

# Enhancing Sustainability: Upscaling Innovations and Best Practices for Integrated Catchment and Water Resources Management (ICWRM) in Eastern and Southern Africa – LEAVING NO ONE BEHIND

# 25<sup>th</sup>

WaterNet/WARFSA/GWP-SA  
Symposium

**30<sup>th</sup> October to  
1<sup>st</sup> November 2024**

**Jointly convened with:**

International Association of Hydrological Sciences (IAHS), Water  
Research Commission, ReNOKA and the Local Organizing Committee led  
by the National University of Lesotho

**A Blended Event to be held virtually and at the  
Avani Maseru Hotel, Maseru, Lesotho**





# Enhancing Sustainability: Upscaling Innovations and Best Practices for Integrated Catchment and Water Resources Management (ICWRM) in Eastern and Southern Africa – Leaving No One Behind

A Blended Event to be held virtually and at the Avani Maseru Hotel, Maseru, Lesotho

30<sup>th</sup> October – 1<sup>st</sup> November 2024

Programme Manager: Eng. Charles Mopeli

	Tuesday 29 October 2024
14:00 – 20:00	Registration of Participants Venue: Hotel Foyer
	Wednesday 30 October 2024
06:30 – 08:00	Registration of Participants / Welcome with tea Venue: Pula Hall
06:30 – 08:00	Official Opening Director of Ceremonies: L. Maqalika-Lerotholi Rapporteur: Mr Mischeck Chundu & Mr Christopher Mtonga Venue: Pula Hall Link: <a href="#">Here</a>
07:50	All Participants and Guests take seats, Singing of the Lesotho National Anthem
08:00	Introductions by the 25 <sup>th</sup> Symposium Local Organizing Committee Chairperson: Dr Mamohau Thamae
08:05	Welcome Speech: Vice Chancellor, National University Lesotho - Prof. Sola Fajana
08:10	Remarks by the Chairperson of WaterNet Trust: Prof. Nnnesi Kgabi
08:20	Remarks by the Chief Executive Officer of the Water Research Commission: Dr Jennifer Molwantwa
08:25	Remarks by the Network Director, AUDA-NEPAD Southern African Network of Water Centres of Excellence (SANWATCE), Stellenbosch University: Dr Nico Elema
08:30	Remarks from the Lesotho National Coordinator for Integrated Catchment Management: Mr. Makomorenq Fanana
08:35	Remarks by the SADC Representative, Director Infrastructure and Services: Ms Mapolao Mokoena
08:40	Remarks from Government of Lesotho Minister Responsible for Natural Resources: Hon. Mohlomi Moleko
08:45	Keynote Address: From Vision to Reality: Sustaining Water Resources through Innovation, Integration, and Inclusive Practices in Eastern and Southern Africa World Vision Senior Director WASH Global Operations: Dr Fungai Makoni
09:00	Official Opening of the Symposium by the Guest of Honour, Minister of Education and Training: Hon. Prof. Ntoi Rapapa
09:15	Signing of Memorandum of Understanding between WaterNet and Randwater: Prof. Jean-Marie Kileshye Onema & Dr Fawcett Ngoatje
09:30	Tour of exhibition stands by the Guest of Honour
09:40	Group Photo



10:00	Health Break					
10:30 – 12:45	Sessions Start					
	Changing hydro-climatic regimes and planning tools for climate resilient pathways		Water, Land, Energy and Agriculture		Open Special Session	Open Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 Link: <a href="#">Here</a>		Venue: Naleli Link: <a href="#">Here</a>	Venue: Molepe Link: <a href="#">Here</a>
	Chair: Dr Reniko Gondo Rapporteurs: Mr Christopher Shilengwe & Otiadisa Tafila		Chair: Dr Hubert Samboko Rapporteurs: Mr Misheck Chundu & Ms Miss Lebogang Disho		Chairs: Dr Mamohlong Tlhagale & Dr Craig Tanyanyiwa Rapporteurs: Mr Nkosinathi Goodman Xulu & Refiloe Maphiri	Chair: Assefa Gudina Rapporteur: Dr. Pinnie Sithole
10:30	Shilengwe C, Banda K & Nyambe I	Enhancing Climate Resilience in the Barotse Catchment by Utilizing Machine Learning to Downscale GRACE Groundwater Estimates.	van Zijl G, Van Tol J, Smit E, Sehlapelo M, Cloete W, Kock A, Le Roux J.& De Clerq W	Towards a hydrological soil map of South Africa (HYDROSOIL).	Strategic Youth Engagement: Developing African Water Sector Cases for Youth Challenges/Hackathons  Conveners Water Research Commission, WaterNet, Water Institute for Southern Africa, Wetskills  Programme Welcome and aim of the workshop: Tlhagale M  Opening remarks by partners Highlight of each institution's capacity building activities and opportunities for youth and young water professionals in the African continent: Tanyanyiwa C, Haux C, Kileshye Onema J.M  Keynote Address The importance of the youth's contribution towards future water security: Molwantwa J  Facilitated Q&A session Workshop 1 – (participants splits into groups): Tanyanyiwa C: Mentimeter <ul style="list-style-type: none"><li>Key water challenges in Africa</li></ul> <ul style="list-style-type: none"><li>Indicating which of the challenges affects the youth the most</li></ul> Group work <ul style="list-style-type: none"><li>Unpack the challenges</li><li>Categorise and prioritise the challenges</li><li>Identification of key stakeholders and partners required</li></ul> Plenary Session Groups feedback session: Rapporteurs Closing remarks and day 2 programme: Facilitator	Showcasing CIWA's Male Champion's for Women's Empowerment: An Initiative to Engage Men as Champions of Gender Equality within the Transboundary Water Context  Convener Cooperation in International Waters in Africa (CIWA)  Programme Welcome and Introduction to the Side Event: Gudina A  Participant introductions Small Group Work: What Challenges and Obstacles Do Women Face in the Transboundary Water Sector?  Plenary Reporting Back: Challenges and Obstacles Small Group Work: Responses to Obstacles and Challenges  Reporting Back to the Plenary  Responses Facilitated by Gebremichael D  Summary of Key Points from the Session Sithole P  Closing remarks Jagerskog A
10:45	Megersa T.S, Opong E, Makoni F.S, Tsehay A.B & Yohannes A.W	Building Resilience: Exploring climate resilient WASH strategies in Ethiopian CSOs.	Mutengo B, Banda K, & Samboko H	Low-cost effective technologies for soil moisture assessment in three agro ecological regions of Zambia.		
11:00	Musa N & Banda K	Integrating Climate Risks into Rural Water Supply in the Upper Zambezi River Basin.	Namatovu A, Basamba T & Opolot E	Effects of land use and soil types on soil erosion rates in the Rwenzori Highlands – Uganda.		
11:15	Diau P, Parida B & Moalafhi D (Virtual)	Spatiotemporal Trend Analysis of Climatic Drought over Central District, Botswana using the Standardized Precipitation Evapotranspiration Index (SPEI) and Vegetation Health Index (VHI).	Baitshothi M & Gaboutloeloe G (Virtual)	Towards Optimal Drip Irrigation Systems for Improved Food Security and Efficient Water Use.		
11:30	Muzava M, Mhizha A & Rwasoka D.T	Climate change impacts on the small-scale hydropower potential for the Pungwe B hydropower scheme in Zimbabwe using a multi-model climate ensemble.	Mutema M, Sekgala M, Vorster S, Sambo C, Mahlamvu S & Dhavu K	Irrigation water losses on South African irrigation schemes: The case of Vaalharts Irrigation Scheme.		
11:45	Mapedza E	Reaching underserved audiences with Flood Forecast information.	Oluoch B, Odindo A, Musazura W & Otieno B	Irrigation Effects of the Advanced Oxidation-Polished Municipal Effluents on Crop Growth; Bioaccumulation and Consumer Risks.		
12:00	Mugatha A, N Robert J & Valimba P	Flood risk assessment and inundation mapping in Tana River Basin Delta, Kenya.	Chemura A, Gleixner S, Laudien R & Bamba Sylla M	Assessing basin scale irrigation potential in the Kafue catchment under global warming levels.		
12:15	De Klein T, Bense V & Mustafa S	Estimation of water storage changes in a tropical lake-floodplain system using remote sensing-derived water extents.	Nkowan J, Ongondo C, Kumambala P, Chunga B & Singini W	Estimation of Small Hydropower Potential Using HBV Hydrological Model.		
12:30	Pakati S, Dube T & Shoko C	Integrated Flood Modelling and Risk Assessment for the Cape Town Metropolitan Region using multi-source data.	Chundu L.M, Banda K, Sichingabula & Nyambe A.I	Assessing Land-Use/Land-Cover Influence on Surface Water Quality Using Weighted Inverse Distance Function in Bangweulu Wetland, Zambia.		
12:45 – 13:45	Lunch Break					







