

Developing a new SADC Groundwater Management Programme 2021 -2031: Final Lessons Learned and Emerging Issues Report

Report Prepared for

SADC-GMI



Report Number 557287



Report Prepared by

 **srk** consulting

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Executive Summary

Water security in the Southern African Development Community (SADC) region has been subjected to the impacts of climate change and severe weather events. These impacts have negatively impacted on the livelihoods of a significant proportion of the region's population. The need to strengthen groundwater management and development in order to promote sustainable social and economic development within the region led to the establishment of the SADC Groundwater Institute (SADC-GMI) in 2011. The vision of SADC-GMI is to be a centre of excellence to promote sustainable groundwater management and provide solutions to groundwater challenges across the SADC region.

The SADC-GMI is currently approaching the end of the implementation of the project, "*Sustainable Groundwater Management (SGM) in SADC Member States Project*", funded by GEF and CIWA through the World Bank. The SGM Project commenced in 2014 and will be concluded in June 2021.

SADC-GMI commissioned the project, "*Consultancy Services for Capturing Lessons Learnt and designing a new SADC groundwater programme*", to capture lessons learned from the previous project (SGM) and develop a new regional groundwater programme. The objectives of the SADC-GMI Lessons Learned Project (LLP) are two-fold. Firstly, it aims to prepare a background document on the emerging issues and lessons learned from implementation of the SGM Project, and secondly, develop a ten-year (split into two five-year periods) bankable project proposal document for the implementation of a new SADC groundwater programme from 2021 to 2031.

The lessons learned and emerging issues report provides the methods used to collect, analyse and interpret data to identify lessons learned; technical review of SADC-GMI's strategy and implementation of the SGM project; review of the organisational structure and capacity of SADC-GMI; review of governance, compliance and funding assessment; and the financial management assessment and cost-benefit analysis of SADC-GMI's geographic location. The cost-benefit analysis was undertaken to determine whether SADC-GMI is currently strategically located and to identify other possible location options in the Gauteng Province. These reviews and assessments are supplemented by several informative appendices.

Drawing on a multi-faceted methodology and expert assessments and analyses, the process of identifying lessons and emerging issues resulted in key recommendations that need to be considered when developing a new regional groundwater programme. Overall key lessons learned include planning for and managing the multi-faceted enabling policy, legal and institutional capacity constraints for national and transboundary aquifer management; the dire need for integrated time-series data collection and management to generate information for decision support systems and the potential positive socio-economic impact of scalable innovative groundwater infrastructure projects in SADC Member States.

Key technical issues identified through the review included the need for a more focused approach to groundwater management in the region in order to allow for SADC-GMI to increase the scale of interventions currently being explored to expand, deepen and optimise the positive impacts. Continued data management and collection is an essential component to facilitate effective groundwater management. SADC-GMI, through the development of the GIP and GLA has established a central point for storing and linkages to groundwater data for the region. These initiatives need to be further expanded and improved upon to ensure that reliable data is captured and stored in the appropriate format and platforms, which will assist in planning and managing cross boundary conjunctive use. Integrated transboundary planning is still based primarily on hydrological boundaries, but consideration of groundwater is becoming more common. Linking transboundary and conjunctive use planning is complex, requiring technical and institutional cooperation. SADC-GMI can facilitate and

foster the development of relationships and networks to ensure sustainable technical and institutional cooperation. Information gaps may constrain understanding and cooperation around shared aquifers. It may be necessary to develop and implement monitoring systems early in transboundary projects and further engagement by SADC-GMI with relevant institutions can facilitate this process.

Key recommendations to improve future programme planning, implementation and management were made based on various data collection and analysis methods. These key recommendations cover the four key foundational components that derived from the SADC-GMI's strategic objectives and its mandate drawn from the SADC policy and strategy documents. They include the need for funding stability and diversification, the importance of utilising theory of change and a log frame methodology to monitor and measure the impact of future programmes as well as the need for increased brand awareness.

Experts, SADC-GMI staff, key stakeholders and other partners are of the opinion that SADC-GMI has grown sufficiently as an organisation. Going forward, it is important to operate independently, achieve financial sustainability and maintain good governance practices through continuously developing and implementing policies and procedures supported by a team of motivated and capacitated staff. It is critical that SADC-GMI considers key improvement areas such as monitoring and evaluation, strengthening board leadership, generating revenue from knowledge products, strengthening brand awareness and instituting measures to improve staff retention and performance management.

The visioning and conceptualisation of the future evolution of SADC-GMI has been articulated by the Executive Director of SADC-GMI to potential funders through various means. The purpose of this report is to support, expand on and scrutinize the lessons SADC-GMI learned from implementing the SGM Project in SADC Member States. The results presented in this report, strengthens SADC-GMI's position as a thought leader in groundwater management and highlights critical success factors the team should implement in concurrent programme development.

SADC-GMI has well-articulated strategic objectives to achieve in becoming a recognised centre of excellence in groundwater management. The lessons learned from the implementation of these objectives provide a foundation for formulating the key intervention areas of the next phase in SADC-GMI's existence as an organisation.

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Disclaimer

The opinions expressed in this report have been based on the information supplied to SRK Consulting (South Africa) (Pty) Ltd (SRK) by the Southern African Development Community Groundwater Management Institute (SADC-GMI) in addition to information collected from current scientific literature, online surveys, interviews with staff, partners and sub-grantees. The opinions in this report are provided in response to a specific request from SADC-GMI to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has triangulated key supplied data with data gathered from surveys, current literature and interviews, the accuracy of the results and conclusions from the review are reliant on the interpretation by the key experts and the SRK team and the accuracy and completeness of the supplied data, surveys, interviews and literature study. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the current state of SADC-GMI as an organisation at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

List of Abbreviations

AFD	Agence Française de Développement
AGW-NET	Africa Groundwater Network
BoD	Board of Directors
CAADP	Comprehensive Africa Agricultural Development Programme
CBA	Cost-benefit Analysis
CIPC	Companies and Intellectual Property Commission
CIWA	Cooperation in International Waters in Africa
Danida	Danish International Development Agency
DBSA	Development Bank of Southern Africa
DFI	Development Finance Institutions
ESS	Environmental and Social Safeguard
GDEs	Groundwater Dependent Ecosystems
GDMP	Groundwater and Drought Management Project
GEF	Global Environmental Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMI	Groundwater Management Institute
GW	Groundwater
IGRAC	International Groundwater Resources Assessment Centre
IGS	Institute for Groundwater Studies
IPAD	Portuguese Institute for Development Assistance
IWMI	International Water Management Institute
JSAP	Joint Strategic Action Plan
Norad	Norwegian Agency for Development Cooperation
NPC	Non-Profit Company
NPO	Non-Profit Organisations
NPV	Net Present Value
OCAT	Organisational Capacity Assessment Tool
PIDA	Programme for Infrastructural Development in Africa
PPDF	Project Preparation and Development Facility
RBO	River Basin Organisations
RFP	Request for Proposal
RICAS	Regional Integration and Cooperation Assistance Strategy
RSAP	Regional Strategic Action Plan
SADC	Southern African Development Community
SADC-GIP	SADC-Groundwater Information Portal
SADC-GMI	Southern African Development Community Groundwater Management Institute
SADC-GMI LLP	SADC-GMI Lessons Learned Project
SDC	Swiss Agency for Development and Cooperation

SGM	Sustainable Groundwater Management in SADC Member States (Project)
Sida	Swedish International Development Cooperation Agency
SLA	Service Level Agreement
SRK	SRK Consulting (South Africa) (Pty) Ltd
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBA	Transboundary aquifer
TDA	Transboundary Diagnostic Analysis
ToC	Theory of Change
ToR	Terms of Reference
UFS	University of the Free State
UNESCO-IHP	United Nations Educational, Scientific and Cultural Organizations – International Hydrological Programme
UN	United Nations
WB	World Bank
WBG	World Bank Group
WISH	Windows Information System for Hydrogeologists
ZAMCOM	Zambezi Watercourse Commission Agreement

1 Introduction and background

1.1 Rationale and purpose of the report

The Southern African Development Community Groundwater Institute (SADC-GMI) has embarked on a process to capture lessons learned from the World Bank Funded “*Sustainable Groundwater Management in SADC Member States project*”, which is scheduled to end on the 31st of December 2020 and to develop a new regional groundwater programme. The objectives of the SADC-GMI Lessons Learned Project (LLP) are to:

- Develop a background document on the emerging issues and lessons learned from implementation of the Sustainable Groundwater Management (SGM) in SADC Member States Project; and
- Develop a ten-year (split into two five-year periods) bankable project proposal document for the implementation of a new SADC groundwater programme from 2021.

