

SECOND CALL FOR PAPERS

24th

**WATERNET/WARFSA/GWP-SA
Symposium on**

*Accelerating Change: Fostering Innovation and
Integration for Sustainable Water Resources
Management in Eastern and Southern Africa*

A Blended Event to be held virtually and at the
Hotel Verde Zanzibar
Azum Resort and Spar
Zanzibar
The United Republic of Tanzania

25th – 27th October 2023

Jointly convened with:

International Association of Hydrological Sciences (IAHS),
AU/NEPAD Southern African Network of Water Centres of Excellence (AU/NEPAD SANWATCE),
The Water Research Commission and the Local Organizing Committee led by the
University of Dar es Salaam, Tanzania

With support from the Government of the United Republic of Tanzania



BACKGROUND

The 24th WaterNet/WARFSA/GWP-SA Symposium will be held in Zanzibar, United Republic of Tanzania at the Verde Hotel Resort, 25 – 27 October 2023 under the theme **Accelerating Change: Fostering Innovation and Integration for Sustainable Water Resources Management in East and Southern Africa**. The 24th Symposium will be hosted by the University of Dar es Salaam in collaboration with other partners.

The Symposia have been held annually in the Eastern and Southern African regions for the past 23 years to promote interaction among policymakers, academics, practitioners from water and related sectors, and cooperating partners. Together, they identify regional issues, gaps and priorities that require further research and support. Great emphasis has been placed on integration of knowledge, particularly involving scholars from the natural and social sciences.

This year's symposium sub-themes have been aligned to the achievement of Sustainable Development Goals (SDGs) and themes of the World Water Day 2023 and the SADC Water Research Agenda under the Regional Strategic Action Plan (RSAP) on Integrated Water Resources Development and Management Phase V, whose main objective is:

- Promoting evidence-based implementation of SADC water programmes and projects through multi- and inter-disciplinary research, and synthesis of existing and new information, which will lead to a realization of SADC developmental goals.

SUB-THEMES

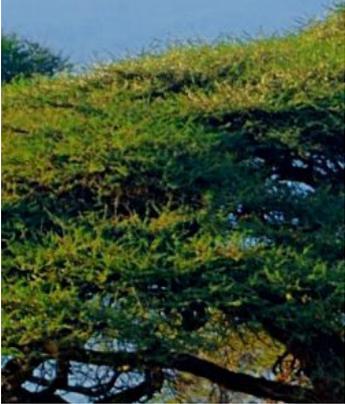
Policymakers, academics, practitioners from water and related sectors, and cooperating partners are invited to register for and attend the symposium and make use of this opportunity to listen and debate findings from presentations focused on the different sub-themes. Authors with accepted papers should now submit their full papers targeting the sub-themes below.

Innovative Approaches, Practices and Technologies for Affordable Water Supply and Sanitation Services

Sustainable Development Goal (SDG 6) aims to “Ensure availability and sustainable management of water and sanitation for all by 2030”. The lack of adequate access to safe drinking water and basic sanitation is a global issue that is particularly severe in Africa, especially in Eastern and Southern Africa. The demand for safe drinking water and wastewater generation is rising quickly due to rapid urbanization, population increase, and economic development. Africa is urbanizing rapidly – its population is expected to be up to 1.3 billion by 2050. The percentage of people who lack access to clean drinking water is estimated to be 40% in Sub-Saharan Africa and approximately the same population in Eastern and Southern Africa. Regarding accessibility to improved sanitation, Africa lags behind other continents. Almost 70% do without basic sanitation. Furthermore, inadequate access to WASH services has many health consequences; it contributes to the burden of diarrheal diseases that cause child mortality globally. Due to

limited access to clean water supply and sanitation in Sub-Saharan Africa, 842 000 adults and 120,000 children under five, die yearly from diarrhoea caused by unsafe water and poor sanitation. Cholera outbreaks have been experienced in the SADC region in recent years. The health of members of society is highly dependent on both the quality and the availability of water and on how well this precious resource is managed.

With regard to wastewater and wastewater treatment, the generation of wastewater is increasing rapidly, especially in the global south. It has been estimated that 80% of the wastewater generated globally, with 90% in the global south, is directly discharged into the environment without being treated or reused. Rapid population growth in Africa has



