

#### The Revolutionary Government of Zanzibar Ministry of Water, Energy and Minerals

### Zanzibar Water Conference 2022

#### Theme

#### Seeing the Unseen: Sustainable Management of Groundwater Resources in a Changing Climate

Programme



14<sup>th</sup> – 15<sup>th</sup> September 2022 Golden Tulip Hotel, Zanzibar











### **Guest of Honour**



### H.E. Dr. Hussein Ali Mwinyi

President of Zanzibar and Chairman of the Revolutionary Council

### **Organizing Committee**



Hon. Shaib Hassan Kaduara Minister of Water, Energy and Minerals



Hon. Shaaban Ali Othman Deputy Minister of Water, Energy and Minerals



Joseph Kilangi Principal Secretary Ministry of Water, Energy and Minerals



Mwanajuma Majid Abdullah Deputy Principal Secretary Ministry of Water, Energy and Minerals





Dr. Maryam Issa Mr. Mudrik Fadhil Juma Abass



Dr. Salha M. Kassim

Dr. Victor Kongo





Dr. Subira Munishi



Dr. Mathew Renny Msukwa

Dr. Nassor



Ms. Semeni Hamad Said Jaffar



Kimati

Mr. Abeid Mussa



Dr. Jackson Justo



Mr. Said Faraji Abdalla

Mr. Hakim M.

Ame



Ms. Shara

Mr. Mshangama Ismail Juma



Mr. Chrisogonous Ms. Asha Msoka Kibugu

Eng. Khamis

Yahya





Khamis

Mr. Salum Keis



Ms. Asya Sabri Said



Ms. Sharon Sije





Mr. Abdulsatari maulid salim





Ms. Evangeline Sokile

Ms. Salma Lusangi











#### **Scientific Committee**



Eng. James Sauramba SADC GMI



**Dr. Subira Munishi** University of Dar es Salaam



**Dr. Jackson Justo** University of Dar es Salaam



Prof. Graham Jewitt IHE Delft Institute for Water



Dr. Kevin Pietersen SADC-GMI



**Dr. Victor Kongo** Global Water Partnership Tanzania



**Dr. Mathew Msukwa** University of Dar es Salaam



Dr. Maryam Issa Juma Ministry of Water, Energy and Minerals



Chrisogonous Kibugu Global Water Partnership Tanzania

















# Day 1

# Wednesday - 14 September 2022

Time	Activity		
0700hrs - 0900hrs	Arrival of Conference Participants & Registration		
0900hrs - 0915hrs	Arrival of Guest of Honour - H.E. Dr Hussein Ali Mwinyi President of Zanzibar and Chairman of the Revolutionary Council		
0915hrs - 0945hrs	Tour of Exhibition Booths by Guest of Honour		
0945hrs - 0955hrs	Singing of National and East Africa Community Anthems		
0955hrs - 1000hrs	Prayers		
	Opening Remarks		
1000hrs - 1005hrs	Statement by Executive Director - Global Water Partnership Tanzania (GWP TZ) Dr. Victor Kongo		
1005hrs - 1015hrs	Keynote Address 1: Introducing the Conference and Water Situation in Zanziba Director General - Zanzibar Water Authority (ZAWA) Dr. Salha Mohammed Kassim		
1015hrs - 1025hrs	Keynote Address 2: The Blue Economy Discourse Programme Manager - Western Indian Ocean Marine Science Association (WIOMSA) Dr. Valentine Ochanda		
1025hrs - 1030hrs	Introduction Remarks by Principal Secretary - Ministry of Water, Energy and Minerals Mr. Joseph J. Kilangi		
1030hrs - 1035hrs	Introduction Statement by the Minister - Ministry of Water, Energy and Minerals <i>Hon. Shaibu Hassan Kaduara</i> and inviting the Guest of Honour		
1035rs - 1100hrs	Official Opening by the Guest of Honour President of Zanzibar and Chairman of the Revolutionary Council H.E. Dr Hussein Ali Mwinyi		
1100hrs - 1110hrs	Group Photos with Guest of Honour		
1110hrs – 1120hrs	Award of Certificate of Appreciation to Sponsors		
1120hrs - 1130hrs	Departure of Guest of Honour		
1130hrs - 1150hrs	Health Break		
1150hrs - 1250hrs	Plenary Session I Moderator: Dr. Richard Kimwaga Panelist: Eng. James Sauramba, Prof. Afonso Daniel Macheca, Captain Hamad		