Following an open tender process in February 2020, SRK Consulting (Pty) Ltd was appointed to assist SADC-GMI with the assignment. The purpose of this report is to:

- Identify lessons learned and emerging issues from implementation of the SGM in SADC Member States Project; and
- Develop and identify a suitable framework for implementation of a new SADC groundwater programme from 2021.

Figure 1-1 presents a map of the SADC region showing the Member States in which the current project was implemented.

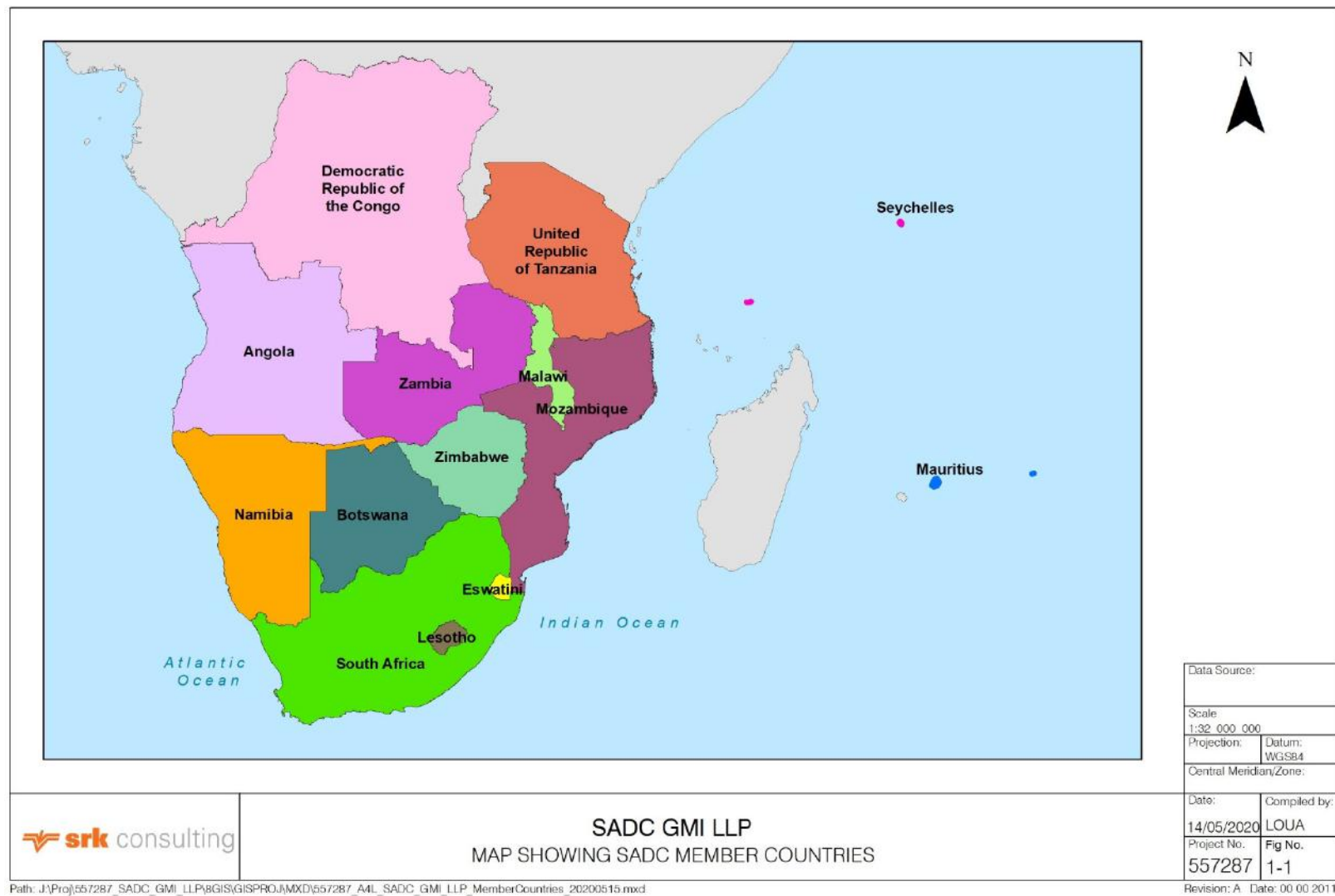


Figure 1-1: SADC Member States locality map

1.2 Project background

1.2.1 The Sustainable Groundwater Management in SADC Member States Project and genesis of the SADC-GMI

The SADC Secretariat, through the Water Division in the Directorate of Infrastructure and Services, received a grant from the World Bank to implement the five-year regional project for Sustainable Groundwater Management (SGM) in the SADC Member States (SADC-GMI Financial Sustainability Report, 2018). The project was implemented from 30 June 2015 until 31 December 2020 (after 18 months no-cost extension from 30 June 2019). However, the recent COVID-19 pandemic has negatively impacted on progress and hence there are negotiations to extend the project implementation deadline to 30 June 2021. This project seeks to mitigate the effects of climate change, pollution and rapidly growing water demand in Southern Africa through strengthening of institutional and technical capacity to implement national reforms and to facilitate cooperation on shared aquifers in the region. The project implements priority actions in the work-programme for groundwater in the SADC Regional Strategic Action Plan for Integrated Water Resources Management (RSAPIII, 2011–2015) (replaced by the RSAPIV (2016–2020) in alignment with the Revised SADC Protocol on Shared Watercourses of 2000 and river basin agreements across the region. To achieve these objectives, the project consists of the following components, with specific focus areas illustrated in Figure 1-2:

- **Component A:** Operationalising the SADC Groundwater Management Institute (SADC-GMI) as a regional centre of excellence;
- **Component B:** Strengthening institutional capacity for the sustainable management of groundwater in SADC;
- **Component C:** Advancing knowledge on transboundary and national groundwater; and
- **Component D:** Promoting groundwater infrastructure management and development (Croneborg, 2014).

Through Component A, SADC- GMI was operationalised with the remaining three components (B, C and D) having a greater impact in the areas of institutional strengthening, information and infrastructural aspects of groundwater management among SADC Member States from local to regional levels.