resulted in a rise in water consumption, an increase in wastewater generation, and an increase in discharge. This phenomenon increases the demand for providing basic services, including wastewater management. Yet, treatment and disposal of this wastewater have not kept pace with this increased demand. Untreated wastewater pollutes surface and groundwater and may lead to many diseases and illnesses, resulting in the deaths of the young, the elderly and vulnerable people. Africa treats only 1% of wastewater to a secondary level. Given the urgency to accelerate the achievement of SDG target 6.3, which aims at *“halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”* by 2030, context-specific wastewater treatment systems are urgently needed considering wastewater as a useful resource which can be recovered and used for productive purposes. In addition, solid waste is not collected systematically or using proper disposal methods and poses a health hazard to residents and the environment. New and innovative approaches are required in wastewater management to alleviate these challenges. To achieve a number of sustainable development goals such as poverty eradication and hunger (goals 1 and 2), good health and wellbeing (goal 3), quality education (goal 4), gender equality (goal 5), clean water and sanitation (goal 6), clean and affordable energy (goal 7) reducing inequality (goal 10) and sustainable cities and communities (goal 11), life below water (goal 14), life on land (goal 15), there is a need to come up with innovative approaches, practices and technologies in order to achieve adequate water supply and sanitation services for all. The challenge is to identify affordable technologies that are appropriate and accepted by the intended beneficiaries across Eastern and Southern African regions. The available innovative technologies include Internet of Things (IoT) and Self-Monitoring, Assessment and Reporting Technology (SMART), which can provide innovative solutions for real-time monitoring and controlling of system operations and management.

Papers in this sub-theme should address sustainable water supply and sanitation development, technological advances in water supply, reuse and recycling, sanitation, water utility management and linkages to public health.

Water Governance for Sustainable, Equitable and Affordable Water Services

Multiple water challenges have emerged in the twenty-first century, necessitating a significant shift in the way water resources are managed. A number of factors such as climatic and hydrological conditions, population growth, rural-to-urban migration, urban-to-rural migration, increased per-capita water use, pollution, and over-abstraction of groundwater, are contributing to the current water crisis that has posed a challenge for efficient and effective water governance in Africa in general and in Eastern and Southern Africa in particular. The global water crisis has, thus, been defined as a governance crisis, i.e., the failure of water institutions to manage the resource for the well-being of humans and ecosystems. This calls for reforms in both policies and legal frameworks in the region.

Countries in the Eastern and Southern Africa regions are at various stages in the process of putting in place policies and legal frameworks that promote integrated water resources management. While some nations began the process of implementing legal water reforms supported by IWRM provisions more than 20 years ago, others began the process later, and still others have not yet reformed their water sectors. These various stages call for a more in-depth investigation into the ways in which the policies



and legal frameworks of nations that have been actively implementing water reforms related to IWRM have influenced the management of sustainable water resources in comparison to nations that have not yet begun the process of reforming their water sectors. In this context, the question that needs to be answered concerns reforms that are related to IWRM as well as sustainable management of water resources.

The Southern African Development Community (SADC) region has made significant progress in the area of transboundary water governance as a result of the implementation of the Revised Protocol on Shared Watercourses, as well as a number of transboundary water agreements, which have led to the establishment of commissions such as those for the Zambezi, Limpopo, Orange Senqu, Okavango and Cunene basins. It is of the utmost importance to conduct research into the degree to which these River Basin Organizations are improving the management of shared watercourses and the manner in which they are carrying out the various provisions of the agreements that they have made. It is necessary to identify and discuss the challenges that they are currently facing. These challenges include the strengthening of institutions, the creation of services that add value to stakeholders in riparian states, and the establishment of sustainable financing for their programs in order to reduce their dependence on donor financing.

The goal of effective water governance is to make it easier for people to exercise their fundamental human rights to water and sanitation. This highlights the principle that all people have the right to safe drinking water, sanitation, shelter, and the basic services that go along with those needs. The human right to water is an essential component of a life that is lived with human dignity. This right is necessary in order for other human rights to be realized; it is a prerequisite. Corruption and a lack of accountability both drain vital financial resources and have emerged as primary causes of the high cost, poor quality, and even total absence of water and sanitation services. They violate these human rights in this and other ways, and they contribute to the underachievement that we are seeing with respect to the sustainable development goals.

This sub-theme invites papers that address issues concerning appropriate water governance arrangements at different levels (regional, national, and local), stakeholder participation in water management at various scales, and legal and policy frameworks for water management as well as their efficiency and the models used for the delivery of water services, as well as differentiated pricing, subsidization, and incentives, as well as the human right to water.

Water, Land, Energy and Agriculture

Agriculture consumes most of the freshwater resources in the world, while food production and distribution consume more than a quarter of the world's energy. Agriculture is a land-based industry by nature, and there is competition for available land to grow food and live on. Thus, water, energy, and land are critical resources for sustaining life and livelihoods. Population growth, rapid urbanization, dietary alterations, and economic development are all factors contributing to an increasing demand for water, energy, and land, all of which compete with agriculture. The links between the three resources form a nexus that need more research.

Feeding a worldwide population of 9 billion people by 2050 will necessitate a



60% increase in food production. As a result, enhanced land tenure, management, development, and conservation are required to boost agricultural production, sustainable land use, and water resources.

In most regions, meeting the need for agricultural goods while minimizing the demand for and conserving the quality of land and water is a serious challenge. Across the SADC region, the share of irrigated land as a fraction of total arable land is low. Agriculture's water and energy demands are expected to rise. Better techniques of accounting for and utilizing biophysical resources are necessary. However, the assessment is based on fundamental procedures that urgently require modification. The assessment of biophysical resources must involve the calculation of irrigation potential vs. arable land, the applicability of agricultural performance measures (water use efficiency, water productivity), and water usage by diverse land uses (such as forestry and biofuel feedstock).

