# Contribution by Japan to the concept paper on the theme (3) Water for Climate, Resilience and Environment 2023 UN Water Conference

## I. Introduction

- Water, an indispensable natural resource, can threaten human life and the quality of life. Water connects with various social issues such as climate change, disasters, ecosystems, public health, and poverty.
- In recent years, water-related disasters have occurred frequently around the world. The frequency and intensity of heavy rains are increasing in many places. Heavy rains are falling in areas where it rarely rains. Glaciers are melting due to rising temperatures, causing large-scale flooding. Sea levels are rising and bringing about more damage from storm surges. Furthermore, the COVID-19 pandemic has hindered response to water-related disasters and the conservation of ecosystems.
- Recovery from the pandemic requires transformation into quality-oriented societies that are resilient, sustainable, and inclusive. This can be achieved by strengthening action for water sustainability. This transformation should proceed through multi-stakeholder partnership with open, transparent, participatory, and collaborative processes. 1
- Specifically, resilience involves efforts to reduce water-related disaster risk on a cross-sectoral, whole-of-river basin and aquifer basis. Sustainability involves placing water at the center of the political agenda, promoting climate change mitigation measures while utilizing low-emission energy sources in conjunction with adaptation measures and strategies for disaster risk reduction and infrastructure development.. Sustainability will also promote green infrastructure that can provide mitigation and adaptation benefits for achieving carbon-neutral societies in harmony with nature and biodiversity conservation. Inclusiveness will encourage every party concerned in both public and private sectors to be involved and closely cooperate in activities to address water-related issues towards a quality-oriented society.
- There is an urgent need for specific action items followed by collaboration among stakeholders to realize the quality-oriented social transformation.  $^2$ <sub>o</sub>

## II. Overview of the challenge, current status and interlinkages

• Water-related disasters have intensified owing to climate change. Nine out of 10 disasters triggered by natural hazards during the past decade were related to water<sup>3</sup>. Water-related disaster deaths have more than doubled in the past 10 years. Over 90 per cent of disaster-affected people were affected by water-related disasters that also accounted for nearly 95 per cent of infrastructure loss and damage<sup>4</sup>. There is a close nexus between the climate emergency and water-related disasters.

<sup>&</sup>lt;sup>1</sup> See the Kumamoto Declaration.

<sup>&</sup>lt;sup>2</sup> See the Chair's Summary of the 4th Asia-Pacific Water Summit.

<sup>&</sup>lt;sup>3</sup> See UN News, "Water-related hazards dominate list of 10 most destructive disasters", 23 July 2021. Available at https://news.un.org/en/story/2021/07/1096302.

<sup>&</sup>lt;sup>4</sup> See Sendai Framework Monitor. Available at https://sendaimonitor.undrr.org/.

Floods, droughts and storms have caused most of the human and economic impact of all disasters combined. Furthermore, over 733 million, or 10 per cent, of the global population reside in countries with high or critical levels of water stress<sup>5</sup>.

• The United Nations World Water Development Report 2020: Water and Climate Change estimates that 74 per cent of all-natural disasters between 2001 and 2018 were water related. Furthermore, during this period the total number of deaths caused just by floods and droughts exceeded 166,000, affected over three billion people and caused almost \$700 billion in economic damage<sup>6</sup>.

# III. Overview of opportunities for progress and transformative solutions

### 1. Financing

• Given the off-track status of SDGs, drastically increase total investment in the water sector. Direct and indirect benefit of water investment should be numerically articulated to convince finance institutions and taxpayers and attract investors by developing and standardizing the analytic method for this purpose. Specific recommendations include: encourage cost sharing and pooled resources, support water security actions from multiple funding sources, and ensure that investment and management of water-related infrastructure and technologies are designed to be multi-purpose.

