

EVENT SNAPSHOT

Part 4 – Circular Economy for Water Security

Event Details

Date and Time

16 March, 3:30–5:00 p.m.
 (Manila time)

Venue

Zoom

Related water subthemes

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

Dwindling water availability, growing environmental concerns, complex health issues, and rethinking current economic growth models are all intrinsic to developing and implementing the circular economy in Asia. At its core, the circular economy is about achieving a set of social, economic, and environmental outcomes that underpin efforts toward more sustainable development models, while also ensuring social inclusion and equity.

Central to the circular economy approach is the principle that resources are used for as long as possible, recovering and regenerating products and materials at the end of each service life, therefore closing cycles. The circular economy derives value (e.g., water, energy, nutrients, organic matter) from waste streams by applying a business perspective and shifting the focus away from simple coverage. Although it is implemented at the local level, it usually requires strong policy support and the active involvement of multiple stakeholders, connected to each other through partnerships and cooperation arrangements across sectors and groups.

The experience of implementing circular economy models in different parts of the world shows that major challenges include access to land or achieving financial sustainability of the circular economy business model. In the last webinar of the series, the International Water Management Institute (IWMI) shared their global experience on the circular economy through case studies in Ghana, India, and Sri Lanka. They showed how successes can be achieved when there is an adequate investment climate and there are sustainable value chains to commercialize waste-based products.

This final session gathered 171 participants, almost as many as the opening webinar of the series (which had 183). ADB Water Sector Group’s Christian Walder, water supply and sanitation specialist, opened the webinar and highlighted that circular economy principles are included in ADB’s operational priorities, and investments. IWMI’s Alan Nicol, strategic program director for water, growth, and inclusion and the country

representative in Ethiopia, moderated the session. For the first presentation, IWMI's Solomie Gebrezgabher discussed the global perspectives and opportunities for resource recovery and reuse (RRR). This was followed by Josiane Nikiema of IWMI in Ghana on adopting circular economy and its effects on water, particularly research activities and optimization of processes for recovering nutrients and organic matter from fecal sludge and organic waste. Lastly, OECD policy analyst Ander Eizaguirre shared the findings and cases from the OECD study on circular economy in cities and regions.

ADB Chief of Water Sector Group Tom Panella closed the webinar and the four-part series, noting how the series began as a way to deepen cooperation between ADB and IWMI, especially in the areas chosen for the four webinars. He added that these discussions could extend into more collaboration for ADB's operational work, such as the ongoing development of a water and climate change resilience strategy, among others.

Key Takeaways

Circular economy is an essential part of current and future growth strategies. Increasing urbanization, coupled with rising consumption levels, has led to significant liquid and solid waste generation. This waste ends up open dumps and natural water bodies, which result in health and environmental challenges. Additionally, developing countries experience freshwater scarcity in cities. RRR is a key pathway to change the impacts of urbanization.

Circular economy in the water sector means a range of solid waste and wastewater interventions across the water cycle, aimed at reducing demand, increasing reuse, minimizing pollution, and extracting value from waste. This includes a paradigm shift—from wastewater treatment to resource recovery; and also entails considering water reuse beyond the scope of irrigation. In low-income countries, a range of options exist that support the use of reclaimed water and treated sludge for productive purposes. There is also a need to integrate water-focused circular economy approaches into national, subnational, and municipal level planning on water resources management and development.

With regards to water and circularity in Asia and the Pacific, there is limited use of economic instruments to manage water resources. This is despite water demand projected to increase by 55% in 2050 in emerging Asia, and with about 80% of wastewater currently discharged with little or no treatment. In addition, there is a lack of human and financial resources, hampering the implementation of water policies and creating an investment gap.

Moving beyond pilots to full-scale implementation at a macro-economic level requires a major policy push, and an effective regime of incentives (and sanctions).

Circular economy approaches are not intrinsically pro-poor but should be; therefore, they have to build in equity and inclusion from the beginning.

“Safe water reuse plays a key role in meeting the water and food needs of the growing global population.”

— Josiane Nikiema, Research Group Leader for water pollution and circular economy, IWMI Ghana

About the Speakers



Solomie Gebrezgabher

Dr. Solomie Gebrezgabher is a researcher on economics, circular economy, and water pollution at IWMI. She specializes in research on economic and environmental sustainability assessment and business model development in circular economy with a focus on economics of water, energy, and nutrient recovery. Currently, her research centers on developing business models for circular economy technological solutions, assessing the economic, social, and environmental sustainability of investing in different business models as well as assessing the investment climate for private sector investment in circular economy businesses in developing countries.



Josiane Nikiema

Dr. Josiane Nikiema is IWMI’s research group leader for water pollution and circular economy in Ghana. She is engaged in several research activities on optimization of processes for recovery of nutrients and organic matter from both fecal sludge and organic solid wastes. She also tests at scale sustainable nutrient recovery business models in Ghana, India, and Sri Lanka. Recently, she contributed to the development Fortifer©, a registered trademark of fertilizer pellets produced from fecal sludge, currently commercialized in Ghana.



Alan Nicol

Dr. Alan Nicol is IWMI’s strategic program director for water, growth, and inclusion and the country representative in Ethiopia. His area of expertise is research on water and development in Asia and Africa with a particular focus on political economy, rural water development, and transboundary river basin management. Previously, Dr. Alan was the head of the water policy program at ODI and the director for GWI East Africa at CARE, and a research fellow at the Institute of Development Studies.



Ander Eizaguirre

Ander Eizaguirre is a policy analyst within the OECD Water Governance and Circular Economy Unit under the OECD Cities, Urban Policies and Sustainable Development Division. He has contributed to policy dialogues on the circular economy and water at the national and subnational levels, such as in the Netherlands, Spain, and Sweden. He is also one of the authors of the recent OECD report, *The Circular Economy in Cities and Regions*. Prior to joining the OECD in 2018, he worked on climate and energy policies at the Permanent Delegation to the EU of the CEOE (Spanish Federation of Companies).

Related Resources

Resource Recovery from Waste: Business Models for Energy, Nutrient and Water Reuse in Low- and Middle-Income Countries

<http://www.iwmi.cgiar.org/Publications/Books/PDF/resource-recovery-from-waste.pdf>

RRR business model profiles

<https://wle.cgiar.org/rrr-business-model-profiles>

Resource Recovery & Reuse Series

<https://www.iwmi.cgiar.org/publications/resource-recovery-reuse/>

The Circular Economy in Cities and Regions: Synthesis Report

<https://www.oecd.org/regional/the-circular-economy-in-cities-and-regions-10ac6ae4-en.htm>

Milestones in Water Reuse: The Best Success Stories

<https://iwaponline.com/ebooks/book/581/Milestones-in-Water-Reuse-The-Best-Success-Stories>

"Resources Recovery and Reuse (RRR) Entrepreneurship" Online Course

<https://sswm.info/perspective/resources-recovery-and-reuse-rrr-entrepreneurship-online-course>