

Shiga Declaration

(The 20th INWEPF Steering Meeting and Symposium)



November 13, 2025, Otsu City, Shiga, Japan

[Significance]

- This meeting was held in Otsu City, Shiga Prefecture, where the idea for establishing INWEPF first took shape. While reflecting on nearly 20 years since its foundation, participants deepened their common understanding of the priority areas in the INWEPF 7th Phase Strategy, considering the increasing importance of climate change measures and the evolving socio-economic context.
- This Declaration, as the outcome of the milestone 20th meeting, serves as a guideline for future efforts toward the 7th Phase Themes “More resilient, sustainable, and productive paddy farming”, and is also recognized as an important message toward the 11th World Water Forum.

[Recognition]

(Changing Global Situation)

- With the growth of the global population driving higher food demand, the frequency of extreme weather events caused by climate change, combined with rising geopolitical risks, has destabilized global food production and supply. In the long term, tightening food supply and demand is anticipated.
- Amid growing global awareness of sustainability, as reflected in efforts toward achieving the Sustainable Development Goals (SDGs) and net-zero emissions by 2050, agriculture and the food industry are increasingly expected to adopt sustainable practice to address issues related to particularly those affecting the natural environment and biodiversity.
- Since the establishment of INWEPF in 2004, various issues have arisen that require attention, such as i) the decline in rural populations and farmers and partly reduced cultivation area due to urbanization and migration to urban areas, ii) the intensification and frequent occurrence of abnormal disasters due to climate change, and iii) the aging of irrigation and drainage facilities.

(Paddy Irrigation Characteristics)

- For over a millennium, paddy fields have served as the foundation for rice production, which has a high population-supporting capacity. Beyond food production, the continued practice of paddy agriculture has also provided ecosystem services as green infrastructure, including flood control, groundwater recharge, and biodiversity conservation.
- Furthermore, paddy irrigation has unique characteristics where renewable surface water is used

in a hydrological cycle from upstream to downstream and partly infiltrates the ground to recharge groundwater before returning to rivers for reuse. This natural process clearly differs from upland irrigation system.

[Lessons Learned]

We recognize the importance of following items.

- Promoting initiatives to enhance productivity and sustainability throughout the entire value chain and achieving sustainable food supply across agriculture, forestry, and fisheries to ensure food security.
- Amid increasing uncertainty in water supply due to climate change impacts, promoting adaptation measures such as modernizing irrigation and drainage systems, optimizing the use of existing infrastructure, and strengthening awareness on the importance of River Catchment through Integrated Water Resources Management (IWRM) must be intensified. At the same time, mitigation efforts should focus on reducing greenhouse gas emissions through practices such as promoting intermittent irrigation.
- Promoting efforts to develop, maintain and manage paddy field and irrigation and drainage facilities with the recognition of the differences in water value and water use characteristics between humid and arid regions and the ecosystem services of paddy field agriculture in addition to the water-use efficiency and water productivity. Fostering awareness regarding the water-energy-food nexus in paddy field agriculture.

[Priority Activities]

(Strengthening Multi-functionality and Food Value Chain)

- In the face of increasing uncertainty in food supply due to population growth and economic development, we promote initiatives to enhance productivity and sustainability across the entire value chain, from production to consumption, in order to ensure food security.
- In order to secure sustainable food supply across agriculture, forestry and fisheries, we recognize the importance of not only agriculture but also forestry for watershed conservation, fisheries utilizing paddy fields and lakes, and river catchment through integrated water resources management.
- We raise broad awareness of the importance of paddy agriculture for food security and highlight the significance of its ecosystem services including its role in water management, biodiversity conservation, and climate resilience.

(Modernizing Irrigation System in Response to Climate Change)

- With increasing uncertainty of water supply due to climate change, we aim to secure and manage sustainable water sources including groundwater, modernize irrigation and drainage systems, and optimize the use of existing infrastructure through asset management. We recognize the importance of developing irrigation systems resilient to climate change through enhancing “River Basin Disaster Resilience and Sustainability by all” including flood control

by securing storage capacity through pre-flood release of reservoir water, improving drainage facilities, and implementing measures such as small dams in paddy field.

- Recognizing that paddy fields are sources of methane, we promote actions to reduce greenhouse gas emissions through introducing advanced technologies such as alternate wetting and drying (AWD) with proper water management using ICT technologies and introducing renewable energy such as small hydropower using irrigation facilities, toward carbon crediting.
- We highlight the critical role of irrigation systems in paddy agriculture under climate change, as well as the importance of maintaining, upgrading and managing these systems through strong institutional frameworks, innovative financing mechanism, and active community engagement.

(Improving Water Use Efficiency and Water Productivity)

- Considering the rising demand for domestic and industrial water, we pursue the efficient use of agricultural water through integrated water resources management, water-saving agriculture practices, alternative and innovative irrigation methods such as micro drip and sprinkler, precision farming technologies, and the development and proper maintenance of irrigation and drainage facilities supported by digital technologies and data-driven monitoring.
- However, in humid regions where paddy agriculture is prevalent, annual precipitation is higher and water resources are abundant compared to arid regions. Therefore, when river water level is normal, the shadow price of water remains low, making it more feasible to use for reducing labor and infrastructure costs.
- As mentioned earlier, paddy agriculture has characteristics that offer multiple benefits, including flood control, groundwater recharge and biodiversity conservation, and it also enables water reuse downstream.
- We promote and incentivize initiatives to highlight the importance of properly developing, maintaining and managing paddy field and irrigation and drainage infrastructures with the recognition of these characteristics in addition to the water-use efficiency and water productivity through strengthened institutional frameworks and active community participation.
- Furthermore, given the interlinkages among water, energy and food, we advance discussions on the water–energy–food nexus in paddy agriculture to ensure sustainable use and management of limited resources.

With this Declaration, we — the INWEPF members, composed of 19 member countries and 3 international organizations including FAO, IWMI, and MRC — pledge to pass on the value and role of paddy agriculture to future generations and to contribute to the realization of a sustainable society, in close collaboration with related organizations.