#### 2. Data and information

- We cannot improve what we cannot measure. The collection, archiving, and sharing of water data and information, including those of water risks, should be promoted through establishing appropriate frameworks and organizations, as well as prioritized investment. Transboundary information sharing is particularly important. Building global observatories should be supported by the Region..
- As the Chair's Summary of the 4th Asia-Pacific Water Summit states on science and technology, the key is to see the role of science and technology as the "game changer" in building resilience toward the post-pandemic society.
  - Excerpts from the Chair's Summary of the 4th Asia-Pacific Water Summit:
  - Water can broadly contribute to global socio-economic advancement by helping building peace and regional stability. For this purpose, enhance the leaders' awareness that cooperation on water, particularly on water emergencies, such as disasters, can be an agent for peace and promote effective actions; promote the use of "Principles to Foster Peace before, during, and after Water-related Disasters" which was launched at the APWS; use traditional technologies

<sup>&</sup>lt;sup>5</sup> See UN-Water, Summary Progress Update 2021: SDG 6 – Water and Sanitation for All, July 2021. Available at www.unwater.org/app/uploads/2021/12/SDG-6-Summary-Progress-Update-2021 Version-July-2021a.pdf.

<sup>&</sup>lt;sup>6</sup> See United Nations Educational, Scientific and Cultural Organization (Paris, 2020). Available at https://unesdoc.unesco.org/ark:/48223/pf0000372985.locale=en.

- such as cylindrical water distributers and a locally nurtured culture of peacefully sharing water in society.
- Here, science and technology plays a critical role. For this: Position science and technology as "a game changer" towards a fully resilient post-corona society through three actions: Promote water cycle consilience by accelerating the Open Science policy, particularly focusing on observation, modeling and data integration; Foster "Facilitators," that is, catalytic beings who can lead the way toward resolving problems by providing professional advice on-site using a broad range of scientific and indigenous knowledge; and Work together beyond disciplines and sectors among different levels while taking an end-to-end approach.
- Slow-onset changes should be given special attention. Yearly and seasonal hydrological patterns and those of water demand are changing quickly due to climate change and other socioeconomic changes. Those changes should be addressed by adaptive policies, as well as resilient and green infrastructure. Demand management of water should be given higher attention.
- Countermeasures for water-related disasters should build on the specification of the location of risks, numerical evaluation of the risks, and mapping of the risks. The numerical risk simulation will be particularly essential, as climate change is causing heavy rains in areas where it rarely rains while increasing the frequency of record-breaking heavy rains in other areas.
- The numerical risk simulation will require inputting precipitation data, terrain elevation data, land use data, river discharge data, and so on. Much of those data are now available inexpensively from satellite observations with increased data accuracy, in contrast with data from traditional expensive ground-based observations.
- However, the numerical risk simulation will not run only with satellite observation data. The input of some ground-based observation data will still be necessary. And the operation will require know-how in terms of technical adjustment and data adjustment. Japan is proceeding to launch a flood risk mapping projects using satellite observation data in cooperation with relevant domestic and foreign organizations. The purpose is to help countries with severe river flooding to map flood damage risks and to provide such countries with the hands-on training necessary for the mapping.

# 3. Capacity development

- If a donor country only provides manuals or pushes its ways of doing to a target country, capacity development will not work out. Capacity development, in this case, should start with consideration of the culture and characteristics of the target country or organization, followed by a collaboration between tech people from the donor country and tech people from the target country in tackling the challenge together.
- · Japan has provided this approach, through Japan International Cooperation Agency (JICA), for

many years to its capacity development projects in target countries. For example, with this approach, it took only 15 years for Japan to help Cambodia improve its water supply condition from the worst level right after the civil war to the same level as Japan. This success is known as the "Miracle of Phnom Penh."

• With the continued application of this approach, Japan is willing to contribute to capacity development in countries that need solutions.

#### 4. Innovation

- Depending on the combination of technologies, preventive measures for water-related disasters can double as climate change mitigation measures. Combining adaptation and mitigation measures into one project is likely to facilitate more efficient funding than focusing only on adaptation or only on mitigation. Examples of such combinations are as follows.
  - (1) Dam improvement projects (power generation dams, water utilization dams, and multipurpose dams) can be as follows. While an existing dam operates, works of dam height raising and discharge facility reinforcement proceed as a mitigation measure. At the same time, the dam receives a flood control system supported by observation and prediction technologies as an adaptation measure.
- (2) Sewer canal improvement projects can consist of works for stormwater drainage to reduce inland flooding and those for sludge disposal with a view to biomass power generation.
- (3) Coastal forest improvement projects, wetland improvement projects, and forest improvement projects are part of ecosystem-based disaster risk reduction. They can contribute to adaptation, mitigation, and ecosystem conservation.