13:45 – 15:45	Changing hydro-climatic regimes and planning tools for climate resilient pathways		Water, Land, Energy and Agriculture		Special Session	Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 Link: <a href="#">Here</a>		Venue: Naleli Link: <a href="#">Here</a>	Venue: Molepe Link: <a href="#">Here</a>
	Chair: Dr Reniko Gondo Rapporteurs: Ms Moreblessing Muzava & Mr Christopher Mtonga		Chair: Dr Hubert Samboko Rapporteurs: Mr. Jeremiah Nkowni & Mr Glynn Pindihama		Chairs: Profs Tafadzwa Mabhaudhi and Graham Jewitt Rapporteur: Dr Wendy Geza	Chair: Ms Moline Chauruka Rapporteur: Tanyaradzwa Mawoyo Gumbo
13:45	Mushayi M, Gumindoga W & Nauditt A	Geospatial approaches for check dam site selection and implications on water resources management in the Eastern Highlands of Zimbabwe.	Pindihama G.K, Mudzielwana R, Mukwevho S & Rambau M	Water Quality in Recirculating Aquaculture Systems for Oreochromis mossambicus in Dzimauli Village, South Africa.	<b>Broadening the dimensions of the Water-Energy-Food Nexus</b>  Conveners Joint WEF Nexus Special session UKZN-IHE-LSHTM-WRC  Programme <b>Welcome and purpose:</b> Mabhaudhi T & Graham J  <b>Broadening the dimensions of the Water-Energy-Food Nexus:</b> Dlamini N  <b>Developing integrated WEF Nexus scenarios:</b> Taguta C  <b>Panel Discussion: Accelerating the SDGs through a broadened WEF+ Nexus</b> Aidan Senzanje Graham Jewitt Tsitsi Bangira Nosipho Dlamini  <b>Closing Remarks</b>	<b>Sand rivers – lifelines for resilient livelihoods in African drylands</b>  Conveners University of Zimbabwe, IHE Delft, Mekelle University, Université Abdou Moumouni, Instituto Superior Politécnico de Gaza  Programme  Introduction  Keynote Address <b>Theme 1:</b> Identifying the capacity and potential of sand rivers in Africa <b>Theme 2:</b> Promoting farmer-led irrigation development along sand rivers  <b>Theme 3:</b> Fostering sustainable and participatory management of water, sand and the riparian vegetation  Conclusion and way forward
14:00	Gondo R	Geospatial mapping of groundwater potential zones in the lower Okavango Delta, Botswana.	Mahlamvu S, Dhavu K, Mutema M, Mothapo M, Sambo C, Ncokazi M & Manyako E	Investigating potential use of greywater for irrigation in peri-urban agriculture, Gauteng Province.		
14:15	Chitsa G, Chidavaenzi M, Makoni F.S & Norgbe B.Y	Assessing groundwater quantity and quality sensitivity of boreholes in semi-arid basement aquifers of Zimbabwe under meteorological drought conditions.	Nkala P, Mabaya G & Gumindoga W	Rising water tables in sugarcane fields and their implications on agricultural water management of the crop.		
14:30	Mafuta W, Yiran G, Akudago L.J, Yidana S & Alfa B	Investigating Groundwater Resource Potential in Northern Mozambique.	Tlhoale L & Palamuleni L	Estimation of sustainable energy generation from human waste: A case of EVIP toilets in Limpopo province.		
14:45	Winsemius H, Annor F, Mather S & Van De Giesen N	OpenRiverCam: A free and open-source software ecosystem for camera-based discharge observation services.	Swatuk L & Morales I	Challenges & Opportunities for Urban Water-Energy-Food Security in Panama City under Climate Change.		
15:00	Mtonga C & Banda K	Assessing future climate change induced groundwater vulnerability to drought in the Upper Zambezi River Basin using hydrological indices.	Ningi T, Taruvinga A, Zhou L & Nagarava S	Socio-economic determinants of the trade-offs (TOs) and synergies (Sys) in the water-energy-food (WEF) nexus at the household level: Empirical evidence from Amathole District Municipality, South Africa.		
15:15	Chepkoech J, Apambire B, Opong E & Akudago J	Exploring World Vision Kenya’s Response to Climate-Induced Threats on Water Resources: An Investigative Study.	Sibanda M & Bacela E	Estimating chlorophyll content and leaf area index of tomato crops grown under different fertilizer regimes using hyperspectral remote sensing data.		
15:30	Jumbi F & Glenday J	Temporal variation in patterns of shallow groundwater responses to rainfall in the Cathedral Peak Catchment, South Africa.	Awofolu O, Matros-Goreses A & Munyayi R	Appraisal of the Impact of Aquaculture Effluents on the Health of Surface Water (Fish River), Namibia.		
15:45 – 16:00	Health Break					