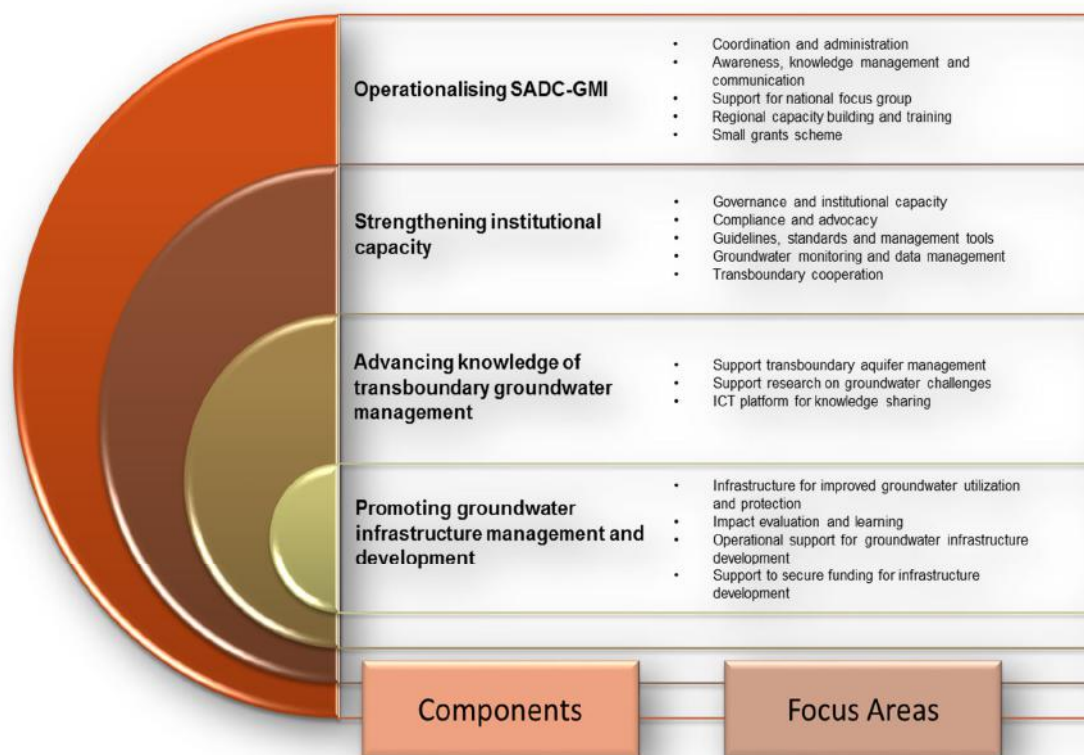


Figure 1-2: Strategic objectives and focus areas of the Project

Source: SADC-GMI Physical Activities and Progress Report, February 2020 and WBG Appraisal Document, April 2014

1.2.2 The evolution of the SADC-GMI

In June 2008, the SADC Council approved a recommendation of the SADC Sub-Committee on Hydrogeology to host the SADC-GMI at the Institute for Groundwater Studies (IGS) at the University of the Free State (UFS). After a competitive procurement process, this was run across the SADC region and involved approximately 13 potential hosting institutions culminating in the IGS winning the said bid. The first Strategic Business Plan for the SADC-GMI for the period 2010 – 2012 was drafted in 2009 by Pegasus Strategy and Development and focussed entirely on the establishment of SADC-GMI. On 6 May 2011, SADC-GMI was legally registered as a section 21 not-for-profit company with the Companies and Intellectual Properties Commission (CIPC) under the South African Companies' Act to serve as a Centre of Excellence in promoting equitable and sustainable groundwater management in the SADC region. Articles and a Memorandum of Association were notarially registered in South Africa. By February 2014, the SADC Secretariat and the UFS had a final draft Memorandum of Understanding for hosting of the SADC-GMI.

Once established, SADC-GMI had a strong internal focus and embarked on a process of setting up its governance structure, looking at initial staff appointments and simplistic systems and processes to function. Over the years, SADC-GMI also built capacity internally with the appointment of technical staff and initiation of a number of projects (SADC-GMI Strategic Business Plan 2018-2023).

SADC-GMI's core mandate is to promote sustainable groundwater management and provide solutions to groundwater challenges across the SADC region. Driven by seven core values, SADC-GMI achieve their mandate by implementing four strategic objectives illustrated in Figure 1-3.



Figure 1-3: Strategic objectives of SADC-GMI

Source: SADC-GMI Strategic Business Plan, 2018-2023

From 2010 to 2013 the institute focused on internal capacity building and organisational development (refer to Figure 1-4), however this was limited to the company registration. In 2014, the commencement of the World Bank-funded Sustainable Groundwater Management in the SADC Member States Project (discussed in Section 1.2.) initiated a period during which SADC-GMI refined its vision and strategic objectives and began strengthening its operational effectiveness through initiatives such as regional capacity building and knowledge management. The Institute also developed guidelines, standards and management tools to strengthen institutional capacity in the region.

Over the last three years the institute has focused on supporting groundwater management infrastructure development by providing technical assistance, evaluating impact and supporting applications from member countries to access funds.

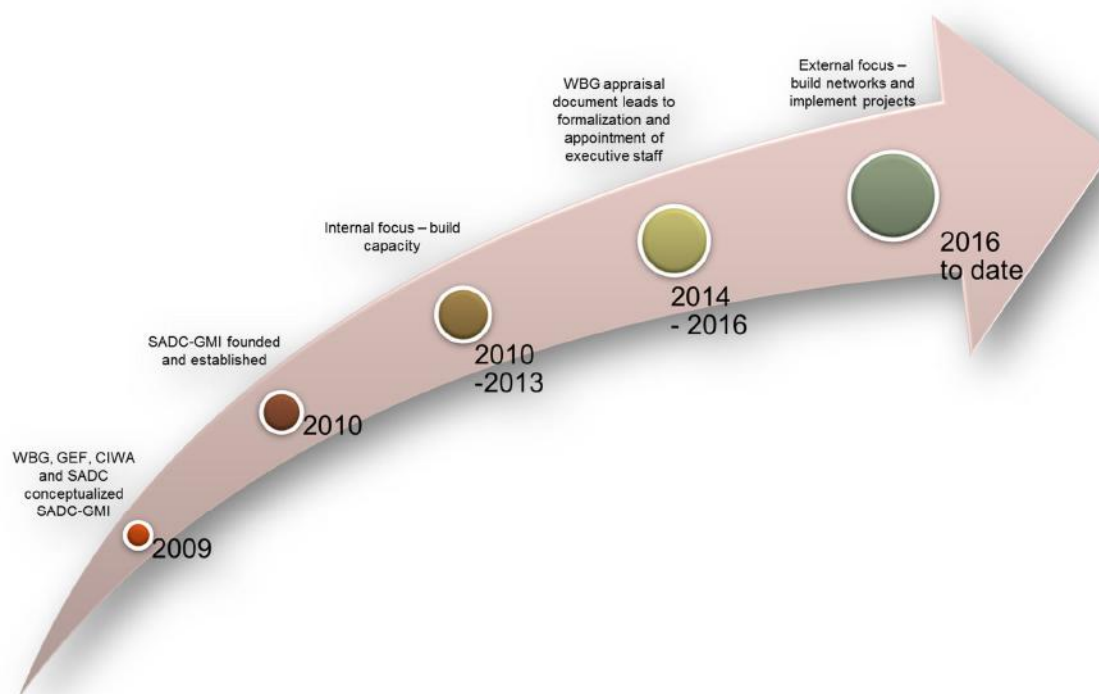


Figure 1-4: Timeline of evolution of SADC-GMI

SADC-GMI is guided by a 10-member Board of Directors drawn from the Sub-Committee on Hydrogeology, the SADC Secretariat, the UFS and governance experts drawn from the private sector. Since its inception, SADC-GMI has grown from three core staff members to five permanent members who are supported by three consultants. Details of the SADC-GMI Board of Directors and staff complement are listed in Appendix A1 and Appendix A2 contains the SADC-GMI staff complement table.

1.3 Structure of the report

This report comprises the following nine chapters:

- Chapter 2 – Methodology;
- Chapter 3 – Technical assessment of groundwater in SADC;
- Chapter 4 – Organisational structure and capacity assessment;
- Chapter 5 – Governance, compliance and funding review;
- Chapter 6 – Financial management assessment and cost-benefit analysis of SADC-GMI location;
- Chapter 7 – Conclusions and recommendations;
- Chapter 8 – Concept plan framework; and
- Chapter 9 - References.

Supporting information is provided in a number of appendices (A-M).

