## Theme 1 - Drinking Water Treatment and Supply

### T1.1: Digital Solutions for Drinking Water
**Monday 11 December, Session 1, Room AD10**

**Session Description:** This session shows the use of digital technology to improve and monitor drinking water supply. Water quality, quantity as well as water access for drinking water is monitored using digital technology.

**Chairs:** Cherifa Abdelbaki, Krisztian Mark Balla

- Spatio-temporal Estimation Of Drinking Water Turbidity Using A Novel Smartphone-based Application, Chotiwat Jantarakasem, United Kingdom
- SaaS For Improving Water System Success And Programme Reporting, Kathryn Bergmann, United States
- Mitigating Membrane Fouling By Cake Layer Structure Regulation And Electrokinetic Effect In Electro-Membrane Reactors, Chengzhi Hu, China
- Porto's NRW Management And Reduction Program -- The 5 Key Strategies To Achieve 13%, Flávio Oliveira, Portugal

### T1.2: Addressing Drinking Water Quality
**Monday 11 December, Session 2, Room AD1**

**Session Description:** This session presents water quality issues for drinking water and effectiveness of treatment methods. It discusses social, economic, and technical issues of drinking water quality and treatment.

**Chairs:** Josef Lahnsteiner, Jacob Amengor

- Wealthy Households Drink Safer Water: Socioeconomic Inequities In Microbial Water Quality In Sub-Saharan Africa, Rawlings Akamanya, United States
- Identifying The Sources And Fate Of Autochthonous Dissolved Organic Matter (DOM) In Rivers, Feng Xiao, China
- Improving Water Quality Management in Africa Through Laboratory Operator Partnerships (LOPs), Gilles Djagoun, Benin
- Can Biofiltration Works When Operated Intermittently? Hemant Arora, Canada

### T1.3: Financing Water Access and Security
**Monday 11 December, Session 3, Room MH4**

**Session Description:** This session presents different ways of financing water supply scheme for communities. Credit schemes and monitoring subsidiaries for water access and security are among them.

**Chairs:** Yang Villa, Tafadzwa C. Maramura

- Plastic And Glass Recycling Credit For Clean Drinking Water: R BLOK Building Material For RAIN Station Clean Water, Joelle Gordon, Liberia
- Relative Performance Of A Novel Machine-learning Proxy-means Test For Targeting Pro-poor Water Subsidies In Ghana, Chloe Poulin, Kenya
- Applying Climate Reparative Finance Toward Water Security In Rwanda And Kenya, Denis Muthike United States
- Carbon Finance For Water Security: Investigating The Feasibility Of Carbon Credits In Ethiopian WASH Projects, Lars Osterwalder, Ethiopia

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### T1.4: Technologies for Water Treatment

**Tuesday 12 December, Session 1, Room AD10**

**Session Description:** This session presents different technologies for water treatment. Among them are gravity-driven membrane filters, activated carbon filters, and ED technology.

**Chairs:** Andrea Rechenburg, John Twesige

- High Value Activated Carbon Production From Two-stage Activation Of Corn Fiber Waste Using Hydrothermal Carbonization, Hayat Raza, Canada
- Optimization Strategy Of Gravity-driven Membrane Filtration Based On Microbial Risk Control In Permeate, Fubo Luan, China
- Studying Applicability Of ED Technology To CKDu Regions, Sri Lanka: Operational Parameter Optimization Of Pilot Project, Tian Binghui, China
- Cost-Effective, Affordable Water Denitrification Device At Point-of-Use, Ivan Borysov, Ukraine

### T1.5: Water Treatment - Nature-based and Off-Grid Options

**Tuesday 12 December, Session 2, Room AD12**

**Session Description:** This session will review various off-grid water treatment solutions and discuss their applicability and sustainability in low-resource settings.