## 5. Governance

- Creating trans-sectoral, stakeholder-inclusive and fully transparent governance is key. The
  concept of valuing water should be embedded in the minds and actions of all stakeholders to
  promote behavioral change and facilitate holistic collaboration by all.
- Encouraging engagement and enhancing inclusiveness will require the legal definition of and governmental support for collaboration among stakeholders. In Japan, the Basic Act on Water Cycle was enacted for comprehensive and integrative management of the water cycle and the Headquarters for Water-Cycle Policy, chaired by the Prime Minister, with all other ministers of state, was established. The law stipulates the Basic Plan on Water Cycle. The plan emphasizes the deployment of river basin management which encourages collaboration among multistakeholders such as governments, public institutions, experts, business operators, organizations, and residents. Another law has defined the legal position to the river basin council which consit of all the stakeholders to discuss flood prevention mesures and its linkage between the council and the national flood control plan.

### IV. Recommendations

- Water-related resilience and sound ecosystems will build on a considerable amount of investment and the implementation of individual, specific projects. From this perspective, governments will be much more likely to be the principal investor than private entities because it is the society that will enjoy the benefits of water-related resilience and sound ecosystems and because few projects will directly bring about monetary profits.
- Therefore, using ideas presented in Section III, the member states of should take the effort to foster awareness of the need for investment in water resilience and sound ecosystems among high-level officials of each country, media, and taxpayers.
- For countries and regions with low financial resources, active financial support should grow from developed nations and international institutions. Japan has already set a contribution, in line with its ideas for Section III, at the 4th Asia-Pacific Water Summit by announcing the Kumamoto Initiative for Water, Japan's commitment to providing 500 billion yen-worth financial support over the next five years.
- Many countries and international organizations have announced initiatives and action plans to achieve the goals of the Water Action Decade, but in order to achieve these goals, it is important to continue actions to realize these initiatives and plans for years until the target of 2028. The "Kumamoto Initiative for Water" committed continued financial support for the next five years, and ensures good collaboration with various relevant institutions in Japan. This is a continuing contribution to the Water Action Agenda.
- Furthermore, Japan has already shared the idea of the Kumamoto Initiative for Water with several countries and international organizations, and is planning several joint projects in collaboration with them, with the aim of realizing the Kumamoto Initiative for Water not only a Japanese but also a global initiative. Through this move, we encourage non-Japanese entities to implement initiatives based on the idea of the Kumamoto Initiative for Water all over the world and to continue their efforts until the target year of 2028 and beyond. Japan's efforts to expand these initiatives beyond Japan are also a significant contribution to the Water Action Agenda.
- To encourage the international community to continue their actions for 2028 and beyond, member states should encourage discussions in this dialogue to be shared and continue to be a key agenda in future international processes.
- At the COP27, Japan announced its comprehensive contributions to reduce the risk of climate disasters including heavy rain and flood as the "Assistance Package by the Government of Japan for averting, minimizing and addressing Loss and Damage." This package includes the launch of a new initiative to promote the development of early warning systems in the Asia-Pacific region through public-private partnerships. The Government of Japan continues to provide comprehensive assistance for losses and damages including climate disaster in cooperation with the international community.)

# V. Guiding Questions

- What actions can governments take to increase their budget allocation for water-related disaster prevention, given that there are many other critical investment choices?
- When both public and private financing are available for a project of water-related disaster prevention, how can the investors from the private sector benefit from the project?
- What incentives can be effective for stakeholders to keep their committed involvement in the collaboration?
- What forms should the visualization of the effects of water-related disaster prevention projects take so that taxpayers will understand the importance of continued investment in water-related disaster prevention?
- · What actions should governments take to popularize efforts of water-related disaster prevention such as "Build Back Better," with a view to the mainstreaming of water-related disaster prevention?