



Project overview SADC-GMI project CS2017/05: Capacity Building on Groundwater Data Collection and Management in SADC Member States (SADC-Groundwater DataCoM)

The SADC Groundwater Management Institute (GMI) has initiated a project to assist SADC Member States in capacity building on groundwater data collection and management. The project started in September 2017 and will finish in January 2019. This brochure provides an overview of the project objectives and design.

Background

The role of the SADC-GMI is to:

- Promote sustainable groundwater management and solutions to groundwater challenges in the SADC region through building capacity, providing training, advancing research, supporting infrastructure development, and enabling dialogue and exchange of groundwater information.
- Conduct and support SADC Member States in groundwater research, and serve as a focal interlocutor with national, regional and international groundwater initiatives.

SADC-GMI is implementing the Sustainable Groundwater Management programme in SADC Member States which comprises four main components. Relevant to the Groundwater DataCoM project are *Component B: Enhancing institutional capacity of governments in SADC Member States and transboundary organisations* and *Component C: Improving availability of and access to knowledge, scientific research and data on groundwater*. Component B includes delivering training on groundwater data collection, management and sharing with the project stakeholder groups. Sub-component C3 foresees interventions on Information and Communication Technologies for knowledge sharing platforms to build an integrated data management system interlinked with a GIS platform and the project website; involving storing, connecting and collecting information from various regional and global groundwater initiatives and data sources.

Objectives and Scope

The current project covers capacity building and training in groundwater data collection and data management, including widespread sharing of data and training in the use of available instruments. The project focuses at capacity building and training at the level of ministries, departments and agencies responsible for groundwater in the respective Member States, and also includes engagement of two young professionals from each SADC Member State.

The recent baseline assessment of Groundwater Management in SADC¹ provides a good starting point to develop a training programme, but to ensure that the programme is demand driven the needs will be assessed through further desk study in combination with visits to key stakeholders in relevant departments of the Member States.

Approach and Methodology

Phase 1 – Inventory

1. A. Literature Review/Desk study

The project will start with a desk study. Key sources of literature foreseen at this stage are:

- *Groundwater Management in SADC* (Pietersen and Beekman, 2016);
- results from the previous SADC *Groundwater and Drought Management in the Southern African Development Community project (2007-2011)*;

¹ Pietersen, K., Beekman, H.E (2016) Groundwater Management in the Southern African Development Community. Prepared for SADC Groundwater Management Institute.

- the SADC Groundwater Grey Literature Archive (<http://www.bgs.ac.uk/sadc/index.cfm>);
- reports available in the public domain like national strategic water plans;
- peer-reviewed literature.

Groundwater Focal Persons from individual SADC Member States will also be requested to contribute to the desk study by providing relevant literature. The inventory will include topics like hydrogeological maps, knowledge of aquifers, monitoring of groundwater levels and quality, monitoring of groundwater use, reporting on groundwater (analyses). Findings will be reported for individual Member States and at SADC-wide level, and will include overviews of availability, quality and accessibility of information. If appropriate, findings will also be reported at other scales like provincial/district or at the level of aquifers or river basins. The results will be synthesised in a concise report, which will be updated and amended throughout phase 1.

1.B. Capacitating young professionals through an Internship Programme

As part of the project, two young professionals from each SADC Member State will be engaged, as well as students from the Institute for Groundwater Studies (IGS) at the University of the Free State (UFS). The purpose of engaging young professionals is to capacitate them on relevant aspects of data and information management, whilst at the same time exposing them to international cooperation and allowing them to build a network of groundwater professionals.

Direct engagement and introduction with the young professionals will start during the country visits (see 1.C below). The young professionals will be given small assignments to complete in 2018 under the guidance of the project team and the National Focal Persons who already serve as the interface between SADC-GMI and the Member State. It is the intention that the young professionals will also attend (at least one of) the international workshops and/or training sessions where they can also present their assignments.

Nomination and selection of the young professionals will be the responsibility of the Member States in consultation with SADC-GMI. Preferably there will be a reasonable gender balance within the group of selected professionals.

To ensure the capacity building exercise is objective and successful, Terms of Reference/Job description will be developed by the consultant and approved by the SADC-GMI. A schedule of deliverables for each Intern will also be developed and agreed.

1.C. Country visits

To verify and amend the results of the desk study, it is crucial to liaise with representatives from the SADC Member States. To this purpose, and to collect additional data, a short visit to representative(s) of the main department at national level responsible for groundwater management in each SADC Member States will be scheduled. Prior to these visits the National Focal Persons will be requested, through a structured questionnaire, to provide information on the general status quo of data and information management, availability, quality and accessibility of data etc. Focal Persons will also be requested to either share or collect relevant data for inclusion in the SADC-groundwater portal (SADC-GIP). During these country visits the project team also hopes to initiate their working relationship with the young professionals from each Member State.

1.D. Gap analyses

The findings from the desk study and country visits will be analysed and synthesised in a report with a SADC wide overview and per country findings on the status of their data and information management. The analyses will take into account specifics of each country and will include elements such as: General benchmarking and other conclusions about the study; recommended prioritized action items for each Member State in order to improve data collection and management at national level; recommended prioritized action items to be addressed at regional (SADC) level, including actions necessary to improve the functionality and value of the SADC-GIP to the SADC region.

