

# SHORT COURSE: Operation and Maintenance of Groundwater Infrastructure

## About this course

Infrastructure development is critical to job creation, economic growth and poverty reduction. Unfortunately, there has been chronic underfunding of infrastructure in most countries, resulting in an infrastructure gap. An important lever to close the infrastructure gap is to optimise existing assets through proper operation and maintenance (O&M). O&M is sometimes considered a simple technical matter that is easy to solve. Yet as the persistent breakdowns in water supply systems in many smaller towns and villages illustrate, adequate O&M relies on a surprisingly complex set of organisational functions and competencies. Suitable human resources, access to the right tools, an inventory of spare parts, reliable transport, mechanisms for reporting breakdowns, accountability frameworks, and assured, regular funding are all vital. This training course aims to support groundwater infrastructure development solutions that can improve the management of small groundwater schemes. The course is based on the O&M Training Manual for groundwater-related infrastructure developed by the SADC-GMI.

## Who can benefit from the course?

The O&M training course can assist water supply managers, technical staff, plant operators, water practitioners and others in managing groundwater infrastructure. The course is intended for participants to (i) know the challenges of O&M of groundwater infrastructure, (ii) develop an understanding of the policy, legislative and institutional frameworks necessary for O&M, (iii) understand what tasks are required for general O&M of the various water supply sources and groundwater monitoring infrastructure for their effective functioning, and (iv) understand basics of pump operation and maintenance.



# COURSE FACILITATORS



**Hydrogeologist: Dr Kevin Pietersen** is a hydrogeologist who has worked for almost 30 years on Africa's groundwater resources and aquifers. His deep understanding of aquifer dynamics and governance in Africa and significant in-field experience allow him to apply his vast knowledge to effectively oversee and conduct groundwater modelling, recharge, storage and discharge analysis, abstraction management, and groundwater resource development plans. Kevin is the Senior hydrogeologist for the BUPUSA hydrogeological analysis and team leader for the construction Eastern Kalahari Karoo Basin Transboundary Aquifer (EKK-TBA) numerical model. He was the Groundwater Institutional Advisor for a World Bank project entitled Groundwater Management in the Horn of Africa and the Team Leader for the first National Groundwater Strategy of South Africa. Kevin was the team leader for the development of the O&M manual. He is a Fellow of the Geological Society and a Senior Fellow of the Water Institute of Southern Africa.



**Water supply engineer: Phillip Ravenscroft** is a civil engineer with 25+ years' experience in the water sector, specialising in sustainable community water supply and sanitation development. He has extensive experience planning, designing, constructing and managing water supply infrastructure projects. Phillip researched the water services and water resources fields, led evaluations of national water sector programmes and worked in strategy development. He was involved in numerous projects to utilise alternative water supplies and advising institutions on becoming water resilient through managing water demand, water reuse/recycling possibilities and alternative water supply development. Additionally, he has implemented drought relief programmes providing institutions with independent groundwater supplies to mitigate potential municipal water supply interruption. He was responsible for the planning, project management, design and construction supervision of numerous community water supply projects



**Hydrogeologist: Steve Kumwenda** is professionally trained groundwater resources and infrastructure technologies development and management expert (Hydrogeologist) with a background in rural and urban Water, Sanitation and Hygiene (WASH) programs conceptualisation, designing and implementation with institutional strategic foresight and technical backstopping. This involves the construction of new groundwater supply infrastructure, such as hand-pumped wells, including those with reticulated systems, and sustaining the functionality of existing groundwater supply technologies through institutional systems strengthening and technical supporting of local WASH management structures, including the hand-pump components supply chain. Steve is currently working with BASEflow as Program Hydrogeologist, responsible for conducting groundwater infrastructure research through a borehole forensics methodology. This is a detailed investigation of borehole functionality levels of service and borehole premature failure issues.

## INTERESTED DELEGATES CAN DEPOSIT THE REGISTRATION FEE IN THE FOLLOWING BANK ACCOUNT:

**Account name:** Southern African Development Groundwater  
**Bank name:** Absa Bank  
**Account number:** 41-0755-4267  
**Bank address:** 19 Nelson Mandela Drive, Brandwag, Bloemfontein  
**BIC/SWIFT code:** ABSAZAJJ  
*Please use participant's name and surname as a reference*  
**EMAIL PROOF OF PAYMENT TO:** Tebogo.Poo@sadc-gmi.org



### Continuing professional development (CPD) points

Eligible participants will be able to claim CPD points.



### Course Costs

The course costs R13 500 (excl. VAT) for the 3 days.



### Training Dates 2023

Full Day: 26th & 27th July. Half Day: 28th July.



### Venue

Johannesburg, South Africa. Details will follow.