**Chairs:** John Okedi, Mary Wambugu

- Efficient Communal Fluoride Water Treatment Solution - Nalgonda Treatment Scheme, Upendo Mntambo, Tanzania
- Sustainability Concerns Of Solar Desalination Systems In Water-challenged Regions Of Bangladesh, Tanvir Ahmed, Bangladesh
- SophiA: Sustainable Off Grid Technologies For Drinking And Deionized Water For Hospitals In Africa, Sneha De, Germany
- Shelf Life For Ozonated And Ultraviolet Radiation Disinfected Water In Decentralized Community Water Systems, Michelle Lockwood, United States

### T1.6: Service Options for Improved Water Access

**Tuesday 12 December, Session 3, Room MH4**

**Session Description:** This session describes strategies applied in several countries to leave no one behind in water and sanitation services. These strategies include different forms of partnerships with government and public utilities as well as a deliberate focus on low-income areas.

**Chairs:** Bettina Rickert, Chelsea Hayward

- The Beacon Project: Shining A Light On Long-term Multi-partner Collaboration To Widen Access To WASH Services In Nepal, Kabindra Pudasaini, Nepal
- Strengthening The Private Sector To Reach SDG 6 Goal In Rwanda, Noheli Sam, Rwanda
- Exploring The Sustainable Alternative Strategies For Implementation In Water-deficient Informal Settlements In The Times of Covid 19, Tafadzwa Maramura, South Africa
- Tools For Water Partnerships: Capacity Building Tools And Stakeholder Roles From Cases Worldwide, Karl Zimmerman, Canada

### T1.7: Actions on Intermittent Supply and Non-Revenue Water

**Wednesday 13 December, Session 1, Room AD4**

**Session Description:** This session reviews operational strategies to optimize piped water delivery (e.g., mitigating intermittency and/or reducing non-revenue water).

**Chairs:** Simon Ross

- How Drinking Water Access Increased From 6 Hours A Day To 24/7! Lessons From The Torres Straits In Australia, Cara Beal, Australia
- Improving Equity Of Intermittent Water Distribution Systems Under Power Outage Scenario, Faten Ayyash, United Kingdom
- Application Of Customer Survey In Non-Revenue Water Reduction - A Case Study In Nyagatare Branch Of WASAC, Sandrine Nyinawumuntu, Rwanda
- Maximizing Efficiency: Repair Leaks ASAP - A Combined Digital And On-Site Strategy To Reduce Non-Revenue Water In Porto, Flavio Oliveira, Portugal

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### T1.8: Distribution System Assessment and Performance

**Wednesday 13 December, Session 3, Room AD10**

**Session Description:** Sharing experiences in assessing, optimizing, and managing distribution systems, along with practical examples, innovative approaches, and research findings to enhance the performance, efficiency, and reliability of water distribution systems.

**Chairs:** Raziyeh Farmani

- Cost Variation Analysis Of Urban Water Distribution System To Design Standards In India, Nair Ashish, India
- Optimal Clustering Of Water Distribution Systems Using Community Detection And Sensitivity Analysis, Raghavarshith Bandreddi, United Kingdom
- Risk Assessment Of The Drinking Water Distribution System Of Kampala, Uganda, Anisha Nijhawan, United Kingdom
- Modeling Flow-starved Water Distribution Network Using PDA-FSC Approach, Pradip Kalbar, India

### T1.9: Opportunities for Sustainable Water Management

**Thursday 14 December, Session 1, Room AD4**

**Session Description:** Exploring innovative approaches and successful strategies for achieving sustainable water management in the face of climate change, demographic changes, and environmental challenges.

**Chairs:** Tulinave Burton Mwamila, Hlöðver Stefán Pórgeirsson

- Climate Resilient Water Safety Planning - Experience from Tanzania, Samwel Sudi, Tanzania
- How Community Managed Project Ended Quest For 24/7 Water Supply, Faraz Ahmad, India
- Groundwater Mapping In Eastern Province And Amayaga Part In Rwanda, Manasse Ntakirutimana, Rwanda A
- Case Study For Groundwater As A Nature Based Remediation Solution For Hydrocarbon Contaminated Groundwater Management, Adolf October, South Africa

### T1.10: Delivering Safety in Water And Sanitation Planning

**Thursday 14 December, Session 2, Room AD4**

**Session Description:** Sharing experiences in the development and implementation of effective strategies to ensure the provision of safe water supply and sanitation services in diverse scenarios.