2 Methodology

Key points from the chapter

- A range of methods were used to collect, analyse and interpret data to identify lessons learned
- A comprehensive review was conducted of documents sourced from SADC-GMI
- An organisational capacity assessment of SADC-GMI was undertaken
- Interviews and online surveys were conducted with SADC-GMI personnel, hosting institutions, board members, key partners and sub-grantees
- A cost-benefit analysis was undertaken to ascertain the optimal location of SADC-GMI

2.1 Introduction

This chapter provides an overview of the methodologies adopted for the SADC-GMI LLP assignment. This process includes the collection, review, analysis and interpretation of relevant data and information.

2.2 Methodological approach

Given the organisational complexity of the current SADC-GMI as well as the wide geographic scope of the current SADC SGM Project, a variety of methods were used to collect, review and analyse data and information in order to identify lessons learned and emerging issues. Drawing on the technical knowledge and skills of various key experts it was possible to prepare a comprehensive database of information for review as well as design interview and questionnaire schedules to obtain targeted stakeholder feedback. The information was analysed using a number of tools, such as benchmarking, thematic analysis, the organisational capacity assessment tool (OCAT) and cost-benefit analysis (CBA) tool. These methods are discussed in more detail below.

2.3 Document collection and review

In order to gain a thorough understanding of the current organisational structure, existing research and technical qualities as well as the financial feasibility of the SADC-GMI, a systematic review was conducted of documentation relating to SADC-GMI. The first step was to initiate a process of compiling an information needs list that identified key documents that would be subject to review and background analysis. The subsequent document database was developed in an iterative fashion upon request by experts and the core team (see Appendix B). To summarise, the following types of documents were reviewed:

- Institutional documentation that related to the SADC-GMI and its projects;
- Technical reports and information related to organisational arrangements, groundwater management and financial management; and
- Documents and data arising from engagement with key stakeholders.

The review and desktop background analyses were conducted by four key experts covering groundwater management, organisational structure and capacity, governance and financial management. The experts each reviewed documentation relating to their specific areas of expertise. The main objectives of this literature review were to provide a concise summary of important institutional documents informing the current operational status of the SADC-GMI, to critically analyse this information gathered by identifying gaps in current knowledge, where further information needs to

be obtained via interviews and online surveys or other sources and finally to present the key observations and findings.

The information gathered through this analysis also informed further questions, the formulation of online questionnaires as well as interview schedules for SADC-GMI personnel and key external stakeholders. A summary of the expert reviews and desktop data analysis is provided in chapters 3, 4 and 5.

2.4 Organisational capacity assessment tool (OCAT)

The OCAT (McKinsey and Company, 2001) was used to assess the critical elements for effective organisational management and identify those areas that need strengthening and further development (see Appendix C1). The OCAT provided a common framework to facilitate individual reflections about an organization's trajectory thus helping to identify shared concerns and priority actions.

In the context of the SADC-GMI lesson learned and emerging issues document, the OCAT tool forms crucial part of the broader methodological process. Most notably, the OCAT was one of the criteria used to inform the relevant themes during the interview process described in section 2.5.1. Additionally, it provided guidance to the key experts in their evaluations of the organisational structure, with each key expert responsible for their respective field of expertise (see Appendix C2 for expert comments of OCAT).

The initial focus of the OCAT was an assessment of the status quo of the organisation. The assessment addressed the following seven areas: institutional environment; governance; organisational strategy; financial management; organisational design and human resources; asset management; and operation and maintenance.

The OCAT was also used to inform the desired and ideal future state of SADC-GMI, which will again be guided by the aforementioned seven categories. These insights will inform the process of developing and identifying a suitable framework for implementation of a new SADC groundwater management programme from 2021.

2.5 Interviews and questionnaires

2.5.1 Interviews

A crucial part of the methodological process in evaluating and determining the lessons learned from the SADC-GMI programme implementation involved the interviews with SADC-GMI personnel, Board members and key partners. The aim was to solicit the feedback of people who have experience in the daily workings of the organisation and understand its mandate and objectives.

Prior to the interview process, a stakeholder database was compiled of key interest groups and persons with valuable knowledge of the current groundwater management field (see Appendix D). The development of the database was informed by the SADC-GMI database of partners and key stakeholders, while further stakeholders were identified through consultations with the key experts as well as the background research by the core SRK team. The stakeholder database consisted of nine broad interest groups, namely:

- SADC-GMI, including the board and permanent staff;
- SADC Secretariat;
- Regional partners;
- International partners;
- Academic partners;
- Sub-grantees;

- River Basin Organisation (RBO);
- Donors/financial institutions; and
- Non-affiliate research organisations.

The final database consisted of 75 stakeholders. A process of prioritisation was used to identify the key stakeholders that would be interviewed, which was guided by SADC-GMI and the experts. A total of 13 interviews were conducted by the core team and experts during May 2020. The interview schedule for the partners is contained in Appendix E1 and the interview schedule for staff members is presented in Appendix E2.

The themes and content of each specific interview were guided by both the OCAT as well as the needs of the relevant expert. Information from the interviews was captured to determine responses from questions and to inform the lessons learned analysis as per the OCAT tool. The interviews also informed the technical analyses being undertaken by the experts.

2.5.2 Online questionnaires

Online surveys were used to triangulate the information obtained through the document review and interviews. This provided a valuable data validation method, given that all stakeholders could not be interviewed in the available timeframe. Online questionnaires were developed and distributed to partner institutions and sub-grantee organisations who had not been interviewed to obtain feedback regarding SADC-GMI and the SGM Project. The partners' questionnaire is contained in Appendix F1 and the results are presented in Appendix F2. The questionnaire for sub-grantees is contained in Appendix G1 and the results are presented in Appendix G2.

A total of 36 questionnaires were emailed in April 2020 (i.e. 29 partner questionnaires and 7 sub-grantee questionnaires). At the time of writing the report a total of 21 questionnaires had been returned (i.e. 14 partner questionnaires and 7 sub-grantee questionnaires). In order to enhance user-friendliness and increase the return rate, both questionnaires consisted of a combination of open-ended and multiple-choice questions as well as statements that applied a Likert scale.

2.6 Cost-benefit analysis

A cost-benefit analysis (CBA) was used to assist SADC-GMI in making an informed choice regarding their current location, based on quantifying and qualifying the benefits and costs associated with different scenarios. The CBA aimed to determine whether SADC-GMI should continue their current host and support services relationship with the UFS or find alternatives, whilst continuing high standards of operation, financial and corporate governance integrity to support long-term sustainability and achievement of set mandates.

The costs and benefits, direct and indirect, associated with a selection of project scenarios were considered and analysed in comparison to alternatives. Where possible, risks were identified, and mitigation measures considered and proposed.

It is important to note that the calculated costs and benefits of a project may vary depending on different assumptions about the input data and methodology applied in the CBA. The range of potential outcomes for differing inputs can be gauged using a sensitivity analysis. A sensitivity analysis proved useful in determining the potential where the net benefits of the project will not be positive. For example, some project calculated benefits and costs may be affected by scheduling, lifespan and geographic location.

There are different types or methods of analysis to determine the economic value or benefit of different projects for comparison. The type used for this assignment was Net Present Value (NPV). This method considers the difference between the total discounted benefits minus the total discounted costs, which gives the NPV of a project. Projects with positive net benefits are viewed as viable and those with a

higher NPV as compared with another project with a lower NPV is considered to be less ideal. In other words, the higher the NPV, the greater the calculated benefits of the project.

The value of money or goods in the present is viewed as higher than the expected value of goods and financial returns in the future. The further a potential benefit or cost is in the future, the less its value. This concept is made tangible by a process called discounting. This is where a discount rate is applied to anticipated costs and benefits of a project over the duration or 'life span' of the project to convert the value of a return in the future into today's value. Hence, for instance, the returns of a multi-year project are usually referred to as discounted returns.