			ARTICLES AND ARTICLES
Time	Activity		
	Groundwater assessment in a changing climate	Conjunctive use of surface and groundwater in enhancing water supply and sanitation	Water – Energy -Food security (WEF) Nexus in a changing Climate
	Room 1	Room 2	Room 3
	Chair: Dr. Deogratias Mulungu Rapporteur: Evangeline Sokile	Chair: Eng. James Sauramba Rapporteur: Leah Marwa	Chair: Dr. Hans Komakech Rapporteur: Gift Mollel
1250hrs - 1305hrs	Afonso Daniel Macheca 'Biodegradable Polymer- Based Organoclays for Wastewater Treatment Process: An Alternative to Conventional Surfactant- Based Organoclays'	Richard Kimwaga 'Towards Safe Toilet Emptying in Unplanned Settlement Areas for Groundwater Contamination Control: A case of Dar es Salaam, Tanzania'	Preksedis Marco Ndomba 'Sensitivity Analysis of Modelling Inputs in SWAT and HBV Hydrologic Models in Simulating Historical Stream Flows
1305hrs - 1320hrs	Subira Munishi 'Rapid Assessment of Groundwater Quality in Zanzibar (Unguja and Pemba)'	Shija Kazumba 'Cost of water transportation to mitigate shortages in semi-arid regions of Tanzania'	Francis Mwasilu 'Smart Water-Food-Energy Nexus-Based Power Infrastructure for Enhancing Reliable and Flexible Rural Electrification'
1320hrs - 1335hrs	<b>Chrisphine Odiwuor Adero</b> 'Social Auditing and Corporate Sustainability of Water Companies in Kenya'	Mohammed Mohammed Abdallah 'Integrated water resources management using EPANET software for proper water distribution network in Zanzibar'	Othman Juma Suleiman 'Crop water requirement for Zanzibar Island in Tanzania state up to 2100 using high- resolution climate simulation from cordex regional climate models'
1335hrs - 1405hrs	Discussion		
1405hrs - 1500hrs	Lunch		
1500hrs - 1515hrs	Innocent Nkuruzinza 'GIS based groundwater potential and vulnerability assessment and mapping for domestic use in Ruvubu river basin, Burundi'	Comprehensive study on factors affecting consumers' choice of bottled drinking	Eng. Esther Oulo** 'The Nexus Approach to Water-Energy-Food Security: An Option for adaptation to Climate Change'
1515hrs - 1530hrs	Rita Alex 'Identification of groundwater contamination Sources Using Stable Isotope for Singida Urban and Manyoni Aquifers in Tanzania'	Sekgota 'Beyond litres– the	Jackson J Justo 'Looking into Solar PV Systems for Clean Water and Food Nexus Applications'
1530hrs - 1545hrs	Hellen Aluku 'Impacts of Science-Policy Interface and Science- Policy-Farmers Interface on Adoption of Innovative Agricultural Techniques in North-Eastern Tanzania'	'Evaluation of SWAT and HBV Model Parameter Uncertainties in Simulating	Naima A.M. Hersi** 'Groundwater Recharge Estimation for the Internal Drainage Basin, Tanzania under changing Land use and Climate scenarios'
1545hrs - 1615hrs	Discussion		
1615hrs - 1700hrs	Health Break and Poster Session		