**Chairs:** Rose Kaggwa, Marina Batalini de Macedo

- Water Safety And Sanitation Planning In Pacific Island Countries: Positive Impacts Achieved Via Sustainable Plans, Nabeela Nasim, Australia
- Water Safety In Uganda’s Lango Subregion -- Pathways For Growth Centers, John Robert Okello, Uganda
- Implementation Of Water Safety Plans To Sustain Reliable Drinking Water Supply In Rwanda, Theoneste Sindikubwabo, Rwanda
- Inspect The Uninspected -- Improving Drinking Water Safety And Empowering Communities, Rechenburg Andrea, Germany

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**Theme 2 - Wastewater Treatment and Sanitation Services**

### T2.1: Securing Inclusivity in Urban Sanitation

**Monday 11 December, Session 1, Room AD1**

**Session Description:** This session will share practices related to monitoring and data survey for planning sanitation in development areas.

**Chairs:** Jan Hofmann, Krithika Iyer Shivakumar

- Within Informal Settlements Sanitation Access Inequalities: Case Of Portee-Rokupa, Sierra Leone, Innocent Tumwebaze, Kenya
- Measuring CWIS Status Of Ten Municipal Towns In Bangladesh, Faria Tasnim, Bangladesh
- Lessons From Planning Citywide Inclusive Sanitation As A Business, Jane Olley, United Kingdom
- Citywide Inclusive Environmental Surveillance: Sewered & Non-Sewered Environmental Surveillance: Case Study South Africa, Sudhir Pillay, South Africa

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<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<tr>
<td>T2.2</td>
<td>Securing Inclusivity in Urban Sanitation</td>
<td>This session will share practices on non-sewered sanitation and the relationships with social themes like gender and workforce.</td>
<td>Monday 11 December, Session 2, Room AD10</td>
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<tr>
<td>Chairs</td>
<td>Blanca Antizar, Louise Kennedy</td>
<td>We Speak Too: Foregrounding The Voices Of Sanitation Workers In India, Abhilaasha Nagarajan, India</td>
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<td>Gender Integration In Sanitation: Opportunities For Community Engagement, Service Delivery And Policy, Juliet Willets, Australia</td>
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<td>Using Results-based Financing Of Non-sewered Sanitation As A Catalyst For Behavior Change And Equitable Urban Sanitation, Alyse Schrecengost, Haiti</td>
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<td>Subsidized Emptying Approach In Informal Settlements: Experiences From Kampala, Eunice Namirembe, Uganda</td>
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<td>T2.3</td>
<td>Health Dimensions of Sanitation</td>
<td>This session will share studies about health impacts on the population and workers related to sanitation practices in development countries</td>
<td>Tuesday 12 December, Session 1, Room MH2</td>
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<td>Chairs</td>
<td>Kimberly Worsham, Hakimu Sseviiri</td>
<td>Management Of Household Solid Waste DSM Of The City of Niamey, Habibou Razikou, Niger</td>
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<td>Ecological And Health Impact Appraisal Of Abattoir Wastewater Effluent In Akure, South-Western Nigeria, Olubukola Olusola-Makinde, Nigeria</td>
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<td>Is It Safe? Role Of Global And Complimentary Indicators To Inform Progress Of Safely Managed On-site Sanitation, Freya Mills, Australia</td>
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<td>Sanitation Workers Occupational Health And Safety Practices: Realities From 20 Cities In Asia And Africa, Rajeev Munankami, Zambia</td>
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<td>T2.4</td>
<td>Innovations in Industrial Wastewater Treatment</td>
<td>This session will share practices of biological and adsorption methods for water and wastewater.</td>
<td>Tuesday 12 December, Session 2, Room MH4</td>
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<tr>
<td>Chairs</td>
<td>Rachel Peletz, Hayat Raza</td>
<td>Development Of A Pervious Concrete Barrier For Sustainable Mine Water Treatment, Ayanda Shabalala, South Africa</td>
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<td>Assessing Greenhouse Gas Emission Factors In Wastewater Treatment Plants: Case Study In Mexico City Metropolitan Area, Pablo Morales-Rico, Mexico</td>
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<td>Hybrid Data Driven And Mechanistic Models To Control Carbon Dosing For Denitrification At A Wastewater Treatment Plants, Wang Xiaodong, China</td>
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<td>T2.5</td>
<td>Nature-based Wastewater Treatment Options</td>
<td>This session will share practices of nature-based wastewater treatment like wetlands and biochars.</td>
<td>Wednesday 13 December, Session 1, Room AD10</td>
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<td>Chairs</td>
<td>Adolphe Azora Djassirangue</td>
<td>Nature-based Solutions For Sustainable Wastewater And Faecal Sludge Treatment And Reuse In Maputo, Mozambique, Rita Matos, Portugal</td>
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<td>Nature’s Solution To Greywater Treatment: Combining Biochar And Moringa Oleifera Seeds For Cleaner Water, Ivan Kozyatnyk, Sweden</td>
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<td>Wastewater Reuse &amp; Sustainable Urban Agriculture: Harnessing The Potential Of Phytoremediation In Freetown, Sierra Leone, Roy Maconachie, United Kingdom</td>
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### T2.6: Wastewater Strategies and Treatment Technologies
**Wednesday 13 December, Session 2, Room MH4**