Energy access is critical for poverty reduction and economic growth promotion. Agricultural development and the expansion of urban water systems both necessitate access to abundant, dependable, and affordable energy sources. Renewable energy applications have the ability to ameliorate many of the difficulties that Africans confront on a daily basis, especially if done in a sustainable manner that respects human rights. However, in Eastern and Southern Africa, the usage of renewable energy for irrigation is still quite low.

The papers under this sub-theme should emphasize the interaction of land, water, and energy as an important nexus that must be fully defined, particularly the use of solar energy, rain-fed vs. irrigated production, water harvesting technologies, and other best practices to reduce pressure on the strained water resource systems. How can water, land, and energy be managed together in a way which considers the fact that there is less water than there used to be, that water is largely utilized for agriculture, and that water must be cleaned and pumped, which requires energy, including renewable energy?

Changing Hydro-Climatic Regimes and Planning Tools for Climate Resilient Development Pathways

Climate change and its impact on water resources has brought serious concerns across the globe. Since 20th century, there is an overall increase in surface temperature by about 1°C with some local areas experiencing an increase of up to 3°C minimum temperature while rainfall trends indicated varying inconsistencies in both spatial and temporal scales. Changes in a rainfall patterns and intensity as well as gradual increase in temperature has caused changes on hydrological processes. Areas such as the Eastern and Southern African regions are the most vulnerable to climatic changes due to their low adaptive capability, high reliance on natural resources and underdeveloped agricultural production systems. These regions already experience floods, droughts and diseases causing fatalities, significant relocation of population and economic losses.

It is projected by 2050, that climate change will significantly impact macroeconomy of Eastern and Southern African countries, with a loss of 5–15% of GDP. Since the effects of climate change

on water resources are not well known and varies from one region to another, it necessitates research to be done at local scales. Given the current hydro-climatic changes taking place, there is a need for efficient and effective water management based on an accurate assessment of the available water resources. This theme focuses on how best to utilize existing data and how newer technologies, such as remote sensing, local knowledge systems, and big data, can improve assessment of both surface and groundwater, including transboundary water resources. This has a pivotal role in contributing to the global agenda of sustainable development. By working together, we embrace and strengthen partnerships and adoption



of multidisciplinary approaches for sustainable solutions in the water-climate space.

The papers in this sub-theme should therefore focus on addressing issues related to enhancing efficient and effective assessment of water resources, planning and management of surface and groundwater resources, and the impact of climate change on water resources and agricultural production using appropriate models or tools.

Water, Ecosystems and the Environment

The environment and ecosystems, such as forests, marshes, and grasslands, are essential parts of the global water cycle. The continuous health of ecosystems and the broader environment are ultimately what all freshwater depends on, and realizing the water cycle as a biophysical process is crucial to accomplishing sustainable water management. Inland and coastal water environments have highly diversified biodiversity, which is also very significant to regional lifestyles and economy. However, the conservation of this diversity is not always taken into consideration during development activities, and it is inadequately reflected during the planning stage. The good news is that there are lots of choices for conserving the freshwater ecosystem and environment, but they must be taken right away.

Greater investments are now widely acknowledged as being necessary to safeguard aquatic ecosystems and the environment from the damaging effects of human development in all of Eastern and Southern Africa taking into consideration the “blue economy” sector. The potential of the oceans to meet sustainable development needs is enormous; but only if they can be maintained in and/or restored to a healthy, and productive state. But ongoing trends of exploitation and degradation of marine and coastal ecosystems show that endeavors to date have been insufficient and that more needs to be and must be done to improve human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

On the other side, the polluter pays principle is either not implemented at all or is done so extremely slowly. Decision-makers are given the ability to engage large productive water users with the clear end objective of sustainability when ecological demands are integrated into water management procedures. This also applies to the concept of “blue economy” which forms an integral part of the region. In light of global issues like urbanization and climate change, it becomes less subjective to address the challenge of finding the right balance between allocating water for direct human use (agriculture, power generation, domestic purposes, and industry) and indirect use (sustenance of ecosystem goods and services). Increased knowledge of the connections between the various water sources and users necessitates acknowledging the existence of ecosystem borders at the national and transnational levels in addition to hydrological boundaries.

The papers in this sub-theme should discuss novel approaches and best practices in environmental impact assessment, valuation of ecosystem goods and services, establishing ecosystem boundaries, including ecosystem goods and services in the development of water resources, pollution prevention and treatment, river basin management, wise use of water-linked ecosystems and people’s livelihoods, sustainable use of blue resources for economic development and other topics.



PAPERS

SUBMISSION OF FULL PAPERS

All authors whose papers were accepted for presentation at the symposium for oral, poster or special session are being invited to submit full papers which will be included in the symposium proceedings. The full papers will be submitted and handled via the conference's EasyChair platform, <https://easychair.org/conferences/?conf=24wnsymp>. Authors use the same accounts used for submitting papers. You submit your full paper by updating your abstract where it says **Paper: Upload Paper in pdf format**.

