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Integration of Groundwater Management into River Basin Organizations in Southern Africa



Abstract:

SADC-GMI signed Memoranda of Understanding with River Basin Organizations in the SADC region to foster collaboration in ensuring that groundwater issues were included on the Work Plans of the RBO Commissions.

SADC-GMI implemented research project on the Shire Transboundary River/Aquifer system shared by Malawi and Mozambique in order to investigate and subsequently promote the concept of 'Conjunctive Water Resources Management'.

SADC-GMI delivered trainings to build skills and raise awareness among the RBO water practitioners working in or with river basin organizations in the SADC region from River basin organizations' secretariats, Member State Ministries' staff responsible for transboundary water management, Organizations with an interest in groundwater management, and Organizations that promote integrated water resources management in the region.

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Integration of Groundwater Management into River Basin Organizations in Southern Africa

Experience of the GEF IW - sponsored
Sustainable Groundwater Management in SADC Member States project

SADC- Groundwater Management Institute
Integration of Groundwater Management into River Basin Organizations in Southern Africa

PROJECT DESCRIPTION

The Southern African Development Community Groundwater Management Institute (SADC-GMI) is implementing the ***Sustainable Groundwater Management in SADC Member States project*** funded by the Global Environment Facility (GEF) and the Cooperation in International Waters in Africa Trust Fund (CIWA) through the World Bank. The project comprises four main components, namely:

- Component A: Operationalising the SADC-GMI;
- Component B: Enhancing institutional capacity of governments in SADC Member States and transboundary organisations;
- Component C: Improving availability of and access to knowledge, scientific research and data on groundwater; and
- Component D: Promoting infrastructure solutions for sustainable groundwater management.

The mandate of SADC-GMI under Component B entails enhancing institutional capacity of governments in SADC Member States and transboundary organisations for sustainable groundwater management. One of the project indicator targets by 31 December 2020 is to strengthen 7 River Basin Organisations with improved analytic tools, knowledge products, data, forecasting, and capacity for improved water and climate risk management. SADC-GMI has been actively pursuing activities aligned to realising these project targets through initiatives to 'integrate groundwater into River Basin Organisations in SADC'.

THE EXPERIENCE

In Africa there are about eighty transboundary lakes and river basins and at least seventy transboundary aquifer basins. The African Water Vision stresses that groundwater is the major, and often the only source of drinking water for more than 75% of the African population especially amongst the poor rural communities. It is also estimated that about 40% of this population live in transboundary aquifers. This prevailing background influenced the African Ministers' Council on Water (AMCOW) and the African/International Network of Basin Organizations (ANBO/INBO) to resolve that groundwater management must be addressed through integration into river basin management.

The SADC region has about 15 River Basins shared by at least two SADC Member States. Over the past 20 years or so, deliberate efforts were made through the SADC structures to put in place and to operationalize institutional structures to govern the transboundary water

resources management issues related to these. This culminated in the establishment of river basin commissions such as Limpopo River Basin Commission (LIMCOM), Okavango River Basin Commission (OKACOM), Orange-Senqu River Basin Commission (ORASECOM), to mention but a few. Although there are an estimated 30 transboundary aquifers in the SADC region that are confronted with similar transboundary technical, institutional and governance issues, they were not accorded the same institutional structures to govern and manage them. Moreover, activities in the River Basin Organisation (RBO) commissions have primarily focused on surface water, regardless of the fact that these two resources do not exist in isolation and hence they have to be managed conjunctively. However due to the traditional bias to surface water, the skills to integrate the management of surface and groundwater are lacking in the existing RBO structures. This scenario necessitated SADC-GMI to utilize its mandate to implement specific actions to integrate groundwater into RBOs.

TRANSBOUNDARY WATERS MANAGEMENT ISSUES THIS PROJECT ADDRESSED

As an endeavor to integrate groundwater issues into river basin organizations in the SADC region, SADC-GMI adopted a three pronged approach that was implemented simultaneously. Firstly, SADC-GMI engaged with each one of the River Basin Commissions in the SADC region culminating in the signature of Memoranda of Understanding whose main objectives were to foster collaboration in ensuring that groundwater issues were included on the Work Plans of the RBO Commissions. Through these MoUs, SADC-GMI also offers both technical assistance and capacity building to the often under-resourced RBOs to enable them to effectively address groundwater issues simultaneously with surface water. Through this intervention arm, SADC-GMI has, in the last 2 years concluded negotiations and signed MoUs with the Limpopo River Basin Commission (LIMCOM), Okavango River Basin Commission (OKACOM) and the Zambezi River Basin Commission (ZAMCOM). One critical vehicle to enhance the integration of groundwater into RBOs is the establishment of Groundwater Committees as sub-Committees of the RBO Commission's Technical Committees. To date SADC-GMI facilitate the establishment of the LIMCOM Groundwater Committee (February 2019) and preparations are underway to establish a similar committee under ZAMCOM.