16:00 – 18:00	Changing hydro-climatic regimes and planning tools for climate resilient pathways		Open Special Session	Open Special Session	Open Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 Link: <a href="#">Here</a>	Venue: Naleli Link: <a href="#">Here</a>	Venue: Molepe Link: <a href="#">Here</a>
	Chair: Dr Reniko Gondo Rapporteurs: Ms Anne Mugatha & Ms Namhla Mkiva		Chair: Dr. Leanne Seeliger Rapporteur: Dr. Thabo Ndlovu	Chair: Prof Micha Werner Rapporteur: Ms Balbina Nyamakura	Chair: Ms. Palesa Lefojane Rapporteurs: ICWRM Student
16:00	Frem M. Stigter T, Khan A.N, Mwende B, Cardozo D, Ibrahim A, Gerges E, Paron P, Gettel G, Jewitt G & Etukutan P	Hydrological functioning of mountainous springs and highland-lowland systems at Taita Hills in Kenya and Wondo Genet in Ethiopia.	<b>Transboundary Water Ethics in Africa: ACEWATER III Project</b>  Conveners AUDA-NEPAD Water CoEs and Unit for Environmental Ethics, Stellenbosch University	Mobilizing local knowledge in the climate services last mile – dimensions, roles and Challenges  Convener IHE DELFT	Engaging Youth for Integrated Catchment Management (ICM)  Convener ReNOKA
16:15	Tafila O, Kumar R, Moalafhi D.B & Rode M	Quantifying the Okavango Delta and Lake Ngami Surface Water Spatio-Temporal Dynamics.	<b>Programme</b> Welcome address: Kenabatho P Opening address, setting the scene: Hattingh J Introducing the Research Project: Seeliger L	<b>Programme</b> Setting the Scene	<b>Programme</b> Introduction to Special Session
16:30	Nkhoma L, Ngongondo C, Xu C.Y.C & Tallasken L	Evaluation of the performance of high-resolution global climate datasets over Malawi.	<b>Ethics Workshop with Attendees</b> Identifying core values in two Orange Senqu and Zambesi River Basins Historical Ethical Case Studies: Seetal A & Kanyerere T	<b>World café setting - participants will work in groups to exchange insights and experiences on the use and roles of climate services and climate services co-creation.</b>	<b>Youth engagement under ReNOKA – Problems Lesotho faces and collaborative solutions: MoGYSR</b>
16:45	Nyamakura B, Masih I, Werner M & van den Homberg M	Enhancing the usability potential of climate services through co-creation processes: an I-CISK perspective from Lesotho.		<b>Serious game, To Farm or not to farm: A game of knowledges</b>	<b>Pillar I: Education on ICM</b>
17:00	Kenabatho P.K	Unveiling Novel Approaches for Evaluating a Century of Rainfall in Botswana: Insights into Water Security in the Changing Climate.	<b>Facilitators</b> Hattingh J & Seeliger L <b>Closure</b> Kenabatho P	<b>Wrap-up</b>	<b>Supporting basic- and non-formal education: GEM</b> <b>Strengthening undergraduate education: LP Student</b> <b>Building graduate education: ICWRM Student</b> <b>Providing opportunities to gain on-the-job experience:</b>
17:15	Ndara N, Maluleke A, Selala S, Moonsamy J, de Buys A & Feig G	Establishment of an instrumentation network for long term hydrological monitoring across six different South African biomes.			<b>Pillar II</b> <b>Hackathon on ICM: WetSkills Participant</b> <b>Collaboration with National Volunteer Corps: NVCP graduate</b> <b>Regional exchange opportunities</b> <b>Fishbowl discussion with all participants: WaterNet Intern</b>
17:30	Kurarama P, Gumindoga W, Nauditt A & Rwasoka D	Assessment of the impacts of forest conversion on hydrology of the Eastern Highlands of Zimbabwe.			
17:45	Graham M, Maharaj U, Singh K, Pattinson N & Pike TP	Application of Drone Technology for improved Water Resource Management – a specific case study for environmental flows assessments.			



	<b>Poster Session</b> <b>Venue:</b> Hotel Foyer				
	<b>Chair:</b> Ms Refiloe Maphiri <b>Rapporteurs:</b> Mr Baraka Moshi, & Mr Polao Ishmael Moepi				
	<b>Water, Ecosystems and the Environment for Poster Presentation</b>	<b>Changing hydro-climatic regimes and planning tools for climate resilient pathways</b>	<b>Innovative approaches, practices and technologies for affordable water supply, and sanitation services</b>	<b>Water governance for sustainable, equitable and affordable water services</b>	<b>Water, Land, Energy and Agriculture for poster presentation</b>
	Number of posters for presentation: <b>3</b> See page <b>12</b> for details regarding each poster Posters being presented by young scientists have a green sticker of their pictures on the top right corner	Number of posters for presentation: <b>1</b> See page <b>12</b> for details regarding each poster Posters being presented by young scientists have a green sticker of their pictures on the top right corner	Number of posters for presentation: <b>4</b> See page <b>12</b> or details regarding each poster Posters being presented by young scientists have a green sticker of their pictures on the top right corner	Number of posters for presentation: <b>1</b> See page <b>12</b> for details regarding each poster Posters being presented by young scientists have a green sticker of their pictures on the top right corner	Number of posters for presentation: <b>5</b> Posters being presented by young scientists have a green sticker of their pictures on the top right corner
	<b>Cocktail</b>				
	<b>Sponsored by the International Water Management Institute (IWMI)</b>			<b>Supported by</b>	
				  	
	<b>Venue:</b> Avani Maseru Hotel, Pool Area				
	<b>Master of Ceremony:</b> Mr Thapelo Sephiri				
	<b>ENTERTAINMENT</b>				
	<b>Welcome and Opening Remarks:</b> Roman H				
	<b>Remarks from LIMCOM Executive Secretary:</b> Sitoe S				
	Overview of the MoU and Key Areas of Collaboration: Roman H				
	<b>Signing of MoU by IWMI and LIMCOM Representatives</b>				
	<b>Networking and Toast</b>				