You should receive confirmation by email of submission of your paper from EasyChair immediately after submission; if you have not, please bear in mind that any emails received might be found in your spam folder.

Format for full papers

- The format for all text should be font size 12, Times New Roman and single-spaced.
 - The title should be no more than 16 words in title case.
 - Author's names should be written in such a way that the initials appear first followed by the last name. The authors names should indicate one corresponding author (with an asterisk, *) and the email of the corresponding author.
 - The affiliations of authors should be shown through letter superscripts (such as a, b, c). Five keywords should be included in alphabetical order.
- The abstract on the full paper should include a clear statement of the theoretical issue to be addressed, the research methodology to be presented, and a concise summary of the findings/conclusion.
 - Work must be unpublished at time of presentation.
 - Maximum of 3 submissions per author, either as single author or joint co-author



ELSEVIER JOURNAL OF PHYSICS AND CHEMISTRY OF THE EARTH (JPCE)

After the symposium authors will have an opportunity to submit their papers for review and publication in a special edition of the Journal of Physics and Chemistry of the Earth. It is a journal published by the Elsevier and the normal peer review process will apply. Guidelines for submitting a paper to this journal are available: <http://www.elsevier.com/journals/physics-and-chemistry-of-the-earth/1474-7065/guide-for-authors>

Submissions will be via online. More details on submission will be announced at the symposium.

SPECIAL SESSIONS

Innovative Approaches, Practice, and Technologies for Affordable and Sustainable WASH Services: Bridging theory, practice and impact

Convenor: World Vision



Background: World Vision is one of the largest non-Governmental organizations implementing WASH across the globe. We have committed to focus our programming to reach the most vulnerable communities in fragile contexts and leave no one behind. However, to achieve this ambitious goal with quality and scale, we cannot act alone. Partnerships are very crucial to attain the SDGs. This will require exploring innovative approaches and appropriate technologies to reach the most vulnerable with impact while ensuring technologies and approaches are climate responsive.

In this side session World Vision will bring staff together from programs across Eastern and Southern Africa to present work and partnerships that are providing sustainable WASH services. In response to the UN report outlining the blueprint for acceleration for SDG 6, we will organize our session around the 5 key principles needed to accelerate progress towards SDG 6: data and information, capacity development, innovation, financing, and governance.

Session Objectives: By the end of this session, participants will be able to articulate:

- How World Vision is responding to the five areas set out by the UN that are essential for speeding up achievement of the SDG 6;
- The critical aspects needed for successful partnerships;
- Innovative solutions that should be scaled across contexts.



Figure 4. SDG 6 GAF accelerators. Source: UN-Water (2020)

Water Governance and Economics as enablers for Innovation and Integration in Sustainable Water Resource Management

Convenors: CIRAD (France), the University of Waterloo (Canada), the Water Research Commission (South Africa), the University of KwaZulu-Natal (South Africa), and the University of Zimbabwe.



The session will discuss water governance and economics as enablers of sustainable water management. The South African National Water Research, Development, and Innovation (RDI) Roadmap (2015-2025) is a framework developed to contribute to the execution of national policy, strategy, and planning in water resource management. The roadmap is implemented through interventions in research, development, testing, demonstration, and deployment of new technologies and know-how, and demonstration and deployment of emerging technologies.

The Research Chair in Governance and Economics of Water Sanitation Sector Institutions is one such intervention. The Research Chair is part of the South African Research Chairs Initiatives, and it is funded by the Department of Science and Innovation, The Water Research Commission, and the National Research Foundation. The Chair has broad objectives covering water security, governance, equity, and financial and economic viability of water sector institutions in South Africa. The Research Chair is currently building partnerships nationally, regionally, and globally. The 24th WaterNet/WARFSA/GWPSA Symposium provides an opportunity to engage with partners and participants working under the theme "Water governance for sustainable, equitable and affordable water services". The Chair also focuses on training and capacity building in water governance and economics. Therefore, the objectives of the special session are to share some of the research already taking place in the region and identify synergies for future collaboration, present the Research Chair objectives, and elicit training and capacity-building collaboration with WaterNet and other partners. The session outcomes include sharing experiences in water governance and economics research, discussions of potential partnerships, and an invitation to the audience to participate in future training courses designed around these themes.



Development of Groundwater Policy, Legal and Institutional Enabling Environment Roadmaps Towards Sustainable Groundwater Management and Socio-Economic Development in Southern Africa

Convener: SADC Groundwater Management Institute



Background: Groundwater is critically relevant in Southern Africa due to its significant impact on the region's water security, agriculture, and overall socio-economic development. However, rising demand, over-extraction, and pollution have threatened groundwater resources, severely threatening water security and community well-being.