For the purpose of the CBA, a three (3) year term (i.e. 2021 to 2023) was used as the "life span" of the project and the projected inflation rate of 5.3% for that period as the discount rate.

2.7 Data consolidation and interpretation

Data consolidation and interpretation in a project where different data streams provide an evaluation of four key components are essential to interpret results. In this report, different data was analysed to determine the status, performance and relevance of the four key components of the SADC-GMI SGM Project.

This method allowed for the identification of lessons relating to the implementation of the SADC-GMI SGM Project against stated objectives and noting emerging issues that may need to be considered in a new regional groundwater programme.

Throughout the report, selected results from each of the data collection methods were used. For ease of reference, a summary of the complete results of each data collection method is presented in the following Appendices:

- Appendix C2: Summary of results and expert recommendations based on the OCAT instrument;
- Appendix F2: Summary of results of the partner questionnaires; and
- Appendix G2: Summary of the results of the sub-grantee questionnaires.

2.8 Conclusion

A multi-faceted methodology has been employed in the preparation of the lessons learned and emerging issues report.

The chapters that follow provide the findings of expert reviews and analyses relating to:

- Groundwater management in the SADC region;
- Organisation structure and capacity;
- Governance, compliance and funding; and
- Financial management and cost-benefit analysis of SADC-GMI location.

3 Technical assessment of SADC-GMI's contribution to groundwater management in SADC

Key points from the chapter

- Current status of groundwater management in the SADC region
- Technical assessment of SADC-GMI's performance based on key areas in Annex 6 of the WBG appraisal document
- Emerging trends in groundwater management as identified by SADC-GMI partners sub-grantees and SRK team lead by the Groundwater expert.
- Groundwater management challenges faced by SADC-GMI partners and sub-grantees
- Technical lessons learned from the implementation of the SADC-GMI project activities
- Gaps identified in the current SADC-GMI groundwater project

3.1 Introduction

The technical review of SADC-GMI's strategy and implementation of objectives was undertaken by the SRK team under the technical guidance of Mr Gert Nel. A principal hydrogeologist with 30 years of experience, Mr Nel focused on formulating lessons learned based on his extensive knowledge of rural groundwater systems and good practice in groundwater management. He was assisted by Mrs Ashleigh Maritz who has expertise in environmental management in the SADC region and Mr Tim Hart, who has extensive working knowledge in donor-funded regional water projects. The technical review was informed the WBG technical appraisal document (WBG, 2014), which is the foundational document for SADC-GMI's establishment. The findings in this chapter are based on document review, groundwater literature review, staff interviews and online surveys.

For ease of reference, this chapter is aligned with the structure contained in Annex 6 of the Sustainable Groundwater Management in SADC Member States Project appraisal document (2014) titled 'Technical assessment of groundwater in SADC region'. An overview of the structure and the main themes is presented in Figure 3-1. A critical assessment of SADC-GMI's performance in addressing these themes through programme activities are presented in the sections that follow. The specific documents and project activities reviewed to provide the findings of the critical assessment are provided in Appendix H. Where applicable, alignment of the World Bank Appraisal Document Annex 6 themes with SADC-GMI's strategic objectives is indicated.

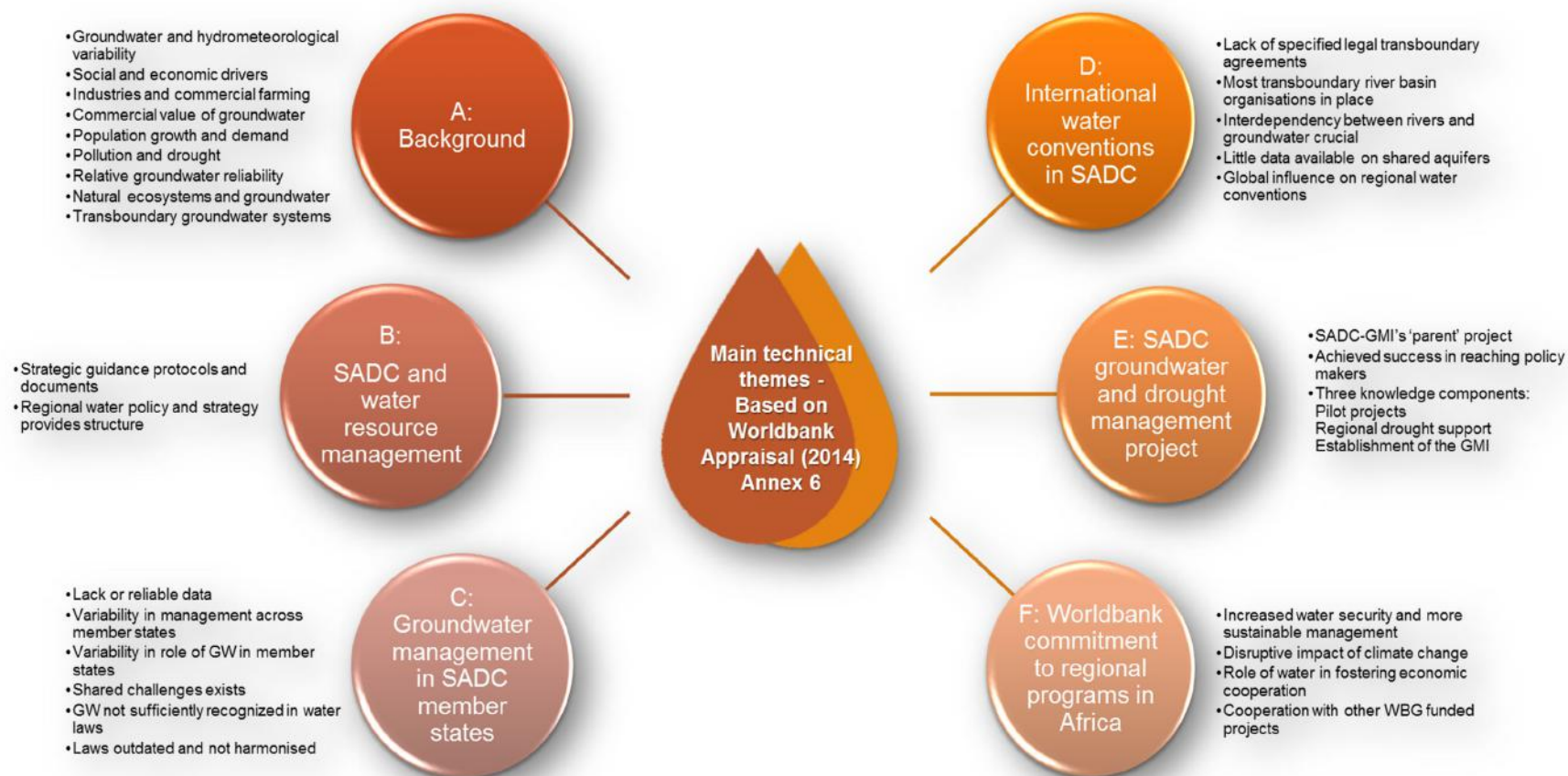


Figure 3-1: Summary of World Bank technical appraisal themes (2014)

3.2 Technical assessment

3.2.1 Background

The SADC region includes 16 Member States namely, Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe (refer to Map 1-1). The climate of the SADC region ranges from arid to sub-humid with varying rainfall conditions. Rainfall patterns have a significant effect on the availability of groundwater and its reserves. Groundwater makes up 8,5% of water use in the SADC region, although this percentage varies from country to country. It is estimated that over 70% of its 250 million people depend on groundwater as the primary source of water. The groundwater of the region is facing degradation from various land-use activities and over-abstraction in some areas (SADC-GMI, 2018).