**Session Description:** This session will share practices of wastewater strategies and treatment technologies like vermicfiltration, "sponge city" and biofilter.

**Chairs:** Rafael Morales Rodriguez

- Removal Of Dissolved Nitrogen Species From Polluted Runoff From An Informal Settlement Using A Subsurface Flow Biofilter, Kalpana Maraj, South Africa
- Leveraging Excess Capacity In Decentralized Wastewater Treatment Plants For Atoyac River Restoration: A Collaborative Approach In Mexico, Cervantes Pabel, Mexico
- Enhancing Fish Farm Management Practices And Sustainable Water Resource Management: Insights Uganda’s Fish Farming Sector, Ronald Semyalo, Uganda
- Greywater Treatment Using Integrated Sand Filtration And Ultrafiltration For Reuse, Elwattar Aya, Egypt

### T2.7: Wastewater Strategies and Treatment Technologies
**Wednesday 13 December, Session 3, Room MH4**

**Session Description:** This session will share practices of wastewater collection (Sewer Overflow Management; Simplified Sewer System) and wastewater treatment (natural systems; novel AOA)

**Chairs:** Ivan Kozyatnyk, Mohammed Babu

- Impacts Of Scheduled Desludging On Water Quality In Onsite Sanitation Services Dependent Cities, Aasim Mansuri, India
- Small Pipes, Big Impact: The Simplified Sewer Solution For Rhonda, Nakuru City, Grace Kabubu, Kenya
- Nature-Based Solutions As Enablers Of Circular Economy In Urban Water: Experiences From India, Lokhande Shweta, India
- Solar-wind Complementary Power Generation Drive Reuse Type Of Rural Domestic Sewage Treatment System In Northwest China, Zheng Tianlong, China

### T2.8: Advancing Faecal Sludge Management
**Thursday 14 December, Session 2, Room AD11**

**Session Description:** This session will share practices of Faecal Sludge and Septage Management.

**Chairs:** Jayant Bhagwan, Sudipti Arora

- FSSM Monitoring And Decision Making Through IT And IoTs, Sasikumar Eswaramurthy, India
- Co-treatment Of Faecal Sludge At Sewage Treatment Plants (STPs) For Safe Sanitation In Maharashtra, Dhruv Bhavsar, India
- Demand Aggregation For Sustainable Faecal Sludge Management In Small Towns In Uganda, Felix Twinomucunguzi, Uganda
- Pilot Interventions On Gaseous Emission Control During Septage Emptying Operations, Niladri Chraborti, India

### T2.9: Climate Dimensions in Faecal Sludge Management
**Thursday 14 December, Session 1, Room MH2**

**Session Description:** This session will share practices of onsite sanitation systems as initiatives against climate change.

**Chairs:** Remi Kaupp, Abdurrahman Aliyu

- Climate Responsive WASH Initiatives In Small And Medium Towns In India, Kasturi Joshi, India
- Fostering Climate Smart Practices In Schools Through The Use Of Fossa Alterna Latrines, Sandra van Soelen, Netherlands, Diana Kazooba
- Towards Guidance For More Reliable Measurement And Verification Of GHG Emissions From On-site Sanitation Systems, Daniel Ddiba, Sweden
- Impacts Of Climate Hazards On Onsite Sanitation: Household Experiences And Coping Strategies In Indonesia, Freya Mills, Australia
# T2.10: Resource Recovery and Circular Economy

**Monday 11 December, Session 3, Room AD1**

**Session Description:** This session will share practices of transforming wastewater in products like fertilizer and reuse water.