	Thursday 31 October 2024					
08:00 – 10:00	Sessions Start					
	Water, Ecosystems and the Environment		Special Session	Water governance for sustainable, equitable and affordable water services		Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 LINK: <a href="#">Here</a>	Venue: Naleli Link: <a href="#">Here</a>		Venue: Molepe Link: <a href="#">Here</a>
	Chair: Prof. Lobina Palamuleni Rapporteurs: Mrs Piedade Lucas Alexandre & Ms Philasande Mahlako		Chair: Dr. Nico Elema Rapporteur: Ms. Zimbili Sibiya	Chair: Prof. Liphapang Khaba Rapporteurs: Ms Nelisiwe Sincdzile Ngwenya & Ms Xolisa Makubalo		Chair: Dr Yolandi Schoeman Rapporteurs: Dr Yolandi Schoeman
08:00	Moropane L.M & Dube T	Mapping Groundwater-Dependent Invasive Species with Remote Sensing and Machine Learning in Heuningnes Catchment, Western Cape, South Africa.	ACEWATER III Project – Focussing on Transboundary Water Resources Management and Collaboration in Africa  Conveners AUDA-NEPAD SANWATCE (Southern African Network of Water Centers of Excellence)  Programme Welcome: Kenebatho P Opening address, setting the scene: SADC Chair Background Presentation: Elema N  Panel Discussion Facilitator de Kock C  SADC Water SADC GMI AMCOW WaterNet AUDA-NEPAD SANWATCE WRC	Ngwenya N.S	Factors affecting sustainable management of Manzana Wetland Ecosystem in Eswathini.	Bridging the Gap: Ecological Engineering Index for Enhanced Monitoring of Nature-Based and Ecologically Engineered Systems  Conveners Ecological Engineering Institute of Africa and the University of the Freestate  Programme Introduction  Segment 1: The Need for Ecological Engineering Indices (EEI)  Segment 2: The development of EEI: Methodologies and Technologies  Segment 3: Case Studies, Demonstrations and Applications of EEI  Segment 4: Integrating EEI into Current Integrated Water and Environmental Management Practices: Challenges and Opportunities
08:15	Esperança Z, Nhantumbo C, Duvail S, Hamerlynck O & Juizo D.	Framework for Estimating Environmental Flow for Incomati River Basin - Challenges and Opportunities.		Makubalo X, Sikhosana N & Omoruyi U	An assessment of water governance in the wake of climate change in the South African local government context.	
08:30	Mahlako P, Schoeman Y & Oberholster P.J	Evaluating Ecosystem Health in Chrissiesmeer: The Role of Macro-Invertebrate and Periphyton Sampling Using Modified SASS5.		Sibanda L & Moolman J	Reflecting on the barriers and opportunities for the effective governance of the Orange-Senqu River shared watercourse.	
08:45	Mathuthu M, Chobeka B.T & Ogana J.S.O	Effect of mining activities on water quality of the Vaal River, South Africa. (Virtual)		Mugejo K, Ncube B & Shoko E	The role of water governance in smallholder farming systems in the Western Cape.	
09:00	Mosepele B, Mosepele K & Sianga K	Dynamics of an aquatic macroinvertebrate assemblages in floodplain system of the Okavango Delta, Botswana.		Terzi S, Delves J, Belle J, Otomo P, Clark V.R & Schneiderbauer S	Investigating drivers and dynamics of 2016-2020 drought(s) in the water-rich mountainous area of Qwaqwa (South Africa).	
09:15	Ndzungu G, Zvinowanda C & Ngila J.C	Innovative Hybrid System: Calcium Ferrate-Ozone for Enhanced Removal of Contaminants in Municipal Wastewater Effluent.		Likoti L, Heinrich G, Munthali G, Mosiuoa G & Lefatsa K	The development and support of Community-Based Watershed Management Committees – Learnings from two decades of field experience.	
09:30	De Beer F.H	Development of the Newwater Point of Consideration Screening Tool.		Hantambo S, Banda W & Nyambe A.I	Zambia Inter-basin Water Transfers - Understanding Water Availability in Luapula and Kafue Catchment Using Rainfall Runoff Model.	
09:45	Mnyango S, Thwala M, Truter C, Xulu N & Oberholster P	Nutrient Load Estimation for Effective Water Resource Management in Dams: A Case Study of the Roodeplaat Dam, South Africa.		Lemine B	The Role of Academics in promoting Citizen Science for Improved Water Resources Management through the Lens of SDG 6. b: Just a Moral Obligation?	
10:00 – 10:30	Health Break					



10:30 – 12:45	Water, Ecosystems and the Environment		Innovative approaches, practices and technologies for affordable water supply, and sanitation services		Water governance for sustainable, equitable and affordable water services		Open Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 Link: <a href="#">Here</a>		Venue: Naleli Link: <a href="#">Here</a>		Venue: Molepe Link: <a href="#">Here</a>
	Chair: Prof Lobina Palamuleni Rapporteurs: Ms Zubaida da Conceição Esperança & Gcobisa Ndzungu		Chair: Dr Anna Matros-Goreses Rapporteurs: Ms Kholiswa Yokwana & Mmasechaba Lebogang Moropane		Chair: Dr Liphapang Khaba Rapporteurs: Ms Nonjabulo Ngidi & Ms Keneuoe Motsoene		Chair: Mr. Andrew Takawira Rapporteurs: Dr. Pinimidzai Sithole, Ms. Shuvai Zvakasikwa
10:30	Odumu S, Ogana J.S.O, Olukotun S.F & Mathuthu M ( <i>Virtual</i> )	Assessment of Radioactivity Concentrations and Associated Radiological Health Risk in Natural Spring Bottled Commercial drinking water from South Africa.	Malebadi K.A, Seheri N.H & Onwudiwe D.C	Visible light-driven CoWO <sub>4</sub> /g-C <sub>3</sub> N <sub>4</sub> heterojunction for effective photocatalytic reduction of Cr (VI) in water	Thibane Z, Mudhara M & Ncube B	Public perceptions and impacts of equity in water pricing in South Africa: A case of low-income households and irrigating farmers.	<p>Partnerships for translating science to policy: How science is informing the discourse around legal frameworks and strategic planning in the Buzi, Pungwe and Save Basins</p> <p>Conveners BUPUSACOM, Global Water Partnership Southern Africa (GWPSA), International Union for the Conservation of Nature (IUCN), Waternet Programme</p> <p>Welcome and Introductions: Saruchera D Opening Remarks: Takawira A Keynote Address 1 The role of data, information, science and evidence in decision making and policy formulation for the implementing of the BUPUSA roadmap: Madamombe E Keynote Address 2 Learning from its neighbours whilst developing the Limpopo Basins' diagnostic plan: preparing the roadmap for transboundary capacity to achieve future sustainability: Siteo S Strengthening integrated water resources management in the Cuvelai and Kunene River Basins through TDA Consultations: Uunona S Eflows Knowledge base, Stakeholder Engagement and capacity building for the Pungwe Environmental Flows Management Framework: Misi, A/Malanco J An evaluation of the groundwater resources of the Buzi, Pungwe and Save basins to inform the Strategic Action Programme: Petersen K Introduction to MSC research work for the BUPUSA Transboundary Diagnostics Analysis: Kujinga K An Analysis of the implications of gold panning on water resources management in Buzi and Pungwe Basins: Phiri N Assessment of the Environmental Impact of Artisanal Gold Mining in the BUPUSA Basins (Búzi, Pungue and Save Rivers): Piedade A Panel discussion: Saruchera D Panel discussion topic: How can research institutions and institutions of higher learning position themselves to respond to the needs, priorities and challenges of transboundary cooperation within the SADC region? Panelists: Responding Capacity Development and Research institutions: SADC GMI: Sauramba J Waternet: Kujinga K/Prof. Kileshye Onema JM Eduardo Mondlane University: Nhantumbo C University of Zimbabwe: Gumindoga W Session Summary: Zvakasikwa S Closing remarks and way forward: Katiyo L</p>
10:45	Schoeman Y & Oberholster P.J	From Incidental to Integral: Leveraging Artificial Wetlands for Biodiversity and Ecosystem Services in South Africa's Mining Landscapes.	Yokwana K, Ogunlaja A.S & Mhlanga S	Graphene-activated carbon@biomass-based nanostructured materials for efficient solar steam generation	Hambira W, Legwaila I.A, Moalafhi D.B & Mosepele K ( <i>Virtual</i> )	Universities and environmental sustainability: opportunities for growth towards efficient water use in sub-Saharan Africa.	
11:00	Palamuleni L	An evaluation of turbidity removal from domestic water using sunflower seed extract.	Mushayi J, Zvinowanda C & Zinyemba O	Quantification and degradation of Per- and Polyfluoroalkyl substances (PFAS) in water using Advanced Oxidation Hybrid systems	Muposhi V.K, Sianga K, Makhabu S, Setlalekgomo M, Selebatso T, Matsika T.A, Selala K, Barungwi A, Molojwane E, Legwatagwata B & Losologolo M ( <i>Virtual</i> )	Optimizing Water Management for Elephants: Insights from Spatial Analysis and Species Distribution Models in CKGR, Botswana.	
11:15	Chibwe C, Nyambe N & Nyambe L	Biodiversity, Weight – Length Relationship and Condition Factor of Luapula Basin Fishes: Potential for Interbasin Water Transfer.	Ndzungu G, Zvinowanda C & Ngila J.C	Innovative Hybrid System: Calcium Ferrate-Ozone for Enhanced Removal of Contaminants in Municipal Wastewater Effluent.	Mbano-Mweso N	An analysis of gender, water and businesses in water governance for sustainable, equitable and affordable water services.	
11:30	Mudzielwana R & Nemakanga S	Synthesis of Zr <sub>4</sub> +/Ag <sup>+</sup> modified zeolite for application in fluoride and pathogen removal from groundwater.	Phate S, Schmitz T & Thamae K.S	Cutting edge solutions for wastewater treatment in Lesotho.	Motsoene K & Seutloali-Thamae K	Conflict over rangelands resources in the Poete Catchment Area.	
11:45	Kasabila J, Banda K, Muma S, Mwandira W & Nyambe I ( <i>Virtual</i> )	Hydrochemical and Heavy Metal Analysis of Uchi Stream Near Uchi Tailing Dump, Kitwe, Zambia: PHREEQC Approach.	Ngambi M, Beyene A & Makoni F	Geshiyaro project success in addressing WASH needs for all by ensuring sustainability, World Vision Ethiopia.	Shoko E & Ncube B	Water access conflicts among smallholder farmers in historical towns in the Western Cape, South Africa.	
12:00	Mushayi J, Zvinowanda C & Zinyemba O	Quantification and degradation of Per- and Polyfluoroalkyl Substances (PFAS) in water using Advanced Oxidation Hybrid Systems.	Samuyachi J & Mulenga F	The Effectiveness of Nurturing Care Group on Hygiene and Sanitation interventions in Chikwa WASH Project-Zambia.	Kuiri F, Tijipangandjara K & Hengari A.V	Balancing Mineral Developments with Water Security – the case of the Stampriet Stampriet Transboundary Aquifer System (STAS).	
12:15	Ravele M, Olatunde O & Onwudiwe D	Photocatalytic removal of hexavalent chromium from water using heterojunction system of BiOCl/CuO.	Nzai L, Ngambi M & Achieng S	Revolutionizing Rural Sanitation: Exploring Market-based strategies for enhanced Sanitation & Hygiene in Kalawa, Kenya.	Mogomotsi P.K, Molosiwa K & Moatshe I ( <i>Virtual</i> )	Conceptualising optimal water allocation in the Okavango River Basin.	
12:30	Nhantumbo C, Dosse M, Joaquim D, Rodrigues M, Pedro O, Sumbana J, Vaz N, Monteiro S & Santos R	Trends of microbial contamination and antibiotic resistance in the Infulene River Basin.	Maphiri R & Ncube B	Assessing Water Losses and Water Quality Deterioration in the Overberg Water Board Raw Water Supply System.	Motsoane T.P, Moepi P.I & Mafantiri T	IACOV Public works Monitoring: A Case study for three Lesotho Southern Districts.	



