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# CONFERENCE OUTCOMES

## 3<sup>rd</sup> SADC GROUNDWATER CONFERENCE

**THEME: Enhancing Water and Food Security through Sustainable Groundwater Development in the SADC Region**



**24 – 26 November 2020**



**GROUNDWATER MANAGEMENT INSTITUTE**

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The SADC groundwater conference is convened annually by the SADC-GMI and its partners. The primary objective of the conference is to provide a platform for the advancement of knowledge and experience sharing on sustainable development and management of groundwater. The conference also provides a platform for groundwater scientific researchers to interact and inform policy.

The 3<sup>rd</sup> SADC Groundwater Conference was held virtually, from the 24<sup>th</sup> to 26<sup>th</sup> November 2020, under the theme, 'Enhancing Water and Food Security through Sustainable Groundwater Development in the SADC Region' with three sub-themes i.e.

- (1) Sustainable Groundwater Use for a Food Secure SADC Region,
- (2) The Climate Change Challenge for Urban Water and Food Security: Threats and the Role of Groundwater,
- (3) Enhancing the Contribution of Groundwater in the WEF E Nexus through Effective Groundwater Governance at National and Transboundary level.

The Conference was attended by one hundred and seventy (170) participants, Two (2) keynote were given, forty (40) oral presentations ,6 panel discussions took place and 4 special sessions

Key messages emanating from the conference by theme are as follows:

**OFFICIAL OPENING - CROSS CUTTING OUTCOMES.**

The conference was officially opened by Messias Rei Dos Anjos de Miguel Macie, Director of the Water Resources (mozambique who was the Chair of SADC). Other Speakers in the Official opening of the conference were James Sauramba the Executive Director of the SADC-GMI and key note addresses by Dr. Kevin Pieterse (University of the Western Cape) and Dr. Karen Villholth (International Water Management Institute (IWMI)). Key messages coming out of the official opening sessions were;

- There is a need for a better understanding of the WEF E (Water Energy Food and Ecosystems) nexus and to advocate for a more central role for groundwater in the nexus, anchored on a sound understanding of Groundwater Systems.

- Groundwater can make a significant contribution in responding to the current (COVID-19) pandemic.
- Political decisions need to be made to break the WEF E nexus barriers.
- There are opportunities in Sub-Saharan Africa to ramp up groundwater development, supported by a policy framework to enhance groundwater as a catalyst for development.

**SUB-THEME 1. SUSTAINABLE GROUNDWATER USE FOR A FOOD SECURE SADC REGION.**

- Groundwater holds a large potential for smallholder irrigation in Sub-Saharan Africa and is the preferred source of water for many farmers in Africa. **Efforts should be made to increase the role of groundwater in food security.**
- Big Data Analytics and Machine Learning use in localising regional groundwater data sets have been piloted in the SADC region with results indicating that **there is huge potential for use of Remote Sensing for regional data sets to support groundwater management.**
- There is a need to develop common awareness and understanding among current and future decision makers in Africa on the significance of groundwater in food security.
- Experiences in Groundwater Management and use from Denmark and pilot cases in Southern Africa were discussed noting successes in ground and airborne geophysics, remote monitoring and control of groundwater abstraction. **The conference noted the opportunities for North-South cooperation between the Danish water sector and groundwater stakeholders in the SADC region.**

**SUB-THEME 2: THE CLIMATE CHANGE CHALLENGE FOR URBAN WATER AND FOOD SECURITY: THREATS AND THE ROLE OF GROUNDWATER.**

- **Groundwater quality deterioration** from both natural and anthropogenic causes was noted, **with treatment becoming necessary in some areas.**
- **The “groundwater game” developed by the IGRAC** offers a platform for training on the main concepts of groundwater management.
- **Hotspots most vulnerable to drought in the SADC region** have been mapped and a suite of technical/infrastructure interventions aimed at improving resilience within the hotspots have been identified, **which can be used to guide interventions to improve water security in the identified hotspots.**
- African countries are **to develop water and food policies**, promote equitable trade, expand water storage and improve water quality.
- The importance of **decolonizing Water Law**, especially in the African Context was noted.
- A large share of **existing boreholes are out of order** for extended periods because of failure of pumps, solar panels or boreholes. Setting up of local **Water Committees, responsible for the collection of user fees and in charge of maintenance** and small repairs can greatly improve borehole functionality in the region.

**SUB-THEME 3: ENHANCING THE CONTRIBUTION OF GROUNDWATER IN THE WEF E NEXUS THROUGH EFFECTIVE GROUNDWATER GOVERNANCE AT NATIONAL AND TRANSBOUNDARY LEVEL.**

- **Need to break silos-in the WEF E nexus**, which result in lack of integration, proposed a dialogue approach.

- **The SADC region is not peculiar to groundwater quality challenges** as demonstrated by the World Water Quality Assessments. Groundwater quality assessments need to address issues relating to choice of parameters, upscaling dimensions, sampling and analysis procedures, data challenges and opportunities offered by citizen science, earth observations and the role of regional players (AMCOW, SADC-GMI and RBOs).
- **The political dimension to groundwater is often overlooked**, and TBA management is hindered by absence of cooperation mechanisms, needed to create an enabling environment for effective groundwater governance.
- **Transfrontier conservation areas provide an opportunity** for intersectoral collaboration and transboundary groundwater management.
- There in need for initiating Transboundary Aquifers research in Local/regional Universities.
- **Transboundary Aquifers interventions should include development of infrastructure** to provide water to the consumer as a way of improving water security in the region.

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