In pursuance of the focus area of creating an enabling environment, SADC-GMI implemented the project entitled "Policy, Legal and Institutional Development for Groundwater Management in the SADC Member States (GMI-PLI)." The project was conducted to identify gaps that must be addressed to fulfil the SADC-GMI mandate – to achieve sustainable groundwater management in all 16 SADC Member States. The analytical assessment of the gaps identified at the national level culminated in the production of 16 National Gap Analysis and Action Plan Reports and the higher-level Regional Gap Analysis Report.

It is against this background and in response to the need to strengthen the sustainable use of groundwater resources conjunctively with surface water at both the national and regional levels that the Southern African Development Community – Groundwater Management Institute (SADC-GMI) is supporting the development of Groundwater Policy, Legal and Institutional (PLI) Enabling Environment Roadmaps and Implementation of PLI Quick-win Interventions in Selected SADC Member States and at SADC Regional Level.

Aim of the Special Session: This special session aims to facilitate discussions on the critical need for comprehensive groundwater policy and legal and institutional roadmaps that enable long-term groundwater management and socio-economic development in the SADC Region.

The special session intends to bring together policymakers, financiers, researchers, and practitioners from diverse disciplines to discuss ways to create an enabling environment that supports responsible groundwater resource use and protection. The session will showcase good practices from various regions, highlighting the difficulties and potential solutions associated with groundwater governance.

The session will include the following key areas:

- The significance of adequate policy, legal and regulatory frameworks and political commitment in achieving long-term groundwater management.
- The importance of legal reforms to respond to emerging groundwater and climate change concerns.
- Aligning Sustainable Development Goals 5 on Gender Equality and Goal 6 on Clean Water and Sanitation - gender transformative approaches to ensure sustainable, equitable, and inclusive water groundwater management practices, improved livelihoods, and economic empowerment.
- The immediate and indirect socio-economic consequences of groundwater depletion and contamination, focusing on the possible adverse effects on agriculture, livelihoods, and ecosystem services.
- The role of capacity-building programmes, research, and innovation advancements in improving groundwater monitoring, data gathering, and sustainable use.
- Innovative financing of groundwater initiatives for sustainable socio-economic development.

The special session's conclusions will provide insights that will guide SADC-GMI, SADC Water Division, the SADC Member States, and broader stakeholders on developing concrete roadmaps for sustainable groundwater management and socio-economic development, emphasising the need for gender responsive multi-stakeholder engagement, evidence-based decision-making, and long-term planning. The session convenors aspire to mobilise the Member States and the broader stakeholders to strive towards a shared vision of securing groundwater for the well-being and prosperity of current and future generations.



SADC Water Research Agenda – Sharing Results of Review and Update

Convenors: AUDA-NEPAD SANWATCE (Southern African Network of Water Centers of Excellence)



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

Background: The SADC Secretariat, and its subsidiary institutions have been implementing the regional Water Research Agenda (SWRA) since 2015. Its strategic objective is to promote evidence-based implementation of SADC water programmes and projects through multi- and inter-disciplinary research and synthesis of existing and new information for the realisation of SADC developmental goals. The aim of the research agenda is to build research capacity among regional institutions and individuals as well as to promote the utilisation of research results in the planning and management of water resources in the sub-region.

The SADC Water Research Agenda represents the regional commitment to research and the need for research to guide development of the sector. However, in order to be responsive to the needs of the regional water sector - the regional strategic action plan on water resources development and management, financing the sector and nexus thinking among others - the Water Research Agenda requires periodic review and updating.

The Research Agenda is therefore currently under review, which was commissioned by SADC, in partnership with WaterNet, with support from GIZ. The main objective of this assignment was to undertake a review and update the SADC Water Research Agenda. The review of the implementation of the current research agenda by regional research and academic institutions must inform the development of an updated SWRA. The assignment also examined trends and variations in financing of the SADC Water Research Agenda-related activities, the nature of research products, and their end-use. The assignment entailed:

- Engaging with stakeholders to assess the extent of implementation of the SWRA, and the influence of the SWRA to research conducted by regional research institutions and networks.
- Examining the level of funding for research activities by international cooperating partners (ICPs), regional institutions and Member States.
- Analysing the challenges, lessons learnt, and opportunities for research that a new SWRA should take advantage of.
- Confirm relevance of the thematic areas given the changing sector landscape.

The AUDA-NEPAD Southern African Network of Water Centers of Excellence (SANWATCE) will during the 24th WaterNet/WARFSA/GWP-SA Symposium seek to provide a platform to share critical insights and results.