12:45 – 13:45			Lunch			
13:45 – 15:45	Water, Ecosystems and the Environment		Innovative approaches, practices and technologies for affordable water supply, and sanitation services		Open Special Session	Open Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>		Venue: Pula 2 Link: <a href="#">Here</a>		Venue: Naleli Link: <a href="#">Here</a>	Venue: Molepe Link: <a href="#">Here</a>
	Chair: Prof. Lobina Palamuleni Rapporteurs: Ms Zubaída Esperança & Ms Namhla Mkiva		Chair: Dr Anna Matros-Goreses Rapporteurs: Mr. Isaac Byarugaba & Gcobisa Ndzungu		Chair: Dr Henry Roman Rapporteur: Ms. Valencia Mbatha	Chair: Dr Mamohloding Tihagale Rapporteurs: Ms Mmasechaba Lebogang Moropane & Ms Nonjabulo Ngidi
13:45	Ncube P, Motloung S.V, Koao L.F & Motaung T.E	Adsorption-photocatalytic removal of antiretroviral drugs in wastewater using modified TiO2-sugarcane bagasse nanocomposites.	Munyayi R, Mapani B & Shikangalah R.N	Bridging the Gap Between Gender Policy Intentions and Implementation in the Water and Sanitation Sector: Lessons from Namibia.	<b>Closing Data Gaps for Water Security: Collaborative Approaches with LIMCOM implementing Digital Twins and Citizen Science programs in the Limpopo River Basin</b>  <b>Conveners</b> International Water Management Institute and LIMCOM  <b>Programme</b> <b>Welcome and Opening Remarks:</b> Roman H  <b>Bringing Digital Twins to Life: From Concept to Co-Designed Prototype:</b> Andarcia A.G  <b>Citizen Science in Action: Amplifying Community Voices for SDG 6.3:</b> Graham M  <b>Science-Driven Collaboration: LIMCOM-GEF Initiatives for Sustainable Water Management:</b> Riddel E  <b>Panel Discussion and Q&amp;A</b> <b>Advancing Water Security Through Research and Data Collaboration:</b> Moderated by Henry Roman,  <b>Panelists:</b> Mr. Sergio Siteo – Executive Secretary, LIMCOM Dr. Eddie Riddel – Regional Coordinator, GEF7-IW Limpopo Basin Dr. Mark Graham – Director, GroundTruth Consulting Dr. Michael Scheibenreif – Impact Lead, UNICEF-YOMA (Youth Market) Dr. Bonani Madikizela – Research Manager, Water Research Commission (WRC)  <b>Closing and Final Remarks</b> Siteo S	<b>Strategic youth engagement: developing African water sector cases for youth challenges/Hackathons</b>  <b>Conveners</b> Water Research Commission, WaterNet, Water Institute for Southern Africa, Wetskills  <b>Programme</b> <b>Welcome and introductions</b> <b>Opening and recap from day 1:</b> Tihagale M  <b>Session to develop cases for a water scares Africa to be submitted and solved during the Wetskills challenges in 2025:</b> Tanyanyiwa C  <b>Workshop 2</b> <i>(participants splits into groups)</i>  <b>Development of the three cases to be used in the Wetskills and other WRC/WaterNet challenges in 2025</b>  Presentation of group cases to the adjudication panel <ul style="list-style-type: none"><li>• Dr Harrison Pienaar, WRC Board</li><li>• Dr Craig Tanyanyiwa, Wetskills Foundation and WISA Young Water</li><li>• Professionals</li><li>• Ms Camila Haux, UNICEF Eastern and Southern Africa Regional Office</li><li>• Prof. Jean-Marie Kileshye Onema</li></ul> <b>Remarks by students</b> – their experience with the workshop <b>Remarks by the panel representative:</b> Pienaar H <b>Awarding of the prize for the winning team:</b> WRC CEO  <b>Closing remarks</b>
14:00	Olagbaju P.O & Wojuola B.O	Investigation of toxic heavy metal in sediment, fishes and irrigation water in Rustenburg, North-West Province South Africa.	Ochieng O, Oyaro D & Cheruiyot E	Breaking cultural barriers: The impact of WASH based MHM intervention in demystifying barriers on school going children in pastoralist communities of Kenya.		
14:15	<a href="#">Ramulifho R</a>	Declining Stream Health in the Luvuvhu Catchment: Evidence from the Past Decade.	<a href="#">Ndlangamandla M</a> , Opong E & Mabuza N.	An exploratory study of WASH behaviours post COVID-19 emergency response interventions in Madlangempisi, Eswatini.		
14:30	<a href="#">Mupepi O</a> , Marambanyika T, Matsa M.M & Dube T	Wetland Moisture and Inundation Dynamics in Tugwi-Zibagwe and Shashe Sub-catchments, Zimbabwe: Insights from 2017 to 2023.	Yohannes A.B, Tsehay A.B, Megersa T.S, Alemu B.A, Makoni F.S, Norgbe B.Y & Workineh S.B	Sustaining Community Led Total Sanitation driven Open Defecation Free in rural Ethiopia: practices and Challenges.		
14:45	Chemura A, Parker A, Shekede M & Banda K	Remote sensing vegetation landscape controls of water availability over changing timescales in tropical catchments.	Kuria W, Achieng S, Wamalwa P, Makoni F & Ngambi M	Sanitation Transformation: Improving quality of life in Mwala, Kenya.		
15:00	Moshi B	Application of the RUSLE model to estimate sedimentation in the Lwanyo Reservoir in Mbarali District Mbeya – Tanzania.	Mnyone C, Andulile Mwabulambo A & Mjee J	Empowering Communities for Sustainable Sanitation and Hygiene Practices: The Impact of Empowered World View (EWV) Model.		
15:15	<a href="#">Ngatane T</a> , Seutloali K, Tedla H, Marunye J & Matsumunyane N	Evaluation of Soil Erosion and Runoff under Climate and Landuse Landcover Change in Lesotho.	<a href="#">Samuyachi J</a> & Nq'umayo M	A comparative study of clean water on Infection Prevention and Control in Rural Health Care Facilities of Zambia.		
15:30	Nhamo N, Mpandeli S & Mabhaudhi T	Applying machine learning and nexus planning to assess urban growth impacts on wastewater reuse for urban agriculture.	Chitsa G, Nkhonjera G & Alowo R	Optimisation of groundwater exploration using integrated geospatial and geophysical techniques in semi-arid basement aquifers of Zimbabwe.		
15:45 – 16:00	Health Break					