**Chairs:** Becaye Sidy Diop, Pabel Cervantes

- Recycling Of Wastewater By Membrane Bio-Reactors -- Technology, Perception, And Policy, Sean Rossouw, South Africa
- Use Of Vermiculture As A Sanitation Solution In Rwanda, Kurt Henne, Rwanda
- Creating A Circular Sanitation Economy Using A Novel Urine Treatment Process, Caitlin Courtney, South Africa
- Sustainable Solar Powered Wastewater Treatment Systems To Improve Hygiene And Sanitation In Schools ByAdopting Circularity Principles, Ligy Philip, India

# T2.11: Resource Recovery and Circular Economy

**Tuesday 12 December, Session 1, Room AD12**

**Session Description:** This session will share practices of beneficial use of faecal sludge and wastewater.

**Chairs:** Abrie Wessels, Anique Azam

- Investigation Of On-site Sanitation Infrastructure In Rural Communities: With Case Studies From Asia Pacific, Nassim Nabeela, Australia
- Reuse Of Treated Wastewater And Sludge From Faecal Sludge Treatment Plants: Existing And Potential Practices, Jigisha Jaiswal, India
- Need For Reuse Of Treated Bio-solids From FSTPs-Scoping The Gaps And Recommending Potential Ways To Increase The Demand, Sumita Singhal, India
- Expanding Urban Sanitation Management In Kenya’s Kisumu City Through Locally-Led Partnerships, Arijanto Istandar, USA

# T2.12: Resource Recovery and Circular Economy

**Wednesday 13 December, Session 2, Room AD1**

**Session Description:** This session will share practices of transforming wastewater in produces like fertilizers and biogas.

**Chairs:** Pradip Kalbar

- Enhanced anaerobic co-digestion of municipal sludge with food waste in a solar-heated digester, Benton Otieno, South Africa
- A Novel Urinal For On-site Fertilizer Production From Human Urine, Caitlin Courtney, South Africa
- Characterization of inorganic solids generated in phosphorus removal water & resource recovery facilities, David Ikumi, South Africa
- Transforming Sewage Sludge To Valued Bio-resources, Gary Brown, South Africa
- Stabilization And Drying Kinetics To Produce A Urine-based Solid Fertilizer, Mathias Kasirye, Uganda

# T2.13: Resource Recovery and Circular Economy

**Thursday 14 December, Session 1, Room MH4**

**Session Description:** This session will share practices of transforming wastewater in produces like fertilizers and biogas.

**Chairs:** Farokh Kakar, Pablo Morales

- Co-composting Of Dried Faecal Sludge With Municipal Solid Waste, Sasikumar Eswaramurthy, India
- A System-wide Model For Solid Waste Separation And Food Waste Discharge To Sewer Systems, Shalongo Angula, South Africa
- Solar Powered Membrane Bioreactors - A Promising Technology For Water Reuse In East Africa, Sneha De, Germany
- Compound Factors Influencing Solid Waste Harvesting In Informal Settlements Towards Sustainable Waste Management: experiences of selected informal settlements in Engcobo local municipality, Muramura Tafadzwa, South Africa

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Theme 3 - Integrated Water Management and Planning

T3.1: Unlocking Application of Integrated Water Resources Management
Monday 11 December, Session 1, Room MH3

Session Description: This session aims at enhancing the understanding of the various aspects of IWRM. These include governance, water valuation, water monitoring and water demand & supply management.

Chairs: Adolf October, Vittore Negretto

- An "effective" Contextual Approach To Water Governance: The Cases Of Iran And Mexico, Hans Bressers, Netherlands
- Application Of The Water Evaluation And Planning (WEAP) For Modeling Water Demand In Dams: A Case Of Golinga Dam, Issah Mohammed Alhassan, Ghana
- Valuation Of Water As A Human Right And As A Productive Input: Application Of Water Charging In Brazil, Batalini de Macedo Marina, Brazil
- Community Level Water Governance For Natural Water Springs Conservation In Central Hills Of Sri Lanka, Daluwatte Dimuthu, Sri Lanka

T3.2: Climate Resilience and Water Security
Monday 11 December, Session 3, Room MH3

Session Description: This session aims at sharing knowledge and experience in building climate resilience and how to assess the level of resilience.