Target Audience: Academia, Business, Policy Makers, Civil Society, Researchers and Innovators



Catalysing the WEF Nexus for Relevance and Operationalisation

Joint WEF Nexus Special session UKZN-IHE-WRC-GWPSA-NEXUS Gains

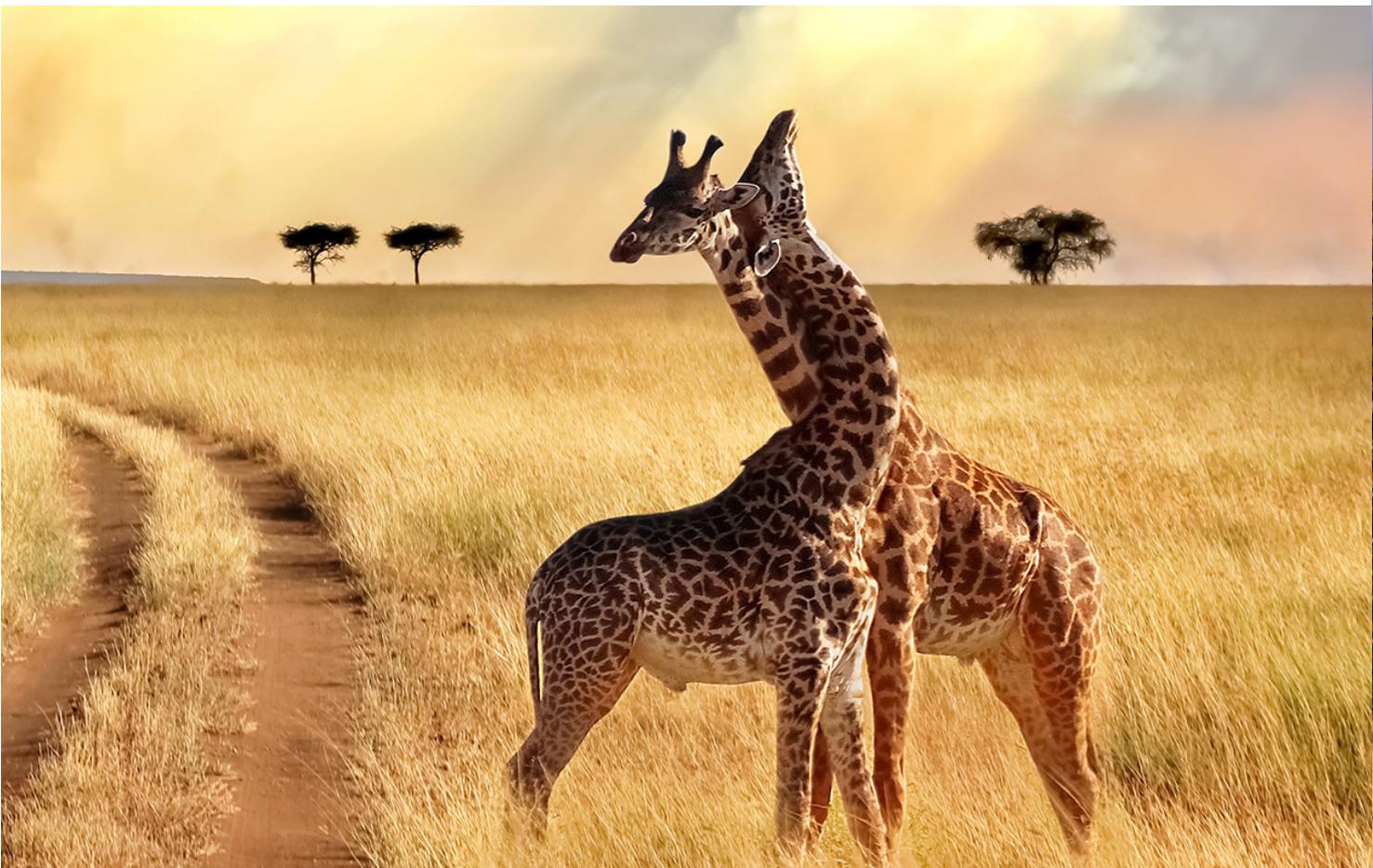
Convenors: * University of KwaZulu-Natal, IHE-Delft, Global Water Partnership Southern Africa and Nexus Gains



NEXUS GAINS:
Realizing Multiple Benefits
Across Water, Energy, Food
and Ecosystems

Background: The water-energy-food (WEF) nexus builds understanding around interlinked resources and can be applied to achieve resource security and sustainable development. However, despite progress in research, it is coming under increasing criticism regarding the lack of practical case studies. There is a need for the WEF nexus to yield case studies and investment cases, to inform planning scenarios and pathways, and to inform and guide integrated resource security at various scales. To be relevant in the real world, the WEF nexus needs to transition from theory to practice to increase its probability of adoption. Through a panel discussion, this session will address the following key topics:

- Sharing lessons from case studies and investment cases that others can use as examples for implementation of the WEF nexus,
- Bridging the science-policy-practice interface through informing planning and policy scenarios, e.g. for 2030 to 2050,
- Mainstreaming the WEF nexus into integrated resource security at various scales, national development plans and NDCs
- What sort of capacity is needed to accelerate the adoption and uptake of the WEF nexus approach?
- Broadening the dimensions of the WEF nexus to include environment/biodiversity and health – WEF+ Nexus
- Developing a people-centric WEF nexus framework



Strategic Engagement: Working with the Youth as The Future Leaders of the Water Sector

Convenors: Water Research Commission (WRC), WaterNet, University of KwaZulu Natal, International Water Management Institute (IWMI) and University of Dar es Salaam



NEXUS GAINS:
Realizing Multiple Benefits
Across Water, Energy, Food
and Ecosystems



