



Document from the 7<sup>th</sup> Africa Water Week,  
held in Libreville, Gabon, 29 October – 2  
November 2018

*This material is shared as a learning  
resource to promote awareness and good  
practice in the provision, use and  
management of water resources for  
sustainable social and economic  
development and maintenance of African  
ecosystems.*

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Council on Water



**PLENARY SESSION DAILY REPORT**  
**(RAPPORT JOURNALIER DE SESSION PLÉNIÈRE)**  
**‘7TH AFRICA WATER WEEK’**  
**« 7IEME SEMAINE AFRICAINE DE L’EAU »**  
**29 OCT. – 02 NOV. 2018**

<b>No.</b>	<b>AWW7-2018SS/17</b>	<b>Version No.</b>	V1r1			<b>Report Date:</b> (Date du rapport)	30-10-2018
<b>Date:</b>	30-10-2018	<b>Time:</b> (Heures)	2:00 PM	to	3:40 PM	<b>Language</b> (Langue)	French
<b>Theme:</b>	Toward Achieving Water Security and Safely Managed Sanitation for Africa						
French theme	‘Vers la Sécurité de l’Eau et des Services d’Assainissement gérés en toute sécurité pour l’Afrique’						
<b>Sub-theme:</b> (Sous-thème)	Water Security: Infrastructure, Investments and Innovation						
<b>Session No.</b>	SS17	<b>Title:</b> (Titre)	Water Wise: The time is now to apply Smart Water Management (SWM)				
<b>Country:</b> (Pays)	GABON	<b>City:</b> (Ville)	Libreville	<b>Location:</b> (Lieu)	Stade de l’Amitié Sino-Gabonaise, Angondje		
<b>Rapporteurs</b> (Rapporteurs):	Henri Georges Madyba				<b>Technical Partner:</b> (Partenaire technique)	SASI GABON	
<b>Further details:</b> (Informations complémentaires)	<ul style="list-style-type: none"> <li>• PowerPoint Presentation (NO)</li> <li>• Technical Documentation (YES): <ul style="list-style-type: none"> <li>○ SS17_20181025_Presentation_AWW7_WS_Eng,</li> <li>○ SS17_AWW_Dr.Joohwan KIM_PPT</li> <li>○ SS17_Bitna Lee_PPT_font_FINAL</li> <li>○ SS17_phg-1</li> </ul> </li> </ul>						
<b>Abbreviations and acronyms:</b> (Sigles et abréviations)	•						

**IDENTIFICATION OF THE LEAD CONVENER AND CONTACT (IDENTIFICATION DES RESPONSABLES ET CONTACTS)**

<b>Lead Convener (Responsable):</b>	UNESCO i-WSSM
<b>Co-convener (Coresponsable):</b>	UNESCO Division of Water Sciences
<b>Contact:</b>	<ul style="list-style-type: none"> <li>• Mr Alexandros K. Makarigakis, Programme Specialist, Section on Groundwater Systems and Settlement, Tel.: +33 (0)1 45 68 08 06 Cell: +33 (0)6 95 95 90 37, E-mail: <a href="mailto:a.makarigakis@unesco.org">a.makarigakis@unesco.org</a></li> <li>• Dr Philippe Gouberville, Centre Polytechnique, University of Nice Sophia Antipolis, France</li> <li>• Dr Joo-Hwan Kim, Senior Researcher, Korea Water Resources Corporation (K-water), South Korea</li> <li>• Dr Bitna Lee, Programme Specialist for UNESCO i-WSSM, E-mail: <a href="mailto:blee@unesco-iwssm.org">blee@unesco-iwssm.org</a></li> <li>• Mr Wilson de Sousa, Project coordinator for the National Irrigation Institute, Maputo, Mozambique.</li> </ul>

## **SPEAKER IDENTIFICATION (IDENTIFICATION DES INTERVENANTS)**

<b>Moderator (Modérateur):</b>	Alexandros K. Makarigakis, Programme Specialist, Section on Groundwater Systems and Settlement
<b>Speakers (Intervenants):</b>	<ul style="list-style-type: none"><li>• Mr Alexandros K. Makarigakis, Programme Specialist, Section on Groundwater Systems and Settlement.</li><li>• Dr Philippe Gouberville, Centre Polytechnique, University of Nice Sophia Antipolis, France</li><li>• Dr Joo-Hwan Kim, Senior Researcher, Korea Water Resources Corporation (K-water), South Korea</li><li>• Mr Bitna Lee, Programme Specialist for UNESCO i-WSSM</li><li>• Mr Wilson de Sousa, Project coordinator for the National Irrigation Institute, Maputo, Mozambique.</li></ul>

## **SESSION OBJECTIVES (OBJECTIFS DE LA SESSION)**

- Challenges in water management
- Smart water management solutions

## **SESSION PLAN (PLAN DE SESSION)**

- Water resources and challenges
- Smart management of the water cycle
- Smart water management goals
- Smart irrigation as an optimum solution for producers
- The added value of smart irrigation
- Using information technologies for water management in South Korea
- The importance of smart monitoring
- Expectations of information systems.