Groundwater is an essential resource for sustainable development within the SADC region, yet its functioning in the hydrological environment is poorly understood compared to surface water due to its unseen value which contributes to its mismanagement (Pietersen & Beekman, 2016). Groundwater plays a fundamental role to providing water security, resilience to droughts and supports social and economic development. Human wellbeing, livelihoods, food production, ecosystems and natural habitats, industries and growing cities across the region are directly reliant on groundwater.

To date, groundwater has been reliable source of water throughout the region to meet the demand for water as a result of rapidly expanding populations and economic growth (including expansion of industries and commercial farming). Other contributing factors, which highlight the importance of groundwater's role and need for governance, include widespread poverty; gender inequality and food insecurity; the continuing need for a basic domestic water supply in both rural and informal urban areas; rapid urbanisation; and the need for drought security. The prevalence of drought in the region is expected to be intensified by climate change with greater groundwater drought vulnerability being reported across the 30 known transboundary aquifers (TBA) (IWMI, 2018). Despite its importance and critical role in water and food security in the region, groundwater has not featured prominently in water resources discourses. In practice, groundwater is often managed separately from surface water even though these two resources are linked as part of the overall hydrological cycle. There is therefore a need to advocate for inclusion of groundwater in water resources planning through measures such as conjunctive management of water resources.

To effectively manage groundwater at a local and regional level and to ensure its long-term sustainability, a balance between the exploitation of the resource (in terms of quality, quantity and understanding linkages to other natural resources) with increasing demand needs to be established.

It is also important to strengthen institutions by improving policy and legislative frameworks whilst promoting scientific research, knowledge and information exchange. Sustainable infrastructure solutions are becoming increasingly important for sustainable management of groundwater. The ecological role of groundwater needs to be acknowledged and factored in for the sustainable management of water resources.

3.2.2 SADC and water resource management

The SADC Member States adopted strategies and policies to guide sustainable groundwater management and development in the region. The following strategic documents were developed which form the regional framework:

- **Legal:** The Revised Protocol on Shared Watercourses in 2000 (in recognition of the need for a regional legal framework to guide sustainable resource management and development);
- **Policy:** The Regional Water Policy, adopted in 2005;

- **Strategy:** The Regional Water Strategy adopted in 2006; and
- **Planning:** The Regional Strategic Action Plan (RSAP) on Integrated Water Resources and Development Management which was first approved by SADC Summit in August 1998 to run in five-year phases with RSAP IV as the current plan.

The legal, policy, strategy and planning instruments to support development and governance provide the key pillars of the regional water framework in SADC Figure 3-2). The key element of this framework are discussed briefly below.



Figure 3-2: Regional water framework (Regional Gap Analysis and Action Plan Report, 2019)

The revised protocol on shared watercourses in 2000

The first Protocol on Shared Watercourses was issued in August 1995. Subsequent to this, the Protocol was repealed and replaced with the Revised Protocol on Shared Watercourses which was signed into effect on 7 August 2000. This was intended to align the Protocol with the provisions of the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses that had been adopted in April 1997 (Croneborg, E.M. (2014). The Protocol aims to foster closer cooperation among Member States for protection, management, and use of shared watercourses in the region. Member States agree to cooperate on projects and exchange information on shared watercourses, consulting with each other and collaborating on initiatives that balance development of watercourses with conservation of the environment.

The Protocol also contains an institutional framework that sets out a Water Sector Organ, its committees and units, and its duties for joint protection and development of shared watercourses in Southern Africa (SADC, 2000). The Protocol definitively establishes a watercourse as “a system of surface and ground waters consisting by virtue of their physical relationship a unitary whole which normally flows into a common terminus such as the sea, a lake or aquifer (SADC, 2000 p. 3)”. The inclusion of aquifers into this definition emphasises the importance of transboundary aquifers in joint management of shared groundwater resources.

The Regional Water Policy (2005) and the Regional Water Strategy (2006)

The Regional Water Policy and the Regional Water Strategy were developed in 2005 and 2006 respectively. These documents aim to provide a framework for sustainable, integrated and coordinated development, utilisation, protection and control of national and transboundary water resources in the SADC region. These documents are intended to support the SADC Common Agenda of socio-economic development and regional integration and improvement of the quality of life of all people in the region. To date the policy and strategy have not been revised and are still being utilised by SADC Member States.

RSAP IV

The principles and requirements of the Revised Protocol on Shared Watercourse are operationalised through the SADC Regional Strategic Action Plans (RSAPs). These actions plans are implemented in a phased manner to reflect the evolving needs and capacities of the region. The RSAP has developed through four phases:

- The first SADC RSAP (RSAP I: 1999-2004) focused on providing the enabling environment and achieved its objective;
- RSAP II (2005-2010) focused on infrastructure development while continuing to strengthen the enabling environment and attained its objective;
- RSAP III (2011 – 2015) was designed to provide an effective and dependable framework that contributed to poverty reduction, regional integration, peace and security, and socioeconomic development. The goal of the RSAP III was to strengthen the enabling environment for regional water governance, water management and infrastructure development through the application of IWRM. RSAP III built on the work of RSAP I and II of ensuring that the enabling environment is sustained but focusing on infrastructure development; and
- The focus of the current RSAP IV (2016-2020) is to unlock the potential for water and related resources to play its role as an engine and catalyst for socioeconomic development. (Terms of Reference, midterm review).

SADC-GMI projects are guided by the objectives of RSAP IV. The RSAP IV will be revised to RSAP V, which will be effective for the period (2021-2025).

A review of the regional legal framework was undertaken as part of the Regional Gap Analysis process by SADC-GMI (SADC-GMI, 2019), which provided an overview of the existing gaps in policy, legislation, strategy, guidelines and the institutional frameworks within the SADC region. The objective of this review was that it would assist in ultimately advancing the groundwater narrative and bring it up to par with surface water in terms of policy, legal and institutional frameworks thereby enhancing sustainable groundwater management at a national and regional level in the SADC Region.

The gaps and opportunities identified in the 2019 Regional Gap Analysis are summarised in Appendix I and a thematic analysis is presented in Figure 3-3.

Regional framework pillar <ul style="list-style-type: none"> Legal – RPSW (2000) 	Thematic analysis of gaps <ul style="list-style-type: none"> Definitions limits regulatory alignment Linkages between surface and groundwater not consistently considered No international norms on shared aquifers 	Thematic analysis of opportunities <ul style="list-style-type: none"> Emerging body of international research will soon provide opportunity to develop a model / framework for governing transboundary aquifer solutions
Regional framework pillar <ul style="list-style-type: none"> Policy – The Regional Water Policy 	Thematic analysis of gaps <ul style="list-style-type: none"> Lack of focus in groundwater Little direction on climate change Limited reference to aquifer boundaries No reference to value of indigenous knowledge 	Thematic analysis of opportunities <ul style="list-style-type: none"> Policy review with focus on groundwater importance in relation to climate change and socio-economic issues
Regional framework pillar <ul style="list-style-type: none"> Strategy – The regional water strategy 	Thematic analysis of gaps <ul style="list-style-type: none"> TBA management not considered Island states not explicitly accommodated Rural, coastal and urban areas need specific consideration Limited understanding of groundwater dependent ecosystems 	Thematic analysis of opportunities <ul style="list-style-type: none"> Strategy with focus on groundwater importance in relation to climate change and socio-economic issues Better accommodation of site-specific requirements
Regional framework pillar <ul style="list-style-type: none"> Planning – The RSAP IV 	Thematic analysis of gaps <ul style="list-style-type: none"> Conjunctive water resource management regimes need improvement Ground and surface water planning not integrated 	Thematic analysis of opportunities <ul style="list-style-type: none"> RSAP IV needs to be reviewed to develop RASP V to account for gaps and coordination
Regional framework pillar <ul style="list-style-type: none"> Institutional – Various networks and partnerships 	Thematic analysis of gaps <ul style="list-style-type: none"> More river basin organisations needed TBA management coordination needed Regional GW research framework needed Uncoordinated data sets Poor engagement and poorly defined roles 	Thematic analysis of opportunities <ul style="list-style-type: none"> SADC-GMI to support a more coordinated approach to planning, engagement and data integration

Figure 3-3: Thematic analysis

3.2.3 Groundwater management in SADC Member States

SADC-GMI's core mandates is to promote sustainable groundwater management across the SADC region. The overall assessment of groundwater management in most of the SADC Member States was found to be insufficient to support the sustainable management and development of groundwater resources (Pietersen & Beekman, 2016). Although there was a good understanding of aquifer systems at the regional level, information systems to manage groundwater data are disparate and institutions for managing groundwater within an environment of scarce financial and human resources. Much of the focus with regards to water resource management and development is placed upon surface water resources, often because of the limited understanding of groundwater as an essential resource to underpin socio-economic development.