Chairs: Olutayo Bankole-Bolawole, Charles Shachinda

- Development Of An Index To Quantify The Environmental And Social Vulnerability Towards Water Scarcity, Libório Narcizo Filipi, Germany
- Evaluating Drought Resilience Indicators Through A Global Survey, Marina Batalini de Macedo, Brazil
- Scaling Up Rural Flood Resilience Through Mobility Infrastructure, Impact Evaluation And Streamflow Models, Denis Muthike, United States
- Integrated Framework And Appraisal Tool To Assess Greenwashing In Climate Adaptation Infrastructure Program And Projects, Amancio Melad, Netherlands

T3.3: Climate Resilience and Water Security
Tuesday 12 December, Session 1, Room MH3

Session Description: This session focuses on experience sharing, integration of gender equality and other exclusions, strategies for water reuse and food security.

Chairs: Francois Xavier Tetero, Yacob Arsano

- Groundwater Quantity And Quality Assessment For Aquifer Recharge In Ohangwena Region, Namibia, Hilja Ndakola, South Africa
- IoT Methodology Provides Spatial Wetting Variability Measurements In Mango Orchard With UAV And Soil Moisture Sensors, Federico Hahn, Mexico
- Industrial Water Reclamation And Reuse In Emerging Economies, Josef Lahnsteiner, Austria

T3.4: Climate Resilience and Water Security
Tuesday 12 December, Session 2, Room AD10

Session Description: This session focuses on impact on small towns and, shares experiences on innovation & wealth creation whilst ensuring water security in Africa.

Chairs: Leonie Huxedurp, Hadi Toure Guindo

- Water Security In Small And Medium Towns Due To Climate Change, Dinesh Mehta, India
- Frugal Innovation, Digitalization, And Entrepreneurship To Strengthen Water Security In Africa, Djalia Umutangampundu, Ivory Coast (Cote D’Ivoire)
- The Role Of Water In The Macroeconomy Of Rwanda, Annette Huber-Lee, United States
- Creating Incentives for Industrial Water Use that Protects Water and the Climate, Cheryl Davis, United States
### T3.5: Enhancing Security Through Action on Non-Revenue Water

**Wednesday 13 December, Session 1, Room AD1**

**Session Description:** This session shares experiences on managing and reduction of NRW and sharing innovations to improve profitability whilst reducing NRW in developing countries.

**Chairs:** Bruce Uwonkunda

- Reduction Of Non-revenue Water Through Scientific Measure Of Water Audit To Address Water Scarcity In Indian Cities, Meera Mehta, India
- District Metered Area Approach In Non-Revenue Water Reduction And Management In Rural Water Supply-Case Study Of Rwanda, Clement Ndungutse, Rwanda
- Impact Of Crop Water Use Efficiency On Water Demand: A WEAP-MABIA Integration Simulation Method, Zodan Whitney, Ghana

### T3.6: Advancing Water Sensitive Urban Design

**Wednesday 13 December, Session 2, Room AD10**

**Session Description:** This session will present recent advances towards flood and groundwater management by means of catchment and river renaturalization using sustainable urban drainage systems.

**Chairs:** Isha Basyal, Zamafuze Ngcobo

- Nature-based Flood Adaptation Measures In An Informal Settlement, Mpazi Sub-Catchment, City Of Kigali (CoK), Rwanda, Emmanuel Ntawukuriyayo, Rwanda
- Risk-informed Urban Planning For Stormwater Management: Two Case Studies In Somalia, Vittore Negretto, Italy
- Msimbazi River Rehabilitation In Dar Es Salaam, Tanzania, Josje Hoefsloot, Tanzania
- Sustainable Drainage Systems As A Flood Mitigation Measure In Informal Settlements -- Case Of Khayelitsha, Cape Town, John Okedi, South Africa

### T3.7: Advancing Water Sensitive Urban Design

**Wednesday 13 December, Session 3, Room AD1**

**Session Description:** This session is intended to provide evidence on the multiple benefits derived from implementing nature-based solutions for water management in urban areas.