The global population is estimated at 8 billion people with Africa at 1.5 billion (US Census Bureau's world population clock) and this expected to grow to 9.7 billion by the year 2050. The youth population on the other hand is estimated at 1.2 billion, with Africa having almost 1 billion of those below the age of 35 (Rocca., C, 2020). The growing population brings about certain water and sanitation management challenges. This includes the increased use and exploitation of water and related resources and the production of by-products and waste. With respect to water and Sanitation, this results in the increased demand for services. It is estimated that 40% of the Sub-Saharan, Southern, and Eastern Africa still lack access to clean drinking water. The continent still has huge challenge with respect to the lack basic sanitation, as only 30% access. Additionally, the world also faces a lot of future and water challenges such as climate change, water scarcity, fresh water decreases, extreme weather events (drought, floods), food security, energy, decrease in economic investment and job creation.

To address these challenges, the current experienced cohort of water practitioners/experts/scientists and engineers will have to work with the youth in addressing the current and future challenges of water and sanitation. The youth are the future leaders of the water and sanitation sector and, thus, will most likely be responsible for addressing the future challenges of the sector. The youth will, therefore, need development, mentoring, new skills, tools, and resources in order to address these challenges.

Aim of the session: The session aims to solicit strategies, areas, ideas and plans of how to work with the youth within the continent to develop them for the current and future water and sanitation sector needs. The youth serve as Africa's biggest strategic assets and potential investment in order to build an economical active and sustainable continent that is water and food secure and climate resilient.

Target Audience: Youth, Youth Networks, Funding organisations, Academia, utilities, Policy makers, Young Researchers and Professionals, Innovators, and business.



Strategic Engagement: Strengthening Research Development and Innovation (RDI) Transboundary River Basin Organisation Cooperation

Convenors: The Water Research Commission (WRC), WaterNet, the International Union for the Conservation of Nature (IUCN) and Orange-Senqu River Commission



Transboundary water refers to water resources such as aquifers, lakes, and river basins being shared by two or more countries. Transboundary waters are very important in supporting the lives of a lot of people across the world. There are approximately 261 transboundary river basins across the world that cover almost half of the earth's land area. According to the OCED, there are 19 basins globally that cut across 5 countries or more such as the Mekong, the Nile, the Niger, and the Rhine. transboundary river basins, aquifers, and lakes support more than 2 billion lives globally. In the Southern African Development Community (SADC), 70% of the renewable water comes from transboundary rivers, and the remainder from groundwater and lakes (GIZ).

Southern African Development Community (SADC) countries share 15 river basins that collectively cover approximately 80% of the surface area and account for more than 70% of the freshwater resources in the region. The majority of these water resources are used in agriculture, the industrial sector, and personal consumption. It is estimated that 70% of the rural population of SADC relies on groundwater, and 30 significant aquifers are located in transboundary positions. SADC developed and adopted several regional support instruments for transboundary water cooperation such as the SADC Revised Protocol on Shared Watercourses, which serves as one of the best examples of global multilateral cooperation for water.

It is thus imperative that the SADC and EAC countries, the transboundary water resource organisations, and interested parties continue to work together to promote the provision of quality water to the more than 250 million SADC citizens. A key part of this includes cooperating across boundaries on water-related research, development, and innovation.

Aim of the Workshop: The aim of the workshop is to strengthen RDI in RBO cooperation to support improved water security, climate change resilience and food security. The workshop aims to bring together SADC countries and RBO to explore areas of cooperation and develop plans to implement them.

Target Audience: Governments of SADC and East African Countries (EAC) member states, RBOS, Transboundary water organisations, Policy Makers, Innovators, Academia and Investors and funders and Research funding institutions.



The Past, the Present and Future Water Resources Management Approaches

Convenor: NTWAM Water and Environment Initiative



Special Session organizer: NTWAM Water and Environment Initiative is a non-profit Non-Governmental Organization (NGO) envisioning to become a leading water & Environment group in the region in addressing societal needs by year 2030. And it intends to serve as a platform for water and environment research, a facilitator of knowledge exchange, and an advocate for evidence-based policies and practices. It proclaims to provide solutions for society development.

Session objectives: The proposed topic of the special session is entitled “the past, the present and future water resources management approaches” in view of highlighting solutions for society development. The session aims at informing on water resources management approaches; raise awareness on potentials and water wisdom that has existed and still exist; expose hindrances, obstacles and stereotypes, which needs to be exploited in order to accelerate positive change and challenge the common practice and behavioral implications, henceforth facilitating/stimulating/ensuring sustainable management of water resources. The session content coverage will not be limited to the following topical water resources management issues: water harvesting management, water resources assessment, impacts of climate change and flow forecasting, land degradation assessment and management, and water conservation, protection and sanitation.

Session relevance: As we are all aware that information and knowledge bring forth capacity and empowerment, the session will provide a platform for knowledge empowerment and exchange. The focus of this scientific discourse will be on the proposed topical research issues above and will take the advantage of gathered experienced experts and practitioners from all over the region.

