

PARTNERSHIPS FOR IMPACT SERIES

K-WATER AND K-WATER ACADEMY





The KGGTF is more than just a trust fund; it is a facilitator that helps World Bank teams find the knowledge, information, and technology solutions they and their clients need to achieve their sustainable development goals. Over the past decade, we have supported a wide range of partnerships. This series highlights how these partnerships typically work and how they support countries implementing green growth solutions.

How the WBG Korea Green Growth Trust Fund (KGGTF) Collaborates with Korean Partners:

The KGGTF supports World Bank teams and clients by facilitating introductions to Korean institutions and organizations that provide expertise in green growth policies, technologies, and solutions. KGGTF supports Knowledge Exchange study trips, offering leaders invaluable insights into Korea's successful green growth practices. Additionally, the annual Korea Green Innovation Days (KGID) brings together global practitioners to discuss and share strategies for implementing these advanced policies and technologies.



WHO THEY ARE?

K-water, a key partner of KGGTF in the water sector, is South Korea's leading public enterprise for water resource management, overseeing water supply, hydroelectric power generation, and flood control. K-water Academy (Human Resources Development Institute) provides training and expertise in water management technologies. For over a decade, K-water has partnered with the World Bank, working on solutions to urgent water challenges and building capacity in client countries.

Their expertise in water management, renewable energy, and real-time water quality monitoring is vital to global cities and regions. Through this partnership, K-water has significantly contributed to addressing complex water issues worldwide hydroelectric power generation, and flood control. K-water Academy is an educational institution operated by K-water, offering training and expertise in water management and related technologies.

To address water-related issues in developing countries, K-water Academy's primary strategy is to utilize its expertise in water management to assist the resolution of global water problems and achieve the Sustainable Development Goals (SDGs). The academy has been conducting international education programs for over 5,000

individuals from over 100 countries since 1997, with a particular emphasis on the exchange of knowledge in water management. It has also expanded its role by providing "Water Education Consulting" services in partnership with multilateral development banks, recognizing the significance of cultivating local water management experts.

In 2022, the academy broadened its initiatives by conducting 22 educational programs for 405 participants, organizing alumni seminars, and offering consulting services for the establishment of a water education center in Uzbekistan in collaboration with the World Bank. The objective of this comprehensive approach is to address intricate water issues and insufficient water facilities, thereby enhancing global water security and resilience.

INTERVIEW WITH K-WATER

What are K-water's project goals when engaging in international cooperation projects?

The goal is to build capacity and long-term strategic plans, enabling developing countries to cultivate water management experts and strengthen their educational systems.

Why does K-water engage in international cooperation projects?

To effectively and timely respond to water-related issues such as frequent floods and droughts due to climate change, as well as shortages of water supply facilities caused by population growth and urbanization, it is crucial to cultivate water experts in developing countries.

Why do you actively work with World Bank teams and other partners?

K-water leverages its expertise in water management, and collaboration with development banks like the World Bank accelerates its global mission for sustainable development. Partnering with WBG KGGTF, known for connecting Korean expertise with global clients, has been instrumental in advancing our efforts.

Collaboration Creates Impact

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Watch KGGTF Interview videos to learn more about K-water Case Studies.



KGGTF Interview: K-water Vice President & CLO (Chief of Learning Officer), Jong Myung Cha

Discover how K-water Academy is sharing innovative water management solutions with countries around the globe. Learn about their efforts to address global water challenges and promote sustainable practices worldwide.



KGGTF Interview: World Bank Senior Water Supply and Sanitation Specialist, Odete Muximpua

Discover how Uzbekistan is building a comprehensive water management system and the unexpected yet valuable outcomes that emerged during the planning process for the future.

AREAS OF COLLABORATION

K-water works with the World Bank and client countries in the following areas:

Water Resources & Safety Management

- Water Disaster Prevention
- Water Resources Infrastructure Development
- Integrated Water Resources Management (IWRM)

Water Supply Management

- Stable Water Supply
- High Quality Tap Water Services

Water-Specialized Services

- Water Energy
- Waterfront City
- Smart Water Management & Digitalization

HOW THEY COLLABORATE

1

Knowledge Sharing and Capacity Building

Knowledge Exchange Programs

K-water acts as the main partner when grant teams come to Korea for knowledge exchange programs. They coordinate with various Korean institutions, ministries, and companies related to water resources and the environment to ensure that the grant teams and clients can see and learn from relevant examples that match their specific situations.