**Chairs:** Ruben Fernandes, Josje Hoefsloot

- Local Management Models For Water Sensitive Public Open Space With Multiple Functions -- Cape Town, South Africa, Kirsty Carden, South Africa
- Improving River Water Quality By Soil Erosion Control Rivers And Lakes In Rwandan Catchments: Case Study Of Sebeya, Felicien Majoro, Rwanda

### T3.8: Service Delivery Opportunities for Water and Sanitation

**Thursday 14 December, Session 1, Room AD11**

**Session Description:** This session highlights some important steps and insights for boosting access to sustainable water and sanitation services in small communities in developing countries.

**Chairs:** Tina Eisele, Bénigne Ishimwe Mugwaneza

- Scaled Decentralized Systems To Achieve Sustainability And Resilience In Urban Water Infrastructure, Shweta Lokhande, India
- Integrated Baseline Assessment Of Water, Sanitation And Solid Waste Services In Ugandan Small Towns, MarisaBoller, Switzerland
- Key Insights Into The Water And Sanitation Service Delivery Situation In Low-income Settlements - Case Of Kinawataka Slum, John Twesige, Uganda
- Water And Sanitation Experiences in Urban Slums: Qualitative Insights Of Lived Experiences In Kampala, Uganda, Sseviiri Hakimu, Uganda

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### T3.9: Decision-Making in Wastewater and Sanitation

**Thursday 14 December, Session 2, Room AD10**

**Session Description:** This session focuses on the assessment tools and approaches for the evaluation of fecal sludge treatment and sewerage function in the CWIS system.

**Chair:** Martin Kalibbala, Bhagya Galkissa-Dewage

- Evaluative Criteria For Least-cost Economic Analysis Of City-wide Inclusive Sanitation, Simon Ross, Australia
- Applying Decision Support Tools To Evaluate Phosphorus Removal Strategies At A Full- Scale Sewage Treatment Plant, David Ikumi, South Africa
- Wastewater-based Epidemiology And Public Health Policy Decision-making During The COVID-19 Pandemic In South Africa, Kerrigan McCarthy, South Africa
- Analysis Of Stream Flow Variability And Trends In Lilongwe River For Water Resource Planning And water Supply, Emmanuel Banda, Malawi

### Theme 4 - Utility Management and Operation

### T4.1: Utility Options to Advance Supply Security

**Monday 11 December, Session 1, Room MH4**

**Session Description:** This session captures global developments in managing non-revenue water. With growing emphasis on the importance and water security perspectives, several practical innovative interventions are shared which have made an impact.

**Chairs:** José Saldanha Matos, Rawlings Akamanya

- Addressing Non-Revenue Water With An Indonesian Water Utility To Build Community Resilience, Aldi Surianingrat, Indonesia
- Cost-effective Non-revenue Water (NRW) Reduction: Analysis Through Pilot Activities In Kigali City, Rwanda, Ryuji Ogata, Japan
- Analysis Of Factors That Prevent Conversion From Intermittent To Continuous Water Supply In Selected Zambian Utilities, Raziyeh Farmani, Zambia
- Direct Feed Networks For 24/7 Water Supply With Smart Control Philosophy Using VFD, Anuj Patel, Qatar

### T4.2: Utility Water & Energy Nexus Opportunities

**Monday 11 December, Session 2, Room MH4**

**Session Description:** Water and energy are interrelated in terms of efficiency and resilience and hence this session captures innovative interventions being undertaken in tackling the water-energy nexus in water supply systems.

**Chairs:** Kabindra Pudasaini, Shweta Lokhande

- Leveraging Water Distribution Systems To Build A Water-Energy-Smart Future For The Global South, Krisztian Balla, Denmark
- Unconventional Hydropower The Hidden Opportunity -- Case Studies From South Africa, Jayant Bhagwan, South Africa
- Initiatives To Improve The Operational Capacity Of Water Supply Services In Kigali, Rwanda, Kazuya Naito, Japan
- Utility Staff Perceptions Of ICT-based Customer Communications In Water And Sanitation Service Provision, Emily Kirigha, Kenya

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### T4.3: Water and Sanitation Progress Through Partnerships and Cooperation
**Tuesday 12 December, Session 1, Room MH4**

**Session Description**: High growth rates in settlements and the pressures it brings on municipalities requires new approaches in services delivery. This session captures advanced governance arrangements to stimulate creative utility management.