Targeted audience: Practitioners in the water and related sector such as researchers, academics, rural water supply managers, Basin water directors and officers, directors and technical officers from water authorities, contractors and consultants, manufacturers, suppliers; development partners; representatives from line ministries with shared interest and general public.

Session design: The session will adopt participatory and interactive approach, whereby it will be officiated by a keynote presentation followed up by case studies presentations which will demonstratively discuss the whole concept being represented under the session theme/topic. This will be delivered by a reputable researchers/practitioners, for at most 60 minutes. The presentations will then be followed by a panel discussion, whereby the panelists through their practical experiences will extensively discuss the presentations, in various perspectives. This may last for a maximum of 40 minutes. Then an open discussion will follow for the audience to engage in for about 20 minutes. In the end we expect to conclude with clearly stipulated take home messages for all to accommodate in our day-to-day conduct for the purpose of sustaining our future through water resource management initiatives. Hoping that the take home messages will revolve around these three questions: What are the past water sources management issues and approaches? Which approaches are being used and how best regional experts are addressing the current water resources management issues? How are we going to leverage the past and present experiences in addressing future water resources management issues?



IMPORTANT DATES AND REGISTRATION FEES

Deadlines

Deadline for submission of papers 30 September 2023

REGISTRATION FEES FOR PHYSICAL ATTENDANCE

Early bird registration for international delegates Closed
Early bird registration for Tanzanian delegates Closed

Payable by 31 July 2023

Normal Registration for international delegates USD450.00
Normal Registration for Tanzanian delegates TZS 900,000.00

Payable by 30 September 2023

Late Registration for international delegates USD 500.00.00
Late Registration for Tanzanian delegates TZS 1,000,000.00

Payable after 30 September 2023

Early bird International Student Registration Closed
Early bird-Tanzania based Student Registration Closed

(Proof of studentship to be provided)

Payable by 31 July 2023

Normal Registration for International Student delegates USD 350.00
Normal Registration for Tanzania based Student delegates TZS 600,000.00

Payable after 30 September 2023

REGISTRATION FEES FOR VIRTUAL PARTICIPANTS

Early bird registration Closed

Registration by 31 July 2023

Normal Virtual Registration for international delegates USD 80.00
Normal Virtual Registration for Tanzanian delegates TZS 120,000.00

Payable by 30 September 2023

Late Virtual Registration for international delegates USD 100.00
Late Virtual Registration for Tanzanian delegates TZS 150,000.00

Payable after 30 September 2023

EXIBITIONS

International organizations/company USD 800.00
Local organization/company TZS 1,500,000.00

SPECIAL SESSIONS

International organizations/company USD 800.00
Local organization/company TZS 1,500,000.00

Payable by 30 September 2023

PAYMENT DETAILS FOR INTERNATIONAL PARTICIPANTS

Bank Name: Stanbic Bank Botswana Limited
Branch: Fairgrounds
Branch Code: 064967
Account Name: WaterNet Trust
Account Number: 9060002591915
Swift Code: SBICBWGX
Account Type: USD
Bank Postal Address: Stanbic House, Plot 50672, Old Machel Drive,
Fairgrounds, Gaborone, Botswana
Reference to be used: Symposium, Initials, Surname (e.g. Symposium_J Kabila)

PAYMENT DETAILS FOR LOCAL (TANZANIAN) PARTICIPANTS

Bank Name: CRDB BANK PLC
Account Name: University of Dar es Salaam
Branch Name: UDSM
Branch Code: 3386
Account Number: 0150329567500
Currency: TZS
Swift Code: CORUTZT
Account Type: CURRENT A/C
Bank Postal Address: 268 – Azikiwe Street, Dar es Salaam

Reference to be used: Symposium, Initials, Surname (e.g. Symposium D. Kidawa)

Kindly generate an invoice <https://www.waternetonline.org/registration>.

REQUESTS FOR CUSTOMISED INVOICES

- International participants request invoices on symposium@waternetonline.org
- Local participants request invoices on udsm2023@waternetonline.org

PROOF OF PAYMENTS

Please send proof of payment to: symposium@waternetonline.org;
udsm2023@waternetonline.org;

It is **VERY IMPORTANT** to indicate delegate's name on Bank Transfers to facilitate processing of registration.

REGISTRATION

Online registration can be done https://docs.google.com/forms/d/e/1FAIpQLSd9gIFT_O6jO_Ya7Y09clx60d6gazcYIIHf03WWGo6kNqCVLA/viewform

FOR FURTHER INFORMATION

More information on the Symposium is available <https://www.waternetonline.org/annual-symposium/>.
For requests for invitation letters, contact: udsm2023@waternetonline.org

TRAVEL AND ACCOMODATION

All delegates attending the symposium should secure accommodation early. Travel arrangements will also need to be done on time. More information on accommodation and travel is contained in Tanzania Brief which can be found <https://www.waternetonline.org/download/data/download/00000120/Tanzania-Brief.pdf>



