the public and private sector to install temporary storage everywhere possible.
- **Heritage** is passed on to the next generations also through a flood control museum.
- **Effective** solutions were found, as 2022 were heavier than in 1974, but damage was much less.

③ Recovery Funding to Cope with Water Crises, Water Disasters and for Climate Resilience

Developing countries face various difficulties for quick and quality recovery in the aftermath of disasters. The session looked at innovative means of recovery financing and procedures.

Disaster Recovery Finance System in Japan to Achieve Rapid Recovery of Public Infrastructure

TSUKAHARA Kenichi, Professor at Kyushu University

- **Generous** funding. Central government covers 98% of costs, as local authorities do not have the means.
- **Quick** funding to start reconstruction immediately. The next disaster may be coming soon.
- **Better** reconstruction. Funding not only for reconstruction but also to build back better.

Leveraging and Enhancing Access to International Recourses for Recovery Funding to Cope with Water Crises, Water Disasters and for Climate Resilience

WILSON Geoffrey, Senior Water Resources Specialist at the Asian Development Bank (ADB)

- **Quick** fund. The Asia Pacific Disaster Response Fund provides quick disbursing Japan-funded grants.
- **Contingent** disaster financing is a financing option under ADB’s policy-based lending policy.
- **Appropriate** instruments were developed by ADB to cover all aspects.





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1 Keynote Lecture

The Bandung Spirit Water Summit by His Majesty the Emperor of Japan

Video: www.kunaicho.go.jp

2 Nature-based solutions and ecosystem protection and restoration to improve water supply

The effective deployment of nature-based solutions and healthy water-related ecosystems are essential to ensure water and economic resilience to shocks and long-term prosperity. The session focused on showcasing the best practices and challenges for the implementation of nature-based solutions for sustainable water supply.

Ecosystem Services of Paddy Fields as Green Infrastructure

NODA Keigo, Associate Professor at the University of Tokyo

- **Multiple** benefits from paddy fields as green infrastructure: groundwater recharge, flood mitigation, desalination. No maintenance costs are required.
- **Combination** of green and grey infrastructure, such as dams and canals, is necessary to supply ecosystem services.

Seeking Ways to Improve Nature-Based Solutions in Agriculture

MATSUSHITA Kyohei, Professor at Shiga University

- **Externalities** are the mechanism through which agricultural nature-based solutions improve our welfare.
- **Additional** costs may be incurred upon by farmers to provide important external values for our well-being.
- **Payment** for ecosystem services may compensate as government support or market price premium.

3 Incorporating Sociocultural Dimensions in Water Resources Management: Policies, Practices, and Challenges

The session emphasized the need for policies and strategies that integrate sociocultural aspects into water resource management. The lessons learned underscore the importance of integrating local knowledge, traditions, and customs into water resource management approaches, promoting cooperative governance, and adapting strategies to evolving sociocultural dynamics.

Sociohydrological Development in Japan

OKI Taikan, Vice-President of the Japan Water Forum (2024 Stockholm Water Prize)

- **Evaluate** the benefits of flood management systems, in coproduction with local communities.
- **Use** the results of such evaluation to build consensus in the community.

- **Traditional** circular levees resisted better to the 1976 flood in Anpachi than modern ones.

Sustainable Water Resources Management in Asia: A Sociocultural Perspective

ISHIWATARI Mikiyo, Board Director, Japan Water Forum

- **Local** knowledge, traditions, and customs need to be integrated to incorporate sociocultural aspects.
- **Cooperative** approach is key, especially community participation.
- **Indigenous** knowledge useful to adapt to climate change with state-of-art technology.

Novel Approaches in Flood Management Policies in Japan: Integrating Sociocultural Wisdom in Climate Change Adaptation

IKEUCHI Hiroaki, Chief Official, Ministry of Land, Infrastructure, Transport and Tourism

- **New** policy of River Basin Disaster Resilience and Sustainability by All to adapt to climate change.
- **Traditional** measures are used, in addition to conventional structure measures.
- **Storage** function preservation area approach inspired by the open levee indigenous method.