1.E. Knowledge Management Workshop

A knowledge management workshop will be organized for the Member States, SADC-GMI, SADC Secretariat, UFS and other selected stakeholders (including River Basin Organisations). Objectives for the workshop will be: To discuss the need and potential for a SADC-wide data and information management framework; to validate the current state of data and information management in the Member States; to discuss potential measures to overcome identified gaps; to provide training on the use of the SADC Groundwater Information Portal (www.gip.sadc-gmi.org); to discuss common standards on the development and interpretation of hydrogeological maps, including the need to make the maps more easily accessible especially at national level; to seek agreement on most urgent follow up actions; to seek agreement on the objectives and target groups for two training workshops planned under the project; and to seek agreement on the setting up of one up to five pilot activities related to data and information management and in line with the findings from the gap analysis report.

Phase 2 – Training and pilot activities

2.A Training activities

Subsequent to the first Knowledge Management workshop above, two further training workshops will be organised, each for a group of up to 40 participants. The target audience and programme for the two training workshops will depend on the findings from phase 1. A preliminary objective for the training programme has been defined based on conclusions from the assessment of Groundwater Management in the SADC (Pietersen and Beekman, 2016):

The objective is to train participants on various aspects ranging from data collection to data management, analysis, interpretation and communication of results in a manner that is meaningful to decision makers. Academic training of the professionals may have covered these topics in a broad sense, but the focus in academic training is often theoretical and science oriented. As a consequence professional hydrogeologists do not always have the experience to cope with limited or poor data, and to translate research findings into clear conclusions or recommendations on actual groundwater management. The course aims to bridge that gap.

At the end of the course participants will have a good understanding of different objectives behind groundwater data collection / monitoring, and how these different objectives may require different data, different analysis and also specific communication of results. Participants will have been exposed to data management and data processing tools, and will have a good overview of the major aspects related to the whole process from data collection to communication of results.

The above objective will be reviewed in light of the outcomes from the desk study and country visits.

2.B Pilot activities:

The project will identify opportunities for small priority activities to demonstrate the value of enhanced groundwater data collection and management. This can be activities such as implementing country data and information portals within the existing regional SADC-GIP (www.gip.sadc-gmi.org); creating a digital discussion platform for young professionals in SADC; initiating a small exemplary monitoring project; or providing additional tailor made training. At least one, and up to a maximum of five pilot activities will be selected for implementation under this project. Pilot activities will be selected together with the Member States in the knowledge management workshop (activity 1.E). Member States will also be involved in the execution of the pilots, and ideally the young professionals will be engaged in the execution.

Time line and milestones





	2017		2018				2019
	Q4	Q1	Q2	Q3	Q4	Q1	
Phase 1							
Desk study	1A						
Capacitating young professionals			1B1			1B2	
Country visits		1C1/2					
GAP analysis		1D1					
Workshop knowledge management			1E1	1E2/3			
Phase 2							
Training activities				2A1	2A2	2A2	
Pilot activities						2B	
Project closure						3A	

Milestones

No.	Short description
1A	Report: Overview of current status data and information management – preliminary outcomes desk study
1B1	Report: Summary of young professionals' achievements (draft report; combined with 1.E2)
1B2	Summary report on young professionals achievements (draft + final; combined with 3.A)
1C1	SADC-GIP updated with additional data and information
1C2	Report: Overview of current status data and information management - outcomes desk study and visits to SADC member states.
1D1	Report: Overview of current status data and information management, gap analysis and recommendations for capacity building and training
1E1	Workshop for participants from all Member States, SADC-GMI, SADC Secretariat, UFS and other selected stakeholders to discuss the outcome of the desk study
1E2	Report: Overview of current status data and information management, gap analysis and recommendations for capacity building and training (final)
1E3	Online: Document reports and data in SADC-GIP
2A1	Training course 1 and concise report
2A2	Training course 2 and concise report (together with 3.A)
2B	Pilots implemented and report on outcomes.
3A	Final report: Concise report on over-all project activities and outcomes, including recommendations for data and information management in SADC.

Organisations and contact persons

The SADC-GMI contracted the International Groundwater Resources Assessment Centre (IGRAC) and Institute for Groundwater Studies (IGS). IGRAC is a global groundwater centre based in the Netherlands and working under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organisation (WMO). IGS is a groundwater research group within the Faculty of Natural and Agricultural Sciences of the University of the Free State in South Africa, and is host to SADC-GMI. For more information contact:

 	<p>SADC-Groundwater Management Institute (SADC-GMI) Mr. Brighton Munyai (Project Coordinator SADC-GMI) brightonmunyai@gmail.com +263 775166546</p>
	<p>International Groundwater Resources Assessment Centre (IGRAC) Mr. Geert-Jan Nijsten (Team leader) Geert-jan.nijsten@un-igrac.org +31630022137</p>
	<p>Institute for Groundwater Studies (IGS) Mr. Eelco Lukas (Deputy team leader) LukasE@ufs.ac.za +27514012793</p>