n

From catchment to consumer: Building climate resilience

How can utilities and their catchment stakeholders improve resilience to uncertain climatic impacts?

Chair: Philip de Souza, Emanti Management - Water & Environmental Engineering Services

Workshop agenda

Time	Item	Who
16:00-16:10	Overview – setting the scene	Katharine Cross, IWA
16:10-16:20	Building climate resilience into water safety planning	Jennifer de France, WHO
16:20-16:30	Why investment in catchment is important for water quality and environment in a changing climate – Environment perspective	Katharine Cross, IWA (for Rob MacDonald, TNC)
16:30-16:40	Why investment in catchment is important for public health in a changing climate – Health perspective	Hamed Bakir, WHO
16:40-17:15	Panel and audience discussion with both the utility and basin perspectives	Moderator: Philip de Souza, Emanti Management - Water & Environmental Engineering Services Dr. Sutat Weesakul, Hydro Agro Informatics Institute, Thailand David Ogaram, National Water and Sewerage Company, Uganda Eng. David Onyango, Kisumu Water and Sewerage Company Limited, Kenya Ayman Rabi, RKNOW and IUCN
17:15-17:20	Closing remarks	Chair

About the Panel

Ayman Rabi (RKNOW and IUCN) – Executive Director of Palestinian Hydrology Group, Palestine. He holds MSc and PhD in Water Resources Engineering and has MBA in Business Administration. Ayman has more than 25 years of water and environmental related experience. He is a member of the advisory board of the Rosenberg International Forum on Water Policy and he is the national representative for Palestine within the International Association of Hydrological Sciences (IAHS). He is an author and co-author of more than 30 publications. He participated in several local, regional and international water and environment related research, such as Med Water Policy, HUPHAT, WASAMED, EMPOWERS, MELIA, GABATDINE, SEARCH, RKNOW, etc.

David Ogaram (National Water and Sewerage Company) – Regional Head of Water Quality for Eastern Uganda. David has a degree in Environmental Science and over 15 years of experience in water quality management and WSP development and implementation.

David Onyango (Eng.) (Kisumu Water and Sewerage Company Limited) – Graduated with BSc (Engineering), Nairobi University (1988), MSc (Construction Engineering and Management) Loughborough University (1993), UK and MBA from Maaschricht School of Management (2009). Eng. David has extensive public and private sector experience in planning development and operations of water infrastructure alongside management of utilities. Currently he is the Managing Director of Kisumu Water and Sewerage Company; a public utility company, a position held since 2006.

Sutat Weesakul (Dr.) (Hydro and Agro Informatics Institute) – Current Deputy Director of Hydro and Agro Informatics Institute (HAII), Ministry of Science and Technology, Thailand, Dr. Sutat graduated with a doctoral degree in Engineering (Hydraulic/ Coastal) from The Asian Institute of Technology (AIT), Thailand. With over 35-year experience in teaching and researches, he is an expert in hydraulic and coastal engineering and has been involved in many international projects in collaboration with the private sector and government agencies to enhance water resources management in Thailand.

Overview

Whether it is natural climate variability or human activities (growing population, increasing urbanisation, changing land usage and economic development) contributing to climate change, its disruptive influence on water management is perceived to be one of the many critical risks facing our world: a risk of high likelihood and high impact on human wellbeing, ecosystems and economies. The impacts including extreme weather events, such as droughts and floods, will increase in both severity and frequency, while water scarcity will become far more widespread and affect millions of people globally.

Water service providers need to meet the increasing demand for safe (good quality, clean and reliable) water. Climate change impacts go form the catchment to the consumer. This workshop will examine the planning and management of water resources (at the catchment level) to meet growing demands (the consumer level) with the challenges of climate variability and change. Solutions to making informed decisions under uncertainty using decision support tools will also be discussed.

Katharine Cross (IWA) set the scene for presentations by Jennifer de France (WHO), Katharine Cross on behalf of Rob MacDonald (TNC) and Hamed Bakir (WHO) around benefits of catchment investments to build climate resilience. A panel discussion followed with speakers, Dr. Sutat Weesakul (HAII, Thailand), David Ogaram (NWSC, Uganda), David Onyango (KIWASCO, Kenya) and Ayman Rabi (RKNOW and IUCN).

Climate resilience, WSP and catchment management

Adaptation to climate change should include links to disaster risk reduction and integrated water resources management. Vulnerability and adaptation assessment can also be a useful tool in preparing for extreme events due to climate change as they give an indication of where investments should be focused.

We have been adapting to climate resilience for millennia so there are many existing examples of building climate resilience. For example, the MENA region is learning from the past. The region has been adapting to water constraints/scarcity for a very long time. There is no one size fits all, however, guidelines exist that you can follow and develop further for your situation. Utilities and water resource managers need to allocate sufficient water to sustain a healthy population. There needs to be a regulatory framework which translates this into management practice. But also there is a need to identify the constraints and find alternatives means to address these constraints, beyond regulation.

Utilities need to move beyond the current framework to ensure water quality. This means interacting and influencing what is happening in their water sources. Investing at the catchment level can prove to be cost-effective. Water Safety Planning is a tool that can remove the silos and involves different stakeholders along the water value chain. Obstacles include controlling multiple stakeholder groups.

From a data perspective, information is needed on the flow rates, total maximum daily load, etc. to understand the conditions of the watershed and establish a base line; assessment of what is a healthy catchment. The industrial sector should also provide pollution loading information to help with monitoring.

Cooperation tends to happen when there is a crisis or common problem. This behaviour needs to be changed, but how do you raise concern before something happens is a big challenge. Furthermore, we should always keep in mind that the catchment is one system. It should never be looked at as the upstream vs downstream.