16:00 – 18:00		Innovative approaches, practices and technologies for affordable water supply, and sanitation services		Open Special Session		Open Special Session	
		Venue: Pula 2 Link: <a href="#">Here</a>		Venue: Naleli Link: <a href="#">Here</a>		Venue: Molepe Link: <a href="#">Here</a>	
		Chair: Dr Anna Matros-Goreses Rapporteurs: Ms Keotshepile Amanda Malebadi & Mr Mike Mushayi		Chair: Prof. Bongani Ncube Rapporteur: Dr Evans Shoko		Chair: Ms Liemo Likoti Rapporteurs: Itumeleng Phoho and Mammei Litabe	
16:00	Nthunya L. Richards, H. Quist-Jensen C & Ali A	Membrane distillation crystallization towards recovery of fresh water and minerals from saline wastewater.		<b>Water governance for sustainable catchment management in South Africa: Challenges and Opportunities</b>  <b>Conveners</b> Cape Peninsula University of Technology, University of KwaZulu-Natal, Water Research Commission, International Water Management Institute & Inkomati-Usuthu Catchment Management Agency  <b>Programme</b>  <b>Introduction and Research Chair objectives:</b> Ncube B  <b>Key regulatory instruments, institutional arrangements, and practical implementation of water governance in South Africa:</b> Dini J <b>Implementing water governance at the catchment level: challenges and opportunities:</b> Sawunyama T <b>Implications of overlaps and contradictions in statutory and customary water governance in South Africa:</b> van Koppen B <b>Challenges of local-level formal and informal water governance in small irrigation schemes in South Africa:</b> Mudhara M  <b>Enabling local-level water governance: The Giyani Local Scale Climate Resilience Programme:</b> Molose V  <b>Plenary Discussion</b> All  <b>Closing Remarks</b> Swatuk L		<b>Re-looking the Role of Soils in Integrated Catchment Management - A call for Urgent Action</b>  <b>Convener</b> Catholic Relief Services  <b>Programme</b>  <b>Welcoming Remarks:</b> Ozar K.H  <b>Keynote address</b> Dr Manyewu Mutamba  <b>Panel Discussion</b>  <b>Panelists:</b> Geoff Hendrich Juma Musamba Prof. Makoala Marake Selebalo Ramakhanna  <b>Closing Remarks</b> Kris H Ozar  <b>Group picture</b>	
16:15	Ngambi M, Murebwayire M.L & Makoni F	To Investigate the Impact of Spring Water Capturing for Rural Water Supply in Rwanda.					
16:30	Doomah Z & Jahmeerbacus S ( <i>Virtual</i> )	Integrating resilience in water and wastewater infrastructure projects in early lifecycle stages in Mauritius.					
16:45	Byarugaba I	Exploring the potential of wastewater for a sustainable development: A Biotechnology Based Approach.					
17:00	Sawunyama L & Onwudiwe D.C	Preparation and characterization of TiO2-ZnO/CFA-NS photocatalytic ceramic membranes for the photocatalytic degradation of tetracycline and ibuprofen under visible light.					
17:15	Uwambajimana D, Gisele I, Tuyizere M.N & Mathuthu M	Integrating rainwater harvesting and hygiene promotion to addressing water scarcity and health risks in households: A case study Gakenke district, Rwanda.					
17:30	Disho L, Aliwa J & Mmolawa K	Treatment of wastewater from BUAN dairy farm using a multi-functional constructed wetland.					
17:45	Vungu S & Mjee J	Impact of Safe Water Bags in Reducing Prevalence of Diarrheal Cases Among Kishapu Communities-Tanzania.					
18:00 – 19:00		WaterNet Alumni Association Meeting Venue: Molepe					