**Chairs**: Zebedia Phiri, Sudipti Arora

- Water Community Marketplace -- Sharing 3D Printing Technology In Water Management Utilities, Moisés Neves, Portugal
- Public-Private Community Partnerships For Improved Water Governance; A Case Study Of Kenya’s Rural Water Systems, Joyce Irungu, Kenya
- Reactivation of PP Models For Rural Water Supplies in Rwanda: Strengthening Operation and Maintenance Systems, Ryuji Ogata, Japan

### T4.4: Options for Climate Smart Approaches to Water And Sanitation
**Wednesday 13 December, Session 1, Room MH4**

**Session Description**: Building water services resilience using circularity approaches.

**Chairs**: Robert Bos, Anisha Nijhawan

- Prioritization Of Water Circularity Strategies For Cities, Pradip Kalbar, India
- Greenhouse Gas (GHG) Emissions Inventory At AEdP, Elza Ferraz, Portugal
- A Knowledge Sharing Strategy For Resilient & Sustainable Performance In WASH, Simeon Kenfack, Ivory Coast (Cote D’Ivoire)
- Utility Workers Perspective On Challenges Facing The Water Sector In Nairobi, Kenya, Samwel Kiarie, Kenya

### T4.5: Digital Tools and Technologies for Service Improvement
**Thursday 14 December, Session 1, Room MH3**

**Session Description**: Utilities have to harness the digital platforms to improve the efficiency and operation. This session highlights several developments in the use of digital tools and data analytics in revolutionizing water services management.

**Chairs**: Muyinda Abdu Maliki, Bradley Charko

- IT Enabled FSSM Monitoring At Scale In Maharashtra, Aditi Dwivedi, India
- Gradient Boosting Classifier-based Approach Wastewater Critical Asset Management, Rueben Fernandes, Portugal
- Keys To Effective Use Of Digital Tools By Water And Wastewater Utilities, Cheryl Davis, United States
- Design Thinking Processes in Water Utilities, Moisés Neves, Portugal
### T5.1: Policy and Practice Options for Service Delivery Improvement

**Monday 11 December, Session 3, Room AD10**

**Session Description:** This session seeks to improve our understanding on policy and actions as building blocks for systemic change. Presentations focus on drivers for improvement, tools to strengthen WASH system models, and governance systems for accountable WASH service delivery.

**Chairs:** Osward M Chanda, Sarah Traore Kane

- WASH System Strengthening In Rwanda. Past, Present And Future Interventions, Bruce Uwonkunda, Rwanda
- Key Drivers Of Sanitation And Hygiene Sanitation Services In 10 Districts Of Rwanda, Marie Nicaise Ugabinema, Rwanda
- Using Building Blocks Analysis And QIS Scoring To Strengthen WASH Systems And Improve Service Delivery In Ethiopia, Mussie Tezazu Asmare, Ethiopia
- Promoting Accountable Governance To Achieve Sustainable Sanitation Services - Case Study: Performance Review And Improve, Marina Marina, Indonesia

### T5.2: Policy and Practice Options For Service Delivery Improvement

**Tuesday 12 December, Session 3, Room AD10**

**Session Description:** This session showcases the industry challenges faced by utilities and presents policy options for improving service delivery. Cases focus on alignment of WASH policies and countries’ NDCs; as well as tools, and financing options for improving access to private sector finance.

**Chairs:** Sam Kayaga, Amancio Melad III

- Integrating Sanitation And Climate Change Policy And Action: Insights From Five Countries In Eastern And Southern Africa, Daniel Ddiba, Sweden
- Shadow Rating To Improve Creditworthiness Of Urban Local Governments In India, Meera Mehta, India
- Screening water and sanitation projects for public-private partnerships in developing countries: the Angola approach, António Monteiro, Portugal
- Planning For Coastal Climate Impacts On City Sanitation Systems, Freya Mills, Australia