SADC-GMI also acknowledges the traditional notion of water resources being regarded predominantly as surface water. However the ravaging impacts of climate change have compelled a paradigm shift on this thinking considering that groundwater, on which most of the inhabitants of the SADC region (and Africa) depend on for their primary livelihoods, is more resilient to climate change than surface water. SADC-GMI therefore implemented a research project on the Shire Transboundary River/Aquifer system shared by Malawi and Mozambique in order to investigate and subsequently promote the concept of 'Conjunctive Water Resources Management'. This was a unique choice due to the coinciding boundaries of the Transboundary surface and groundwater systems that compelled integrated treatment of the systems.

The third intervention area targeted by SADC-GMI to integrate groundwater into RBOs was the delivery of trainings to build skills and raise awareness among the RBO water practitioners working in or with river basin organizations in the SADC region from River basin organizations' secretariats, Member State Ministries' staff responsible for transboundary water management, Organizations with an interest in groundwater management, and Organizations that promote integrated water resources management in the region. Two training events were conducted in Lusaka, Zambia (August 2018) for ZAMCOM and RBOs to the north of the Zambezi river and in Pretoria, South Africa (in November 2018) for RBOs to the south of the Zambezi river. The training is based on the 11 module Training Manual that was developed in 2015 through a partnership of up to 11 institutions led by AGW-Net, BGR, IWMI, CapNet, ANBO and IGRAC.

The training manual was a culmination of the needs assessment exercise carried out in nine international river basin organizations in Africa which revealed the varying needs in the different basin organizations for effective transboundary groundwater management. Up to 70 participants benefitted from the 2 training events. Following the success and relevance of the above two training events, the SADC-GMI successfully negotiated an ongoing collaboration with UNESCO-IHP, BGR and the USAID funded Resilient Waters Programme (implemented by Chemonics) to roll out the training to the French and Portuguese speaking SADC Member States during the second half of 2019.

RESULTS AND LEARNING

The primary impact of the intervention spearheaded by SADC-GMI is the realization that groundwater is an integral portion of water resources that RBOs have to manage conjunctively. As a result all the RBO Commissions in the SADC region look up to SADC-GMI, as a regional Centre of Excellence, to build their capacity and to render technical assistance on groundwater related issues. As a result of the recognition of the value it brings along despite its short 3 years of existence, SADC-GMI is implementing MOUs in 3 RBOs, sits on 4 RBO Groundwater Committees and is also jointly implementing groundwater projects in 3 RBOs. These initiatives entail joint planning at certain milestone points.

This intervention demonstrates that awareness raising and skills development by a well-recognized regional body carrying the right mandate are critical to positively influencing the integration of groundwater into RBOs. This is so because SADC-GMI is a regional institution established as a going concern that will continuously implement its mandate in support of other multi-country organisations. This scenario of a continuous presence is not feasible with projects support to RBOs as projects have short life spans.

REPLICATION

It is important to understand the River Basin Organizations dynamics, the challenges, level of RBOs involvement in groundwater management and the opportunities that groundwater presents in terms of water security. The success of such interventions also depends largely on the political relationships amongst the riparian states sharing the river system and how functional their institutional structures are. As an example, there are good relationships between the RBOs and SADC-GMI due to the strong convening power of the SADC Secretariat on its subsidiary organisations. This gives credibility to SADC-GMI as it implements its mandate on behalf of the SADC Secretariat, and so do the RBOs. The work of these two institutions is drawn from their mandates enshrined in the SADC policies. It therefore makes it easier for these institutions to approach and work with riparian states because they all fully subscribe to the SADC treaty and they respect institutions mandated to fulfil agreed actions.

It is important to note that a lot of focus was put on integrating groundwater into RBOs. However, not all groundwater resources fall within the same spatial areas of jurisdiction of RBO commissions. This means some transboundary aquifers will be shared outside an RBO area and hence a different approach will have to be adopted for the concerned Member States to collaborate.

SIGNIFICANCE

This experience demonstrates the first such approach in the SADC region under a GEF project to enhance conjunctive water resources management within the context of RBOs. It is a very practical way of promoting water security especially in an era when surface water resources are receding due to the impacts of climate change and, groundwater, by its very nature of being more resilient to the impacts of climate change, is increasingly becoming the preferred, if not the only water resource. Integrating the management and governance of groundwater in existing and already operational institutional arrangements is the path of least resistance which can guarantee high impact in transforming the current unsustainable practices.

Research indicates that although groundwater has not been excluded from policy visions, its integration into river basin management organization and appreciation of the transboundary nature of groundwater flows have lagged behind. As a result, many African multi-state basin organizations do not even have a mandate to manage transboundary groundwater or coordinate its management between the basin states. Even where such a mandate does exist, many of these basin organizations have limited capacity to do so.

REFERENCES

Information pertaining to the project can be accessed on the:

- GEF IW:LEARN website: <https://iwlearn.net/iw-projects/4966>, and;
- SADC-GMI website: www.sadc-gmi.org

“Integration of Groundwater Management into Transboundary Basin Organizations in Africa - a Training Manual by AGW-Net, BGR, IWMI, CapNet, ANBO, & IGRAC”

KEYWORDS

- ◆ SADC Groundwater Management Institute
- ◆ Transboundary Aquifers
- ◆ Climate Resilience
- ◆ River Basin Organisation Commissions
- ◆ Conjunctive Water Resources Management

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