4 Smart Water Management for Resilience and Inclusive Water Services

Water scarcity is a growing issue. According to several UN reports, it will directly affect nearly 20% of the human population by 2025. By 2040, roughly 1 in 4 children worldwide will be living in areas of extremely high-water stress. Smart water management systems can provide a more resilient and efficient water supply system, reducing costs and improving sustainability.

Introduction to Japanese Initiatives on Sewage Management

KUDO Makoto, Director for Overseas Projects of Water Supply and Sewerage; Ministry of Land, Infrastructure, Transport and Tourism

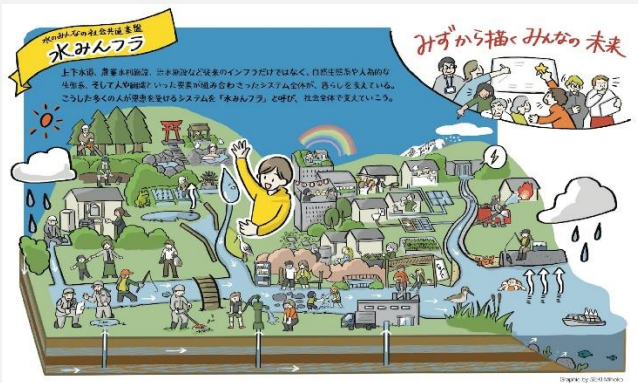
- **Comprehensive** flood control by sewerage needs to combine hardware and software.
- **Circular** economy of wastewater management. Artificial intelligence used for energy saving.
- **Cooperation** with other countries through the Asia Wastewater Management Partnership for SDG 6.3.



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① Multi-Stakeholder Approach for Reducing Disaster Risks and Embracing Climate Change Adaptation

The Yangon and Kumamoto Declarations of the Asia-Pacific Water Summits set the goal of doubling investments to address water-related disasters. However, most countries have not been able to actively invest enough in disaster risk reduction (DRR) and climate change adaptation. The session discussed how to mobilize funding sources through multistakeholder efforts to invest in disaster risk reduction and climate change adaptation.

Keynote Speech

OKI Taikan, Vice-President of the Japan Water Forum (2024 Stockholm Water Prize)

- **Water *minfra*** is a new concept for water infrastructure “of all, by all, and for all”
- **Water resources** are created by water *minfra*, while the water cycle is natural
- **Sustainability** of water *minfra* requires the collaborative development of an integrated long-term vision.

Multi-Stakeholder Approach to Share Responsibility

ISHIWATARI Mikio, Board Director, Japan Water Forum

- **Sharing** of responsibility and cost among multiple-stakeholders is key to mobilize finance for flood protection investment.
- **Japan** historically shares costs among national and local governments and local communities, while other countries rely only on national government.

② Evidence-Based Financing for Crises, Recovery, and Resilience

The Sendai Framework for Disaster Risk Reduction recognized the importance of pre-disaster investment, but there are numerous challenges to its full-scale implementation. This session engaged on this topic, with an emphasis on framing the requirements for evidence-based financing for crises, recovery, resilience and disaster risk reduction.

How Can We Promote the Contribution of Private Companies to Investment for Water Risk?

SHINYA Takafumi, Chief Researcher, International Centre for Water Hazard and Risk Management (ICCHARM)

- **Disclose** the sustainability of business under climate change
- **Turn** the cost of risk into the corporate value of resilience
- **Guide** stakeholders with cost-benefit analysis for international and interdisciplinary cooperation

The Relationship between Disaster Risk and Land Development Benefits in Central Tokyo

NAGAMI Kozo, Specially Appointed Professor, Tohoku University

- **Optimally** invest on urban development, wisely choosing the location with less hazard exposure
- **Accumulated** effects from the past investment, including in DRR, should be reflected to the land price
- **Land value capture** is proposed to enable mobilizing the private finance