At K-water Academy Campus: International training facilities offer multi-week training programs.

Capacity building: Beyond knowledge exchange, K-water can offer ongoing capacity building programs that include both in-country training and remote support for countries looking to build their water resources teams' technical capabilities.

- 19 course modules were created for Uzbekistan, and similar efforts are underway for Uganda.

2

Research and Customized Solutions

K-water offers tailored research and innovative solutions to address water-related challenges.

- **Technical Solutions:** Implementation of advanced technologies such as real-time water quality monitoring and flood control systems.
- **Policy Development and Advice:** Assistance in crafting sustainable water management policies customized for the client countries.
- **Action Plans and Strategies:** Development of comprehensive plans that lead to World Bank lending and financing.





Establishing a Water Academy for Uzbekistan

Uzbekistan’s water supply and sanitation (WSS) infrastructure, primarily built between the 1960s and 1980s, urgently needs rehabilitation. To address these issues, K-water, in collaboration with the World Bank team, supported the Uzbekistan government by:

- Developing the foundational concept for the Water Academy.
 - Providing specialized training for trainers in water management.
 - Facilitating partnerships between national and international higher education institutions.
 - Outlining 69 training modules under 4 categories
 - Planning and Construction of WSS facilities (13 modules)
 - WSS process operation (26 modules)
 - Facility and equipment (16 modules)
 - Business management and administration (14 modules)
- * 19 sample training materials provided in the Uzbek language

“Partnering with K-water brought invaluable expertise to the Uzbekistan government to develop the Water Academy and enhance water management education in Water Supply and Sanitation. Their support in creating 19 customized courses and facilitating global academic partnerships ensures that Uzbekistan’s water management professionals are well-equipped with cutting-edge knowledge and skills.”

Shavkat Rakhmatullae | Water Resources Management Specialist, World Bank



19 Sample Training Materials

1. Korea’s water supply and sanitation policy (including tariff)
2. Source Water Management
3. Drinking Water Treatment Processes
4. Machinery O&M in WTPs
5. Electrical Facility O&M in WTPs
6. Technical Diagnosis of Water Treatment Process
7. Wastewater Treatment and Water Reuse (“One Water”)
8. Case Study of Asan WWTP (combined with 1 hour study visit)
9. Process Control and Monitoring in WTPs
10. Introduction of Programmable Logic Controller (combined with hands-on practice)
11. Intr. of Software-based control system (combined with hands-on practice)
12. Water quality monitoring and lab. management (combined with hands-on practice)
13. Leakage Management Practice
14. Water Supply Management using ARC GIS
15. Water Supply Management (DMA operation)
16. Water Supply Management using ICTs
17. Customer Service and Grievance Management
18. National Long-term Framework Plan for Water Supply
19. Climate Resilience and Energy management

“Hopefully we can, in next few years, have a cohort of passionate, trained sector professionals who can lead the sector moving forward.”

Odete Muximpua | Senior Water Supply and Sanitation Specialist, World Bank

COLLABORATION HIGHLIGHTS



Lake Victoria Clean Water Initiative: Inclusive Sanitation for Sustainable Development

Knowledge Exchange and Capacity Building:

- A delegation of senior officials from Uganda, Kenya and Tanzania’s sanitation related agencies, Lake Victoria Basin Commission (LVBC) and the East African Community (EAC) participated in a trip to Korea gaining knowledge in lake water quality management, stakeholder engagement, and policy strategies. Participants learned about innovative approaches and best practices.
- Key topics included sewage treatment, reuse technologies, water quality modeling, IT, utility turnaround, new monitoring solutions, technology development and promotion programs for SMEs, among others.

Training Courses:

- Offered for policy managers and practitioners, allowing participants to benchmark Korea’s lake water quality management challenges and national policies the courses provided a number of tools and inspiration needed to respond effectively to the deteriorating water quality in the Lake Victoria Basin.
- Visits to various facilities, including the Asan New City Sewage Treatment & Reuse Center, gaining insights into advanced sewage treatment and reuse technologies and to the Chenggye Stream Restoration Project at Chenggyecheon Museum exemplified successful environmental restoration efforts.