Information systems for managing groundwater data hardly exist in some of the SADC Member States, often as a result of a limited understanding of the nature, extent and importance of these resources. Regulations to protect groundwater resources are often not in place and where these are in place, often no enforcement or sanction of unlawful activities takes place. This is often exacerbated by limited coordination with other sectors such as energy and mining. Furthermore, the implementation of groundwater management action plans, where developed, is often limited and resource constrained (Pietersen & Beekman, 2016).

There have been numerous efforts to understand and support the management of groundwater in a SADC context through past and present projects and programmes being implemented by SADC-GMI, including:

- Groundwater and Drought Management Project (GDMP) (2005-2012); and
- Sustainable Groundwater Management in SADC Member States (2014-2021), which served as an umbrella body that implemented the following short-term projects:
 - Development of the SADC hydrogeology map
 - Capacity needs assessment to determine priority challenges for capacity building initiatives in Member States
 - The SADC Groundwater Grey Literature Archive and its enhancement through the SGM Project
 - SADC Groundwater Information Portal (SADC-GIP) (operational since June 2018) and further upgrade through the SGM Project;
 - Assessment of Groundwater Resources Development Priority Intervention Areas in the Southern African Development Community (SADC) Region (SADC GMI-GDRI) through the SGM Project
 - The first conjunctive management TBA research in the Shire TBA (Malawi/Mozambique) that produced a Transboundary Diagnostic Analysis (TDA), Joint Strategic Action Plan (JSAP) and Position Paper on Principles for Conjunctive management in SADC
 - Research study underway in the Eastern Kalahari TBA (Botswana/Zimbabwe) to produce TDA and JSAP
 - Study on Deep Aquifer exploration in Malawi
 - Initiation of 12 Pilot groundwater infrastructure projects under the sub-grant scheme currently in progress with four projects completed
 - Establishment of Nations Focal Groups in the SADC Region
 - Development of operations and maintenance training manuals for groundwater infrastructure
 - Development of a training manual on the preparation of proposals to access funding for groundwater related infrastructure.

These SADC-GMI initiatives, contribute to the evolving understanding of groundwater pressures and challenges in the SADC region. Table 3-1: indicates this evolving understanding by supplementing the pressures described in the 2014 appraisal document with some of the pressures identified by the technical assessment of SADC-GMI's programmes. Figure 3-4 and 3-5 ground-truth the strategic perspective with the emerging issues and challenges identified by SADC-GMI partner and sub-grantee during online surveys.

Table 3-1: Overview of past and current groundwater pressures in SADC

Member States	Pressures identified as part of the 2014 Appraisal Document	Subsequent gaps identified as part of the review of SADC-GMI's programmes
Angola	<ul style="list-style-type: none"> Little readily available information 	<ul style="list-style-type: none"> Limited institutional capacity and cohesion National water plan not well implemented
Botswana	<ul style="list-style-type: none"> Pollution (e.g. Ramotswa Dolomite) Potential overuse by villages Mining – contamination of heavy metals and sulphate Amount of cattle kept has increased remarkably in recent decades impacting groundwater availability, particularly in the Kgalagadi area bordering Northern Cape Province of South Africa 	<ul style="list-style-type: none"> Outdated legislative framework does not address issues of development sectors in Botswana Limited institutional capacity and groundwater leadership Groundwater is the main resource for domestic use, but little attention to conservation
DRC	<ul style="list-style-type: none"> Little readily available information 	<ul style="list-style-type: none"> No national water policy and no legislation relating to groundwater Insufficient institutional and human capacity, and limited commitment to groundwater strategy implementation
Lesotho	<ul style="list-style-type: none"> Contamination around urban areas (from landfills, septic tanks and pit latrines) 	<ul style="list-style-type: none"> Continued water insecurity due to inadequate legal and policy frameworks, limited resources and failing infrastructure Land and environmental degradation limit retention capacity and aquifer recharge
Madagascar	<ul style="list-style-type: none"> Little readily available information 	<ul style="list-style-type: none"> No groundwater policy in place Groundwater management roles unclear
Malawi	<ul style="list-style-type: none"> In urban and peri-urban (e.g. Blantyre, Lilongwe, Mzuzu and Zomba) groundwater threatened by contamination from faecal pollution from pit latrines, dumping of wastes and landfill sites Agrochemicals Alluvial shore aquifers face pollution Mining (potential pressure) 	<ul style="list-style-type: none"> No body for registration and control of hydrogeologists. Inadequate enforcement of regulations Inadequate human, financial and technical capacity
Mauritius	<ul style="list-style-type: none"> Little readily available information 	<ul style="list-style-type: none"> Cooperation between land and water-use ministries needs to be reinforced Inadequate abstraction monitoring
Mozambique	<ul style="list-style-type: none"> Saltwater intrusion linked with tourist developments along coast Biological contamination 	<ul style="list-style-type: none"> Limited groundwater legislation No specific groundwater institution or section in the national water directorate Lack of professional capacity for groundwater management
Namibia	<ul style="list-style-type: none"> Karst Aquifer – (mining, agriculture) Windhoek – pollution 	<ul style="list-style-type: none"> Limited and fragmented legislation and partial implementation. Low capacity to manage and monitor groundwater resources Limited recording of groundwater data and licenses

Member States	Pressures identified as part of the 2014 Appraisal Document	Subsequent gaps identified as part of the review of SADC-GMI's programmes
Seychelles	<ul style="list-style-type: none"> • Ladite island water is polluted • Potential over extraction to meet water demand 	<ul style="list-style-type: none"> • Lack of a national groundwater management policy and strategy. Insufficient guidelines and standards • Insufficient human capacity in government to implement provisions for groundwater management
South Africa	<ul style="list-style-type: none"> • Major aquifers exposed to land use pollution (DLMT) • All aquifers to some extent over-utilised during their lifetime which harms the aquifer's characteristics • Acid Mine Drainage (AMD) becoming a management challenge and polluting the surface water resources • Agriculture/nitrates e.g. Kutama and Sinthumule districts of Venda • DMLT eye's (springs) drying-up which impacts on the downstream ecological status/domestic uses (Dinokana, Grootfontein case) • Table Mountain Group aquifer to be used for bulk water supplies • Karoo aquifer springs on intermittent status 	<ul style="list-style-type: none"> • National water policy, but no groundwater management policy. Policy not fully implemented • Weak intersectoral integration and collaboration • Slow devolution of water management functions and weak local groundwater management and monitoring • Limited compliance monitoring
Swaziland	<ul style="list-style-type: none"> • Maloma (in low veld) • Low veld – dropping levels and potential issues in future and move to surface water sources 	<ul style="list-style-type: none"> • Lack of a specific groundwater management policy and support systems for groundwater management • Groundwater leadership but needs to be strengthened. Poor funding for groundwater exploitation
Tanzania	<ul style="list-style-type: none"> • Temeke in Dar es Saalm – use of shallow aquifers by community • Groundwater and mangrove swamps: Fisheries, livelihoods 	<ul style="list-style-type: none"> • Inadequate policy guidance on aspects of groundwater management, including institutional arrangements, public awareness of pollution sources, private sector role in groundwater management and development and data collection and monitoring
Zambia	<ul style="list-style-type: none"> • Lusaka – unauthorised settlements, waste disposal practices and uncontrolled drilling of boreholes contributing to drop in water levels and an increase in contaminants • Kafue Valley – nitrates from fertilisers 	<ul style="list-style-type: none"> • Groundwater recognised as an important source of water supply, and as a driver for poverty alleviation, food security and economic development. No specific policy approach for groundwater development in rural areas • No nationally managed groundwater programme and relatively uncoordinated groundwater management implementation • Inadequate financing for and investment in water resource development
Zimbabwe	<ul style="list-style-type: none"> • Harare – Peri urban development drilled bore holes • Excessive drawdown e.g. Lomagundi Dolomite aquifer • Mining – arsenic contamination 	<ul style="list-style-type: none"> • Lack of explicit groundwater policy and legislation, including transboundary aquifers • Weak and under capacitated institutions and weak institutional linkages • Lack of surface / groundwater integration • Lack of lower-level water management institutions

