

Water security: groundwater management and governance

Host : UNESCO i-WSSM *, UNESCO i-WSSM

Presenters

Seo Hyung Choi(UNESCO i-WSSM, Korea, Republic of)

Description

Body

1) Short Description

Beneath the ground we stand on, a vast amount of water exists beyond our sight. Groundwater is one of the most valuable resources of our day, serving our daily water needs for a wide range of agricultural, industrial, municipal, and domestic purposes.

Groundwater plays a significant role in the hydrological cycle. Precipitation infiltrates to the ground and flows into rivers, streams, lakes, oceans, and even deeper into the ground. Groundwater also contributes to the environment. It maintains the baseflow of rivers, as well as preventing land subsidence and saltwater intrusion. Despite the critical role of groundwater, it often receives less attention than it should be because it is an underground resource.

Overexploitation, climate change, increase in water demand due to population growth, and urbanization are main threats on groundwater. Overexploitation of groundwater lowers the water table, which can lead to saltwater intrusion and land subsidence. Groundwater contamination from toxic materials and chemicals can occur serious impacts on not only human health but also the environment. Conflicts between stakeholders within countries can be caused from mismanagement of transboundary aquifer.

In response to this escalating risk, groundwater security is becoming an urgent need, particularly in light of the approaching deadline of the 2030 Agenda for Sustainable Development. Access to safe and affordable drinking water, improved groundwater quality, and groundwater recharge are all essential for the achievement of the Sustainable Development Goal 6 dedicated to water. Moreover, groundwater also serves as an essential foundation for the achievement of several other SDGs, by contributing to reduce poverty (SDG 1) and hunger (SDG 2), ensuring health and well-being (SDG 3), promoting gender equality (SDG 5), sustaining cities and human settlements (SDG 11), supporting climate change adaptation (SDG 13), and sustaining ecosystems (SDG 15).

Proper management of groundwater and governance to engage stakeholders' participation are important to achieve water security. In this session, we aim to provide case studies of stakeholder engagement, groundwater management and analysis, groundwater quality, and transboundary aquifer management. We do expect that this session helps to raising public awareness and attention towards the true value of the essential resource.

2) Objectives

The session aims to explore the current groundwater related issues and successful case studies. Stakeholder engagement, transboundary aquifer issues, groundwater management and analysis from the UNESCO and i-WSSM Global Water Security Issues (GWSI) Series will be included in this session. The outputs from this session would contribute to an IWRA Policy Brief on the subject for publication later in the year.

3) Justifications

The Session will address many of groundwater resource management and governance. Case studies showing successful groundwater management and challenges in governance will be presented.

4) Projected outcomes

This session will present some key successful case studies and will discuss how these studies can be replicated at scale around the globe. The outputs from this session will contribute to an IWRA Policy Brief on the subject for publication.

5) Alignment with Congress

The session will be co-organized by UNESCO i-WSSM and IWRA, building on the UNESCO i-WSSM Global Water Security Issues (GWSI) project that IWRA helping to deliver.