EVENT SNAPSHOT

Part 2 – WEF Nexus, Water Productivity, and Water Accounting

Event Details

Date and Time
16 February, 3:30–5:00 p.m. (Manila time)

Venue
Zoom

Related water subthemes

	Water supply, sanitation, and wastewater		Flood/drought risk management and disaster resilience
x	Irrigation and productivity		Water governance and finance
x	IWRM, storage, water-food-energy nexus		Water and health

The water-energy-food (WEF) nexus and water accounting approaches are considered as two powerful tools that can optimize production derived from water use across sectors. The second webinar of the series with the International Water Management Institute (IWMI) focused on the practicalities of implementing the WEF nexus while also explaining how nexus benefits can be (i) better understood through water accounting, and (ii) realized through integrated basin approaches based on multi-stakeholder platforms.

The webinar featured three speakers from IWMI. The first speaker, Djumaboev Kakhramon, presented on a specific experience from Uzbekistan, how improving irrigation scheduling and increasing water use efficiency can significantly reduce energy use for irrigation in the Amu Darya basin. The second speaker, Lisa-Maria Rebelo, discussed water accounting approaches, such as Water Accounting +, to generate more options for more productive water use. An example from East Africa illustrated how infrastructure investment could improve water use or availability and support water management for increased productivity and decreased energy consumption. Luna Bharati provided the final presentation, on modeling of integrated water resources management (IWRM) with a focus on stakeholder engagement for planning to optimize WEF nexus outcomes in western Nepal.

About 182 participants tuned in for the session. ADB Water Sector Group's Jelle Beekma opened the webinar, while IWMI's Jonathan Lautze moderated the discussion and IWMI's Stefan Uhlenbrook summed up the insights. Overall, integrated approaches oriented toward enhancing WEF nexus, based on water accounting frameworks and IWRM processes, can improve resources use efficiency and enhance the return on water sector investments.

Key Takeaways

Well-targeted improvements in planning of irrigation water supplies and investments in increasing water use efficiency in agriculture can simultaneously mitigate energy consumption in Uzbekistan. Operationalizing WEF nexus in irrigated agriculture and utilizing synergies from the interconnection of water, energy, and food can generate key gains in resources-constrained contexts. Such approaches should be mainstreamed into policies on water and energy use. Project findings showed that improving irrigation scheduling and on-farm irrigation efficiency can result in saving 30% of water, 30% of energy consumption, and reduction of carbon dioxide emissions by 30%. Additionally, it increases water productivity, reduces return flow, and protects the environment.

Gains in WEF nexus outcomes can be effectively supported through comprehensive cross-sectoral water accounting to support cross-sector synergies and optimize trade-offs. Resource use and potential trade-offs have only been assessed through simulations due to lack of in-situ data. By systematically acquiring, analyzing, and communicating information related to water resources and incorporating considerable additional information derived from satellite remote-sensing using proven methods, water accounting can assist in developing a common understanding of the state of water resources.

Supplementing modeling activities with stakeholder engagement processes supports ownership and promotes uptake and impact. The nexus approach can lead to both synergies and trade-offs, especially when considering environmental factors and divergent priorities and preferences of stakeholders. However, exploring these synergies and trade-offs together with diverse stakeholders can lead to more sustainable, equitable, and productive outcomes. An enabling policy and institutional environment is required for this to be implemented practically and gradually developing (in Nepal) as a result of the focus on nexus outcomes.

About the Speakers

Djumaboev Kakhramon

Dr. Djumaboev Kakhramon is a researcher on water management for IWMI in Uzbekistan. His expertise includes on-farm water management, agricultural extension, water productivity assessment, integrated water resources management, transboundary water management, institutional analysis, and water-energy-food-ecosystem nexus.

Lisa-Maria Rebelo

Dr. Lisa-Maria Rebelo is a principal researcher at IWMI. Her research involves the development of new, innovative Earth Observation (EO) based methodologies to improve the understanding of interactions between basin scale hydrological and ecological functioning, and water availability and allocation, as well as identifying options for improved management of water resources at multiple scales.

Luna Bharati

Dr. Luna Bharati is IWMI's principal researcher for hydrology and water resources in Nepal. She has more than 14 years of post-PhD experience as a scientist and research program manager. The key areas of her interests and expertise are in integrated and sustainable water resources management. She has also worked extensively in assessing climate change risks and impacts as well as planning adaptation strategies from large river basins to small mountain watersheds. Prior to joining IWMI, she worked for the Center for Development Research (ZEF) on the Global Change and the Hydrological Cycle (GLOWA) project in the Volta Basin in Africa.

Jonathan Lautze

Dr. Jonathan Lautze is a research group leader and senior researcher in IWMI's office in South Africa. He has led and contributed to a range of applied interdisciplinary research and development projects focused on water governance, water security, transboundary water management, climate change and water, and water and health. Dr. Lautze has published more than 50 peer-reviewed articles and edited a best-selling book on key concepts in water resources management. His research has been featured on global media outlets such as the BBC, Radio France International, and Voice of America.

Related Resources*

Sustainable, just and productive water resources development in Western Nepal (select peer-reviewed journal articles)
https://djb.iwmi.org/outputs/

*For more resources, please see the list shared in the presentations.