

IWRA and SWM

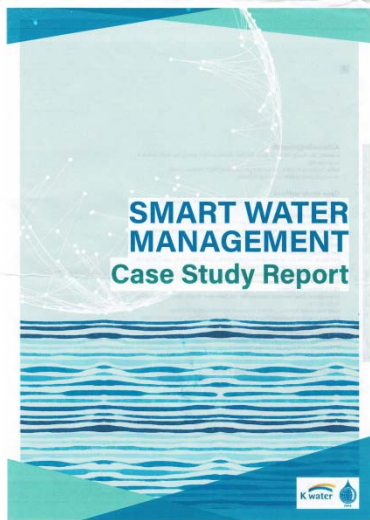
James E. Nickum

IWRA Smart Water Management webinar

25 September 2019

IWRA-K-Water collaboration on case study report

K-Water = Korean Water Resources
Corporation



- Republic of Korea 韩国 has championed Smart Water Management since 2008
- Korea is a leader and model in clearly integrating SWM into its policies and infrastructure significantly more than most countries.
- Last year, IWRA produced a 500-page report of case studies in SWM
- This report discusses the opportunities, challenges and lessons learned from 10 diverse in-depth studies of applied SWM and 9 short cases of upcoming and potential SWM projects.

www.iwra.org/swm-2

What is Smart Water Management?

- The application of information and communication technology (ICT) to provide real-time, automated, often integrated data to address water challenges through Integrated Water Resources Management (IWRM). (K-Water report)

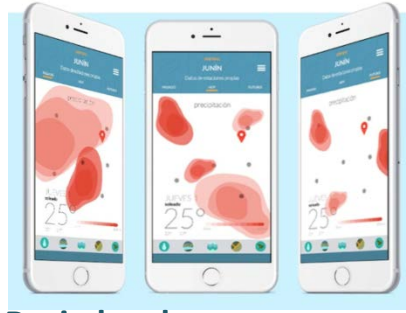
Smart Water Management Project



Household



City

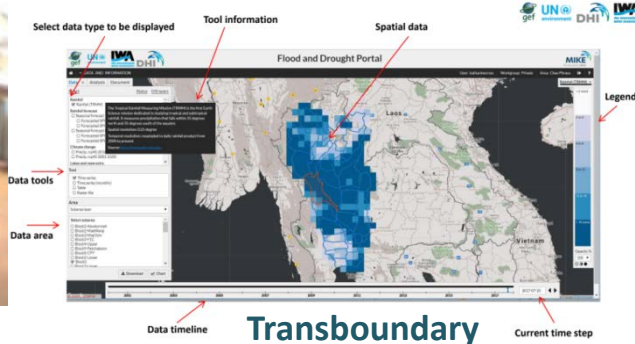


Basin level

- 10 case studies
- 9 upcoming projects
- 29 countries
- Over 40 organisations



National

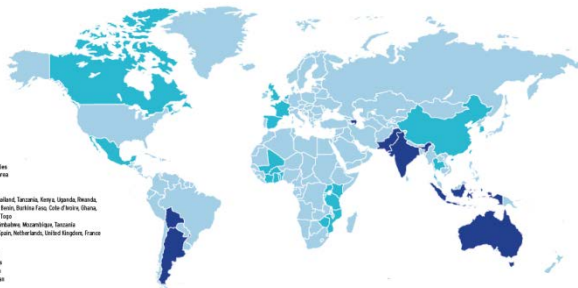


Transboundary



Rural

- Case studies
 - South Korea
 - France
 - China
 - VDM: Thailand, Tanzania, Kenya, Uganda, Rwanda, Burundi, Kenya, Burkina Faso, Côte d'Ivoire, Ghana, Mali and Togo
 - AEM: Zimbabwe, Mozambique, Tanzania
 - SMI: Spain, Netherlands, United Kingdom, France
 - Mexico
 - Canada
- Test basins
 - Australia
 - Netherlands
 - India
 - Pakistan
 - Bolivia
 - Argentina
 - Indonesia
 - Uganda



Developed and developing regions

Addressing:

- Water quality
- Water access
- Efficient irrigation
- Leak detection
- Ecosystem protection
- Groundwater management
- Stormwater management
- Floods and droughts
- Energy optimisation
- Community engagement
- Data sharing and transparency
- Governance

Lessons

Key enablers:

Long-term investment

Political support

Two-pronged approach

Local stakeholder
engagement and knowledge
sharing

Cross-sector approach
(multidisciplinary)

Integrating smart tools with
traditional infrastructure

Key barriers:

Initial support/investment

Evolving technology/upgrades

Unstable electricity/internet
connections or infrastructure

Lack of standardisation across
technology

Water utilities and
governments locked to
traditional infrastructure

Key benefits:

Job creation

Increased trust

Improved decision-making
opportunities

Capacity building and further
education opportunities

Increased social, economic
and environmental resilience
to climate change

Followups

- This webinar
- A forthcoming special issue of *Water International* exploring SWM in a wider context
- IWRA's Question of the Year 2019
 - Is SWM really a smart idea? If not, why not? Or is it smart in some ways and not in others? What could make it smarter (institutions, policy, other)
- www.iwra.org/discussion-topics/questionoftheyear2019

Distillation of the 18 responses received so far

- Yes, a smart idea
 - Improved efficiency, reduced losses in distribution systems
 - Can help upgrade infrastructure, operations and institutions (e.g., performance assessment and incentives, tariff revision, monitoring contracting) in utilities in developing countries
- Disagreement whether it is smart (jury out)
 - Affordability, access

Hesitations

- Privacy and social acceptability
- Limited capacity of human resources, especially in developing countries
- To apply to developing countries, it needs to become understandable, cost-effective, easy-to-use and sustainable
- Water administrators often not really committed to sustainable water resource management

More hesitations

- Transboundary basins may present problems
 - Getting access to data
 - Hard for laws, regulations and institutions to keep pace
- Smart water management (no caps, acronyms) needs to include groundwater, farmers
- SWM cannot answer core questions of priorities and values

Don't hesitate

- Add your voice to the conversation:
- www.iwra.org/discussion-topics/questionoftheyear2019