	Friday 1 November 2024			
08:00-10:00	Open Special Session	Open Special Session	Open Special Session	Open Special Session
	Venue: Pula 1 Link: <a href="#">Here</a>	Venue: Pula 2 Link: <a href="#">Here</a>	Venue: Naleli Link: <a href="#">Here</a>	Venue: Molepe Link: <a href="#">Here</a>
	Chair: Ms Mayando Kanyanta Rapporteurs: Mr James Mbewe	Chair: Mr. Comfort Molosiwa Rapporteurs: Mr Michael Ramaano	Chair: Ms. Mahlalele Eunice Setlhako Rapporteurs: Polao Ishmael Moepe & Ms Keneuoe Motsoene	Chair: Bismark Norgbe & Maybin N'gambi Rapporteurs: Wanjiku Kuria and Goodson Chitsa
	From Science to Practice, Water Resources Protection and Nature Based Solutions for Enhanced Resilience and Adaptive Capacity	ORASECOM: Case study on best practices for transboundary water resource management	Youth Led Operationalization of ICM	Innovative Approaches, Practice and technologies for Affordable and sustainable WASH services: Bridging Theory, practice and Impact
	Convener WWF Zambia	Convener ORASECOM	Conveners ReNOKA	Convener World Vision
	Welcome Remarks Kanyata M & Mwanza O	Programme Welcome and Purpose: Molosiwa C	Programme Introduction to Special Session	Programme
	Protection of the Upper Luangwa River Catchment: Mphande G	Overview of ORASECOM IWRM Plan Environment Pule R, Kinyaga V & Hloele T	Operationalizing ICM with youth – Awareness, Inclusion and Ownership: Catchment Manager	Welcome and introductions: Alfai I
	Water Resources Planning - Case Study Cuando Integrated Water Resources Management Plan: Mwanza O	Infrastructure Programme Beukman, R: • Models for Private Sector Engagement • Lesotho Private Sector Profile	Pillar I: Awareness and Ownership  awareness Campaigns (basic education): GM/CWT facilitator:ICM  Community Work with the Youth: CRS	Overview of World Vision's goals for achieving SDG 6: Makoni, F
	National Priorities for Biodiversity Conservation and Adaptation: Ministry of Lands	Panel Discussion Moderator: TBD • Executive Secretary • Min of Natural Resources (RENOKA) • Private Sector Representatives • UNICEF Representative	SILC & Marketing: Opportunities for Livelihoods: Representatives	Climate Resilience and Environmental Sustainability
	Accession to the UN Water Convention: Ndlovu E	Reactions • Telecommunication Industry • Mining Industry • Banking industry	Pillar II: Inclusion & Advocacy	Building Resilience: Exploring climate resilient WASH strategies in Ethiopian CSOs: Samuel T, Worku A & Beyene A
	Nature-Based Solutions - Lukanga Swamps and KAZA: Pule E	Q&A Session All Participants	Representation in the communities: Representative CWT	Assessing groundwater quantity and quality sensitivity of boreholes in semi-arid basement aquifers of Zimbabwe under meteorological drought conditions: Chitsa G, Chidavaenzi M Makoni F & Norgbe B.Y
	Water - Value and Effect on the Economy: Pule E & Banda B	Way Forward and Closing Pule R	Young officers in Catchment Planning Units Fishbowl discussion with all participants: CPU youth	Innovative designs and community-driven solutions for sanitation that cater to diverse needs
	Enhancement of Water Quality Monitoring for SDGs through Citizen Science: Mudenda E	Refreshments and Networking All Participants		Revolutionizing Rural Sanitation: Exploring Market-based strategies for enhanced Sanitation & Hygiene in Kalawa, Kenya: Nzai, L., Achieng, S & Ng'ambi, M
				Sustaining Community Led Total Sanitation Driven Open Defecation Free in Rural Ethiopia: Practices and Challenges: Yohannes A.W
				Innovations on the cutting edge of WASH
				Assessment of disability inclusion in WASH services at Endabash AP – Tanzania: Kitomari R & Charles J
				A comparative study of clean water on Infection Prevention and Control in Rural Health Care Facilities of Zambia: Nq'umayo M & Samuyachi J
				Alternative financing to accelerate progress towards SDG 6 An exploratory study on internal climate smart WASH financing in Malawi: Sidira G & Sei I A longitudinal review of community participation in sustaining donor-funded projects in Leribe district, Lesotho: Tseetsana K, Likhomo K, Fosa M & Mafuta W Effective methods for encouraging sustainable hygiene practices within communities. Utilizing a Household Engagement and Accountability Approach (HEAA) to Scale Rural WASH Services in Uganda: Oyesiyge P & Opeto L Impact of Safe Water Bags in Reducing Prevalence of Diarrheal Cases Among Kishapu Communities-Tanzania: Mjee J, Vungu S, Kami A & Alfred J
				Discussion and Q&A: Wamalwa P



10:00	Health Break
	<b>Adjudicators' Meeting</b> Venue: Naleli
	<b>Chief Symposium Rapporteur and Session Rapporteurs' Meeting</b> Venue: Molepe
	<b>Closing Plenary</b> Venue: Pula Hall Master of Ceremonies: L. Maqalika-Lerotholi Rapporteurs: Mr. Jeremiah Nkowane & Mr Glynn Pindihama Link: <a href="#">Here</a>
10:45	Keynote Address by the WMO Representative for Eastern and Southern Africa: Ms Hlob'sile Sikhosana
11:00	Symposium Reporting by young journalists from SADC Member States
11:30	Remarks by the Pro-Vice Chancellor of the National University of Lesotho: Prof Kananelo Mosito
11:40	Remarks and Introduction of the International Scientific Committee and Team of Reviewers by the Chairperson of the International Scientific Committee: Prof. Cosmo Ngongondo
11:50	Overview of the 24 <sup>th</sup> WaterNet/WARFSA/GWP-SA Symposium presentation by the Chief Symposium Rapporteur: Dr Kawawa Banda
12:10	Remarks by the Guest Editor of the Special Edition of the Journal of Physics and Chemistry of the Earth: Prof. Cosmo Socrates Ngongondo
12:20	Vote of Thanks: WaterNet Executive Manager, Prof. Jean-Marie Kileshye Onema
12:30	Announcements: LOC
12:40	Lunch
13:45 -17:00	General Excursion 1: Metolong Dam (Register <a href="#">here</a> ) Excursion 2: Innovative field measurement methods using affordable and low complexity devices – Metolong Dam (Details and Register <a href="#">here</a> )
18:30-22:00	<b>Closing Gala Dinner</b> Venue: Pula Master of Ceremony: Ms Mahlalele Setlhako
19:00	Arrival of guests and entertainment
19:15	Welcoming: Dr Mamohau Thamae
19:20	Dinner
20:00	Award ceremony
20:40	Announcement of venue and presentation for Symposium 26
21:00	Entertainment and socialising