## Day 2

## Thursday – 15 September 2022

Time	Activity			
0830hrs - 0930hrs	Plenary Session II Moderator: Dr. Richard Kimwaga Keynote Presentation III: Dr. Subira Munishi (Characterizing the Zanzibar Hydrogeological Regime) Panelist: Dr. Maryam Issa Juma, Elisekile Mbwille, Dr. Salha Mohammed Kassim			
	Room 1	Room 2	Room 3	
	Chair: Dr. Shija Thomas Kazumba Rapporteur: Asha Msoka	Chair: Dr. Sekela Twisa Rapporteur: Naima Hersi	Chair: Dr. Richard Kimwaga Rapporteur: Sharon Richard	
	Groundwater assessment in a changing climate	Conjunctive use of surface and groundwater in enhancing water supply and sanitation	Water – Energy -Food security (WEF) Nexus in a changing climate	
0930hrs - 0945hrs	Fanuel Ligate 'Hydrogeochemistry, speciation modeling, and spatial variability of arsenic and fluoride in groundwater from Geita district, northwest Tanzania'	Anastazia Rutatina** 'DIAMOND Model Accelerates Sanitation Coverage and Protects Water Resources. A Case of FINISH Mondial Project in Tanzania'	Aviti Thadei Mushi 'Recent Hydro Generation Issues within Tanzania – A Closer Look'	
0945hrs - 1000hrs	Chrisogonous Kibugu** 'Water Demand Assessment of Unguja and Pemba Islands: Towards Vision 2050'	Amour Seleman 'Towards Safe Toilet Emptying in Unplanned Settlement Areas for Groundwater Contamination Control: A case of Dar es Salaam, Tanzania'	Brown Gwambene 'Water, energy and agriculture nexus for increased basin management synergies in Ngara District, Tanzania'	
1000hrs - 1015hrs	Emmanuel Midheme 'Reaching beyond the network: The delegated management model of water supply in Kisumu's informal settlements'	Hossein Miraji Reforestation of the Western Indian Ocean for the Sustainability of Blue Economy: A focus on the Zanzibar Islands	Frem, Michel** 'Assessing Toroka Sand River's Characteristics Using Open-Source Data, Local Knowledge and Simple Field Investigations'	
1015hrs - 1030hrs	Simon Manda 'Centrality of a Future Dialogue on Water: Analysing Key Future Water Research Questions'	Gislar Edgar Kifanyi 'A Novel Approach for Optimum Conjunctive Use Management of Groundwater and Surface Water Resources under Uncertainty'	Femi D. Ogunnigbo** 'Enhancing Safe Water Supply and Sanitation in Internally Displaced Person Camps: Assessing the Water Management Systems'	
1030hrs - 1100hrs	Discussion			
1100hrs - 1130hrs	Health Break			

			Hurra Participation
Time	Activity		
	Room 1	Room 2	Room 3
	Chair: Chair: Dr. Shija Thomas Kazumba Rapporteur: Asha Msoka	Chair: Dr. Sekela Twisa Rapporteur: Naima Hersi	Chair: Dr. Richard Kimwaga Rapporteur: Sharon Richard
	Groundwater assessment in a changing climate	Conjunctive use of surface and groundwater in enhancing water supply and sanitation	Water – Energy -Food security (WEF) Nexus in a changing climate
1130hrs - 1145hrs	Manon Van Goethem** 'The potential of deep groundwater as an alternative fresh water source'	<b>Titilayo Olubunmi Olaposi</b> 'Drinking Water Pollution by Buried Human Remains: Causes, Effects and Mitigation Strategies'	<b>T.P. Chibarabadaa</b> 'Linking conservation agriculture to the 5ps of the sustainable development agenda a Water-Energy- Food-ecosystem nexus perspective'
1145hrs - 1200hrs	Fridtjov Ruden 'Deep freshwater resources onshore Tanzania and offshore in the Zanzibar Channel'	Healy A 'Urban Groundwater in Africa: A dialogue for resilient towns and cities'	Jean Nepo Nsengiyuma 'Integrated Flood Risk Mangement with multi- criteria decision analysis for Sustainable Environment in Mukungwa Catchment of Rwanda'
1200hrs - 1215hrs	<b>Dolphine Teyo Ombasa**</b> 'Multi-criteria approach to assess groundwater potential: a case study of Baringo County, Kenya'	Mendy Zibuvile Shozi** 'Transitioning towards a circular economy: resource recovery and Reuse potential in water and Sanitation, South Africa'	Webster Gumindoga 'Groundwater Potential - A rapid earth observation-based assessment for Zimbabwe's catchments'
1215hrs - 1230hrs	Sylvester Richard Chikabvumbwa** 'GIS-based groundwater recharge zoning amidst climate change: Lessons from Malawi'	<b>Ifedotun Victor Ainaa</b> 'Water management in the presence of drought: Perspectives from residential water regulation in South Africa'	Racheal Macharia** 'Water Energy Food (WEF) NEXUS in a changing Climate environment Aquaculture in Hydropower Reservoirs'
1230hrs - 1300hrs	Discussion		
1300hrs - 1400hrs	Closure Session (See Separate Programme)		
1400hrs - 1500hrs	Lunch		





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Seaweed Farming and Processing (Shutterstock)