Research and Customized Solutions:

- Knowledge gained through exchange visit to K-water supported the World Bank team in drafting key planning concepts, knowledge and inspiration for the Lake Victoria region.
- Strategies and guides ensured a comprehensive approach to sanitation by integrating innovative technologies and strategic actions tailored to the needs of Lake Victoria.

Strategic Plans and Guides:

Under this initiative the following was created:

- Lake Victoria Basin Lakewide Inclusive Sanitation Strategy
- Sanitation Technology Guide
- Sanitation Strategic Action Plans for Entebbe, Mwanza, Homa Bay
- Opportunities and Challenges for Promoting Private Sector Engagement and Job Creation in Sanitation
- Rapid sanitation situational analyses conducted in 57 urban settlements across Kenya, Uganda, Tanzania, Burundi, and Rwanda
- Work Earth Observation (EO) and remote sensing tools for water quality monitoring
- Develop a Climate Finance Landscape paper considering mitigation and adaptation opportunities

The strategic plans and technical studies provided essential analysis and a comprehensive blueprint, which were crucial for securing the **\$30 million in lending.**

“Partnering with K-water has significantly advanced the Lake Victoria Clean Water Initiative by providing critical insights into lake water quality management, policy strategies, and innovative sanitation solutions. Their expertise in sewage treatment, water quality modeling, and stakeholder engagement has equipped us with the tools and knowledge to develop comprehensive, tailored strategies for sustainable sanitation and development in the region.”

Shyam KC, Sr. Water Resources Mgmt. Specialist, World Bank

Learn more about

Protecting Lake Victoria for a green, resilient, and inclusive future
This lake in Africa is of vital importance for the whole of Africa





Angola: Drought Resilience Solutions

- Since 2013, Angola’s southern region has experienced its most severe drought in over three decades, affecting more than three-quarters of the population. Knowledge Exchange with K-water supported Angola in:
- Storage investments and storage management for water resource management
- Institutional structure in the water sector and human capacity development.
- Enhancing water resource knowledge for investment planning.
- Targeting nature-based solutions (NBSs) to complement water availability.
- Municipal-level planning for water security and drought.

Research and Customized Solutions:

K-water’s research guided the “Water Security and Drought Resilience in the South of Angola” report, shaping the design of the Climate Resilience and Water Security Project (RECLIMA). This project, developed by the Angolan Government and the World Bank and approved on March 30, 2022, totaled \$450 million, including \$300 million in World Bank lending and an additional \$150 million in external financing.

“Partnering with K-water has been invaluable for Angola in addressing its severe drought crisis and preparing for the future. Their expertise has enabled us to enhance rural water storage management, strengthen institutional mandates, and implement nature-based solutions to improve water security and resilience. This collaboration is pivotal for transforming our approach to water resource planning and drought mitigation.”

Aleix Serrat Capdevila, Senior Water Resources Specialist | World Bank



Conclusion

The collaboration between the KGGTF, K-water, and other Korean partners exemplifies a successful model of international cooperation, knowledge exchange, and capacity building. By leveraging Korea’s expertise in water management and green growth, the KGGTF continues to support sustainable development initiatives worldwide, ensuring a better future for all.

Collaborations with the World Bank

Year Project Period

- 2020 Strengthening Capacity in Climate Resilience for Water Infrastructure Development in Uganda (KGGTF) '20.2 – '21.3
- 2022 Capacity Building and Water Academy-Uzbekistan (KGGTF) '22.5 – '24.8
- 2022 Uganda Policy Manager Training Program '22.10
- 2023 Lake Victoria Clean Water Initiative: Inclusive Sanitation for Sustainable Development (KGGTF) '23.5
- 2024 Asia-Pacific region water technology digitalization knowledge exchange agreement '24.5

Additional Resources

[Protecting Lake Victoria for a Green, Resilient, and Inclusive Future](#)

[This Lake in Africa Is of Vital Importance for the Whole of Africa](#)

[K-water PR Video](#)

[K-water Work Scope - Services](#)

[K-water Academy PR Video](#)

[K-water Academy Overview & Educational Features](#)



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