## **SESSION SUMMARY (RÉSUMÉ DE LA SESSION)**

### **Water resources and major challenges**

- Water shortages
  - 4 billion people live in severe water shortage conditions at least one month out of the year
  - Nearly three billion people live in India and China
  - Half a million people around the world face serious water shortages all year round
- The Sustainable Development Goals (SDGs) comprise 17 global objectives set by the United Nations in 2015
- Goal 6: Ensure availability and sustainable management of water and sanitation for all:
  - improve water quality
  - expand international cooperation and capacity-building support
  - implement integrated water resources management
  - increase water-use efficiency
  - protect and restore water-related ecosystems
  - access to safe and affordable drinking water

**A solution for managing water wisely:** smart water management  
Environmental protection-natural risk mitigation-water uses

### **The goals of the system**

- The goals of smart water management are to ensure water security and sustainability at all levels, sustainably and independently, through information technology, monitoring & control technology, and by implementing a system approach to all water cycle processes.
- The added value of smart water management:  
implementing smart water management (SWM) in urban centres can provide significant efficiency in terms of water distribution through leak detection and reduction, lower operating and maturation costs thanks to real-time monitoring and forecasting, and improved customer service through a real-time feedback system on water use and availability.

- **Smart irrigation**

An innovative solution for producers, bringing clear increases in crop yields.

For example: the TISA (Transforming Irrigation in Southern Africa) group in Mozambique, which adopted smart irrigation technology that has yielded significant results.

- **The added value of smart irrigation**

-Available technology: sensors and sprinklers

-Maturity of solutions implemented over a decade ago

Improvements achieved: increased efficiency and productivity

Limited investment costs

Training on request for producers and local communities

-Must be combined with adaptation of crops to the climate.

- **Utilisation of new technology**

Mobile applications have allowed South Korea (through the Korea Water Resources Corporation) to cover 98% of the demand for drinking water in Korean cities.

## **QUESTIONS AND ANSWERS (QUESTIONS ET RÉPONSES)**

Question No.	1	<b>Author (Auteur):</b>	Gusta Tukaseme, Malawi water company
<b>Wording (Libellé):</b>	How can we encourage Africans to adopt water management technology despite the fact that it is costly?		
<b>ANSWERS (RÉPONSES)</b>			<b>Speakers (Intervenants)</b>
The cost of smart water management systems remains high for African countries but we would like to make them accessible to the majority. Decades ago, this type of system was affordable for all, but the environment has changed and so have needs. We need to start with an analysis, by gathering data and identifying areas that have significant needs in terms of reducing the costs of using such systems.			Mr Joo-Hwan Kim, Senior Researcher, Korea Water Resources Corporation
Africa's problems with water management systems are well known. Today, it is vital to adopt technology that works well in other countries around the world in order to benefit from the advantages of smart water management in Africa.			Mr Alexandros K. Makarigakis, Programme Specialist, Section on Groundwater Systems and Settlement

Question No.	2	<b>Author (Auteur):</b>	Zimaruku (Water Utility, Kenya)
<b>Wording (Libellé):</b>	How can Smart Metric help manage water leaks in Africa? How can water quality be monitored? How can the SDGs be adopted in Africa?		
<b>ANSWERS (RÉPONSES)</b>			<b>Speakers (Intervenants)</b>
There were no answers to these questions as the session was cut off due to the end of the allotted time.			

## **CONCLUSIONS OF THE SESSION (CONCLUSIONS DE LA SESSION)**

Water management is a major global issue due to climate change, and certain areas of the world are experiencing drought as well as agricultural water needs. And yet, strict water management is a necessity for the global population. Research has provided intelligent strategies to effectively manage water use. Developed countries have adopted total rationalisation of water use through new information technology such as monitoring applications in urban areas and smart irrigation in rural settings. Africa remains slow to take advantage of the latest advanced technologies due to the relatively high cost of innovations in the field of drinking water management. However, certain countries such as Mozambique and South Africa have experimented with smart irrigation, which has been a success in terms of yields for producers.