③ Enhanced Funding to Cope with Water Crises, Water Disasters and for Climate Resilience

This synthesis session discussed innovative approaches to mobilizing financing sources, based on the outcomes of the four sessions:

① Recovery Funding

KOMORI Daisuke, Tohoku University

② Multi-Stakeholder Approach

ISHIWATARI Mikio, Japan Water Forum

③ Evidence-Based Financing

KAWASAKI Akiyuki, University of Tokyo

④ Mobilizing ‘Wise’ Investments

ARGYANTORO Arvi, Ministry of Public Works and Housing, Indonesia

Based on the outcomes of this session, Japan Water Forum will produce a paper entitled **Enhanced Funding to Cope with Water Crises, Water Disasters and for Climate Resilience**. The paper will include specific recommendations and a roadmap for mobilizing financing at various levels and engaging diverse stakeholders.





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① Promoting intergenerational initiatives for achieving sound water cycle

The Asia-Pacific Region faces mounting challenges related to climate change and maintaining a sound water cycle. In this dynamic landscape of water management, youth engagement is increasingly crucial. The purpose of this session was to propose implementable strategies to meaningful youth engagement in resolving water cycle problems.

Protecting Wajiro Tidal Flat: The Struggle to Save an Urban Tidal Oasis

OGISAWA Hinako & ISHIMARU Fumina, Fukuoka Institute of Technology Jyoto High School

Challenges to co-work with local water management by youth

MOMBETSU Honoka & YAMAGUCHI Yuya, Tomikawa High School

Digital Transformation and Nature-based Solution by Youth in Africa

NODA Eri, Global Environment Department, Japanese International Cooperation Agency

- **Youth-led** initiatives and intergenerational collaboration offer refined approaches for a sound water cycle.
- **Volunteering** opportunities are how most participants wish to be more engaged in the water sector

② Climate-Water-Energy-Food-Ecology System of Systems

Water, energy, and food security, underpinned by healthy ecosystems, are crucial for sustainable long-term economic growth and human wellbeing. This session promoted a new vision of water management, aiming at having an impact on the delivery of water to society, including human activities and ecosystem.

How Water is Different from Energy and Food?

OKI Taikan, Vice-President of the Japan Water Forum (2024 Stockholm Water Prize)

- **Inexpensive** cost of water should be ensured. We use a lot of water every day.
- **Virtual** water trade can supplement water for food production. Natural water scarcity can be alleviated.
- **No country** is economically challenged and water-scarce.



③ Towards a circular economy transition through safe collection, treatment and resource recovery of wastewater and fecal sludge

Despite significant progress and an increasing awareness of the importance of sanitation, the world is far from achieving the SDG 6 target of delivering sanitation for all by 2030. Wastewater treatment and reuse is important in this regard. The session aimed to share experiences and best practices about the safe collection and treatment of wastewater and fecal sludge.

Standardization of wastewater treatment systems

EBIE Yoshitaka, Chief Senior Researcher, National Institute for Environmental Studies

- **Standardization** of ① effluent standards, ② structures or performance evaluation, ③ O&M and monitoring, ④ sludge collection, treatment and disposal, ⑤ license for technicians and service providers.
- **Platform** for standardization is recommended for industry-academia-government collaboration
- **Join** the Water Environment Partnership in Asia, established by Japan's Ministry of Environment in 2004.

Panel Discussion

NISHI Shi, Ministry of Land, Infrastructure, Transport and Tourism

- **Decision** to reuse more than 70% of treated fecal sludge as fertilizer, for construction or other products.
- **Safety** is essential, as many people wrongly believe that sludge contains heavy metals or bad chemicals.
- **Information** needs to be made available for everyone can make up their minds about the safety of reuse.

