

# SUSTAINABLE DEVELOPMENT GOALS



## CONTACT DETAILS:

### Physical address:

Institute for Groundwater Studies, Dean Street, University of the Free State, 205 Nelson Mandela Drive, Bloemfontein, South Africa

### Postal address:

Internal Box 56, P.O. Box 339, Bloemfontein, 9300, South Africa

Thokozani Dlamini / Organizing Committee  
+27 51 401 7722, Conference@sadc-gmi.org



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## THEME: "Groundwater Contribution to the Achievement of Sustainable Development Goals in the SADC Region"



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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 second groundwater conference was held in Johannesburg, South Africa, from the 2<sup>nd</sup> to 4<sup>th</sup> September, 2019 under the theme, '**Groundwater contribution to the achievement of Sustainable development goals in the SADC Region**' with three sub-themes i.e.:

- (1) Contribution of research towards understanding, the status, trends and risks to groundwater,
- (2) Measuring progress towards attaining SDG targets, collection and management within the SADC Member States,
- (3) Policy, legal and institutional considerations at the national and trans-boundary level.

The Conference was attended by one hundred and fifty (150) participants, Seven (7) keynote were given, thirty (30) oral presentations and three panel discussions took place.

The key messages per theme are as follows:

**Sub-theme 1:**  
**Contribution of research towards understanding, the status, trends and risks to groundwater resources.**

- **Efficient water use, adopting a broader water mix** (e.g. desalination, exploitation of deep aquifers) and responsive governance systems are effective pathways to manage a water crises, which need to be further explored in Southern Africa. (based on experience from Cape town, Day Zero Case).
- **Groundwater should be incorporated in catchment management plans** with clear objectives and an implementation plan.

- **Urban water management must include** management of groundwater resources.
- **Integrated Hydrological models (IHMs) are an emerging** standard due to their unquestionable reliability as opposed to stand alone models. Efforts to develop IHMs should be made, where data requirements for such models are satisfied, given that IHMs are highly dependent on quantity and quality of input data.
- **In Southern African countries, the availability of the ground-based data is generally poor.** Besides, in many cases, the reliability of such data is questionable. Establishing data acquisition routines/standards, eventually uniform for all Southern African countries, and strictly following them, is highly encouraged as a way of contributing to sustainable groundwater use.
- In data scarce areas and with large aquifer systems, **Gravity Recovery and Climate Experiment (GRACE) remote sensing data sets can be used** to account for storage changes that could account for climate change impacts.
- In highly stressed aquifers, managed aquifer recharge can be explored through modelling approaches e.g. Ramotswa Aquifer and as the way of **promoting conjunctive surfacewater/groundwater use.**
- **Deep aquifers should be considered as strategic resources** that are an important component to reach water security in water scarce regions (SDG 6.1).
- **Irrigation Package for Sand Rivers (IPSAR)** has the potential to improve food security and raise the average income for thousands of smallholder farmers supporting families.

**Sub-theme 2:**  
**Measuring progress towards attaining SDG targets, data collection and management within the SADC member states.**

- **The central role of groundwater in the SDGs is acknowledged so is the need to develop guidelines and tools for groundwater accounting and monitoring in SDGs.**
- **Institutional and technical pathways to get groundwater better represented and considered** in the UN 2030 Agenda for Sustainable Development will have to be explored and reported on in the SADC.
- **There is still considerable inadequate statistical capacity in some Member States to track progress towards achieving the SDGs.** Capacity interventions on tracking groundwater related SDGs are therefore needed.
- **Data sharing should be seen as an instrument of cooperation.** While substantial room for improving data exchange in transboundary rivers, lakes and aquifers exists, there are several key successful examples which can be built on.
- **There is a need to involve citizens in data analysis** and create ownership of data products.
- **The role of Big Data Analytics (BDA) and Machine Learning (ML) for effective decision making in the transboundary context represent an opportunity** for the region given the scarcity of (ground)water data in the SADC region, current BDA research being piloted in the Ramotswa transboundary aquifer, represents scope for being replicated in other TBAs in the region.

**Sub-theme 3:**  
**Policy, legal and institutional considerations at the national and trans-boundary levels.**

- **Evidence-based policy to support sustainable groundwater development** and management is critical to achieving all targets of SDG6, including that for integrated

water resources management and the SADC region can draw lessons from the UPGro (Unlocking the Potential of Groundwater for the Poor).

- **Effective pollution control remains a central governance challenge in most urban centers** in the region, studies indicating a strong link of groundwater protection with land use management, regulation and the level of sanitation services especially in peri urban areas. **Better governance of the groundwater pollution challenge requires cross-sectoral thinking.**
- **The Multi-Country Cooperation Mechanism (MCCM) for the joint governance and management** of the Stampriet Transboundary Aquifer System (STAS) established in August 2017, nested in the Orange-Senqu River Commission **demonstrates progress towards SDG Target 6.5** ("By 2030, implement integrated water resource management at all levels, including transboundary cooperation as appropriate"). There is scope for the MCCM model to be replicated for other approximately 30 TBAs in the SADC Region.
- **The products from the Policy, Legal and Institutional Development for Groundwater Management in the SADC Member States (GMI-PLI), GMI-PLI represent an opportunity** for creating an enabling environment for sustainable groundwater management in the region. Member States and regional institutions e.g. RBOs are encouraged to make use of the GMI-PLI products.

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