## Poster Session

Venue: Hotel Foyer	
Chair: Ms Refiloe Maphiri	
Rapporteurs: Mr Baraka Moshi & Mr Polao Ishmael Moepi	
Water, Ecosystems and the Environment for Poster Presentation	
Alexandre P, Nhantumbo C & Juizo D	Synoptic research on the environmental impact of artisan gold mining on water quality in the Buzi And Pungwé Rivers Basins in Manica, Mozambique.
Sianga K, Makhabu S, Muposhi V, Setlalekgomo M, Selebatso T, Matsika A, Selala K, Barungwi A, Molojwane E	Spatial Dynamics of African Elephants, <i>Loxodonta Africana</i> (Blumenbach) found in the Central Kalahari Game Reserve, Botswana.
Legwatagwata B, Maitumelo L, Dingake O & Nkgowe C	
Mupepi O, Marambanyika T, Matsa M & Dube T	Land use and land cover changes in Shashe and Tugwi-Zibagwe sub-catchments in semi-arid Zimbabwe and their implications on wetland conditions.
Changing hydro-climatic regimes and planning tools for climate resilient pathways	
Mkiva N	Heatwave trends and associated physical processes of summer season in North West Province of South Africa.
Innovative approaches, practices and technologies for affordable water supply, and sanitation services	
Keele L & Osifo P	Synthesis and Characterization of TiO <sub>2</sub> Nanoparticles Supported on Borosilicate Glass Spheres for Photocatalytic Applications in Wastewater.
Gabogolelwe K.J & Mbaiwa,J.E	Corporate Social Responsibility and Tourism Companies in the Okavango Delta, Botswana.
Dyna U & Gisele I	Empowering Rwandan youth students through school sanitation and hygiene outreach campaigns in primary and secondary schools: a case study in Nyarugenge district, Kigali city, Rwanda.
Kunene G, Seheri N.H & Onwudiwe D.C	Improvement of the optical and structural properties of CuWO <sub>4</sub> for enhanced photocatalytic removal of antibiotics from wastewater.
Water, Energy, Agriculture and Land	
Ngidi N & Ndelela S	Fabrication of biomass-derived porous carbon for electrochemical capacitors application.
Mutema M, Phasha S.S, Muchaonyerwa P, Dhavu K, Nciizah A, Mothapo M, Sambo C, Lulama S, Mahlamvu S & Shaku M.M	Effects of Agri-mat mulching on selected sorghum growth parameters and soil properties in semi-arid landscape.
Dube T, Dube T, Dalu T, Marambanyika T & Dube T	Assessment of land use and land cover, water nutrient and metal concentration related to illegal mining activities in an Austral semi-arid river system: A remote sensing and multivariate analysis approach.
Mahoko K, Nde S & Palamuleni L	A systematic review of climate variability and water resource for agricultural crop production in South Africa.
Masupha T, Moeletsi M & Tsubo M	Toward an Innovative Agricultural Drought Early Warning System for Enhanced Decision Support in South Africa.
Water governance for sustainable, equitable and affordable water services	
Kitomari R & Charles J	Assessment of disability inclusion in WASH services at Endabash AP.

**NB: Highlighted in grey are young water scientists**



## Exhibitions

Venue: Hotel Main Entrance down to the Main Hall

### Water Research Commission Exhibition



The Water Research Commission (WRC) of South Africa was established more than five decades ago following a period of serious water shortage. The WRC serves as South Africa's largest funder of water and sanitation-related research. In addition to serving as R&D partner to the sector leader, the Department of Water and Sanitation, the WRC provides the sector with knowledge and capacity to ensure sustainable management of water resources and enhance water services. The WRC funds research through water research levies as well as leverage funding from research partners, international donors, and foundations. Information and links are offered to the

latest available WRC-funded research under the following themes: groundwater, drinking water, water and energy, sanitation, and municipal guides and tools. Several mini guides are available on drinking water treatment, drinking water management, water, sanitation, and hygiene, as well as emergency response. We invite all participants to come and engage with the WRC team at our exhibition stand to learn about how the WRC uses technology and innovation to improve the lives of ordinary citizens in South Africa and contribute towards access to clean drinking water and sanitation for all. Our digital content will showcase some of our water and sanitation solutions and flagship projects implemented in the rural communities in SA.



World Vision, in collaboration with Wagtech-Trace20, a leading UK-based manufacturer, is showcasing cutting-edge water testing tools and monitoring technologies and 4Life Solutions is a Danish-based impact company with a mission to

provide clean, safe, and affordable drinking water to the 2.2 billion people in low-income communities who currently lack access to it through low-cost technologies such as Sawa Can/bag, at our exhibition. These tools are instrumental in our efforts to ensure water quality across communities, enhancing our ability to deliver safe and sustainable WASH services. Wagtech-Trace20 will also demonstrate early warning solutions for hydrometeorology and agrometeorology, which are crucial for monitoring extreme weather and climate-related events. Their comprehensive offerings include weather stations, water level and quality sensors, lightning detection systems, and sea buoys, all designed to provide robust support for water and weather monitoring.

Through this partnership, World Vision is harnessing innovative strategies and advanced technologies to address the challenges posed by changing hydroclimatic conditions. Together, we are working towards climate-resilient pathways, ensuring communities are better prepared to respond to the impacts of climate change. Join us to learn more about how these technologies are shaping the future of water quality monitoring and early warning systems and access to safe clean water.

### Lesotho Lowlands Water Development Project



The Project aims at improving the supply of potable water to the Lowlands Region of Lesotho encompassing urban, peri-urban and rural settlements experiencing water shortages caused by unmet water demand, severe drought and climate change induced challenges. It is expected that improved water supply services will bring positive impacts on livelihoods and economic activities in these areas. LLWDP II operates in Zones 2 and 3 (Hlotse and Maputsoe) and Zones 6 and 7 (Mafeteng and Mohale's Hoek). It is supported by the World Bank, the European Union and European Investment Bank (EIB).

### Catholic Relief Services



### Global Water Partnership Southern Africa



The Global Water Partnership Southern Africa (GWPSA) is implementing four main programmes which will be exhibited at the 25<sup>th</sup> WaterNet/ WARFSA/ GWPSA Symposium in the form of knowledge products and videos.

**Continental Africa Water Investment Programme (AIP)** – designed to narrow

Africa's water investment gap and enhance job creation through investments in water security, industrialization and climate-resilient development. It is estimated that at least USD30 billion additional finance needs to be mobilised annually by 2030 to meet Sustainable Development Goal 6 target on water and sanitation. Currently, only USD10-USD19 billion is invested each year

**The AIP Transboundary PIDA Water Investments Support Programme** - seeks to promote investment-led transboundary management and governance of water and environmental resources.

**AIP Water, Climate Development and Gender Programme** - supports countries to integrate resilience planning and to catalyse and accelerate collaborative action among water, climate, development, disaster risk reduction, and finance communities. The programme also supports countries to access climate finance for resilience-building water projects adaptation planning.

**The AIP SDG Investments Support Programme** - supports countries to achieve SDG 6 on clean water and sanitation for all, while contributing to the achievement of water-related SDG targets in health, energy, food, and ecosystems and boosting job creation interventions.

### ReNOKA