③ Science-based policy to make DRR actionable from local to global

Water is closely linked to food and energy, and this water-food-energy nexus underpins the critical dimensions comprising the quality of life. This session aimed to integrate knowledge across disciplines, create frameworks that link cutting-edge science and technology with individual actions, and develop human resources to drive these efforts forward.

KOIKE Toshio, Executive Director of ICHARM

- **Holistic** impact assessment of climate change is necessary to identify adaptation options
- **Japan** developed new river improvement plans from observation data and climate change prediction

NAKAMURA Keigo, Public Works Research Institute

- **Ecological** flood control through wetland restoration, including excavation for flood management
- **Novel** technologies: airborne laser bathymetry, Visualization with game engine, environmental DNA

KAWASAKI Akiyuki, University of Tokyo

- **Vicious** cycle of poverty and widening inequality has been accelerated by flood disasters
- **Secondary** benefits of disaster risk reduction are 2-to-5 times higher than those of primary benefit



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① Optimizing the finance, governance, capacity building and institutional arrangements

In recent years, extreme phenomena caused by global warming and climate change have become more prominent, and damage from floods and droughts has become more severe and frequent. This session shared case studies of initiatives around the world. Specialists from various fields discussed keys to optimize finance, governance, capacity building and institutional arrangements.

Opening remarks

KOIKE Toshio, Executive Director of International Centre for Water Hazard and Risk Management (ICCHARM)

- **Coordinated** and integrated efforts for working together are necessary.
- **Water cycle** links the climate system and the water resources management system.

Observation data and effective groundwater preservation efforts using scientific techniques

ONISHI Kazufumi, Mayor of Kumamoto City

- **Observation** wells produced the data necessary to understand and visualize the flow of groundwater.
- **Projects** were identified thanks to the map to reduce exposure to disaster and increase resilience.

HIROKI Kenzo, Coordinator of the High-level Experts and Leaders Panel on Water and Disasters (HELP)

- **Water cycle** is the missing link to connect water and climate and present comprehensive solutions.
- **Blue bonds** can be a solution to attract financing as disaster risk reduction is only financed by taxes.

② Mobilizing “wise” investments to address the water crisis

There is urgent and immediate need for new, additional, predictable and adequate financial resources to assist developing countries that are particularly vulnerable to the adverse effects of climate change in responding to economic and non-economic loss and damage associated with the adverse effects of climate change. This session will consider new channels for multilateral finance and synergies with existing ones to build climate change resilience.

Shift to risk management-based water resources policy in Japan

OKAZUMI Toshio, Consultant, Token

- **Careful** and patient preparation is needed for water resources management plans to deal uncertainty.
- **Calm and fair** response is expected in actual crisis from the manager based on the plan.

Investment for resilience and reducing poverty through flood control

KAWASAKI Akiyuki, University of Tokyo

- **Vicious** cycle of poverty and widening inequality is accelerated by flood disasters.
- **Secondary** benefits of investment is up to 2-5 times higher than the primary benefit.
- **Conventional** practices of investment in disaster risk reduction have overlooked large amount of benefit.

③ Sustainable water finance synthesis session

This session brought together a diverse array of sub-topics, organizations, and approaches. It aimed at bringing together the learnings, opportunities, and outcomes from across this theme, and to consider where next for upcoming events, such as the G20 conference and the UN 2026 Water Conference.

Enhanced funding to cope with water crises, water disasters and for climate resilience

ISHIWATARI Mikio, Board Director, Japan Water Forum

- **Investment** in water-related disasters in Asia has been estimated
- **Multiple** measures and their various benefits have been measured
- **New** policy paper will be prepared to build on the outputs of these sessions

Reimagining collective action

ISHII Satoshi, Director of the Strategy and Partnerships Team, Water and Urban Development Sectors Group, Asian Development Bank

- **Collaboration** should come more to the front. The boundary of the water sector has been expanding.
- **Competition** is predominant among financiers, who are more interested in placing their products.
- **Reimagine** how the financial sector can work better together beyond project-based transactions.