An overriding theme was identified by most of the Member States through the review of different data collection methods, namely the fragmented nature of groundwater monitoring, mapping and management practices in the SADC region. Both partners and sub-grantees indicated the following data collection and management challenges in the online surveys:

- Lack of technical expertise and equipment maintenance capacity to follow through on groundwater monitoring data collection programmes;
- Drilling standards and the borehole profiling processes for collecting monitoring data;
- Both policy and practical obstacles exist to integrate datasets from various countries;
- Standard monitoring equipment not available in Africa and foreign procurement processes delay the acquisition of quality equipment to collect data;
- There is a need to improve technology in data management, including the use of isotopes and remote sensing;
- Lack of collaboration between groundwater management institutions and bodies in SADC (such as the International Association of Hydrogeologists (IAH), Geological Society of South Africa Groundwater Division (GSSA-GWD) and ChinAfrica initiatives) leads to duplication of efforts and conflicting data sets; and
- Data sharing, real-time data, long-term data and inter-governmental cooperation.

These responses from partners in Member States and participating sub-grantees clearly indicates the dire need for groundwater data coordination, integration and management standardisation in the region.

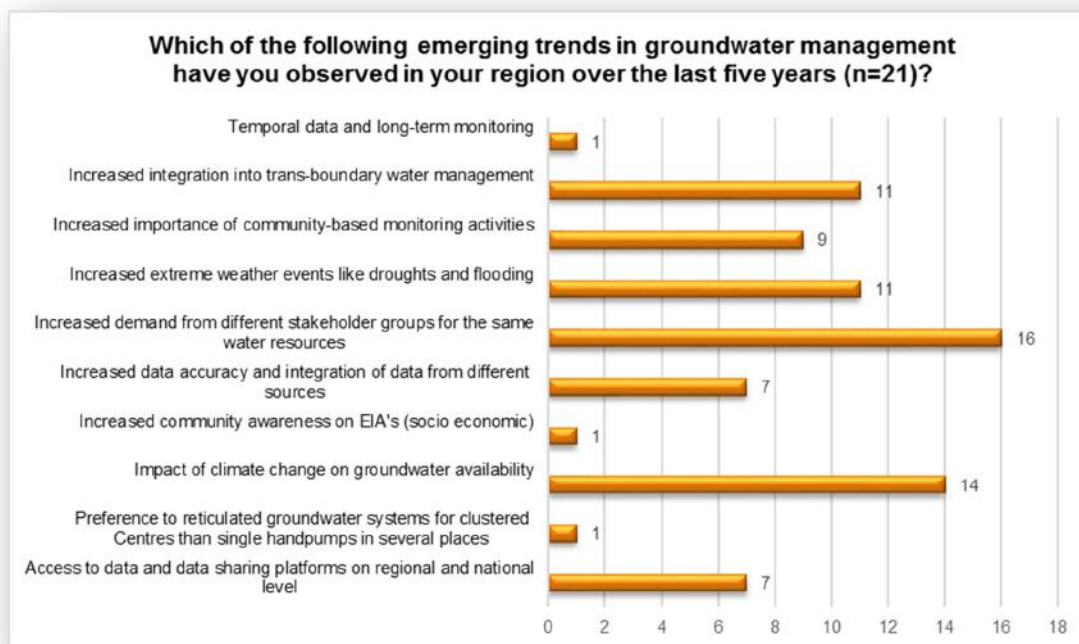


Figure 3-4: Emerging trends in groundwater management identified by SADC-GMI stakeholders

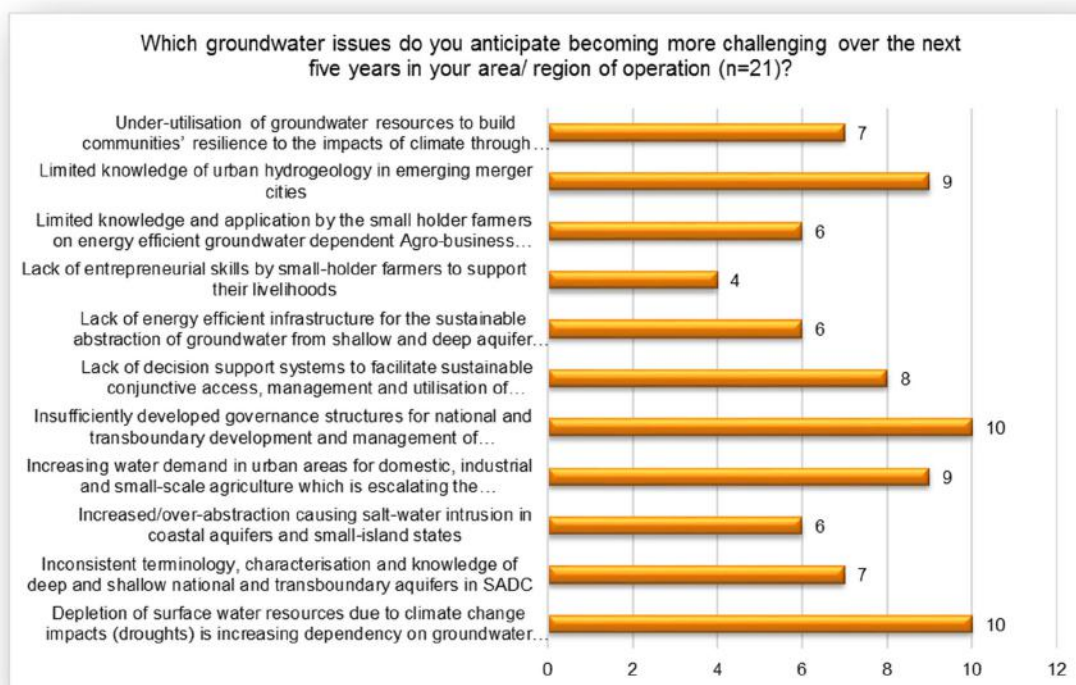


Figure 3-5: Current challenges identified by SADC-GMI stakeholders

As evidenced from Table 3-1, Figure 3-4 and Figure 3-5, SADC-GMI has contributed significantly to the body of knowledge regarding challenges faced in the Member States through building networks and capacity.

The six main themes of emerging trends identified across data collection methods and stakeholder groups, include:

- Increased demand from different stakeholder groups for the same water resources;
- Impact of climate change on groundwater availability;
- Importance of cohesive international and regional standards on trans-boundary water management;
- Dire need for policy and institutional capacity building in groundwater management related issues in all Member States;
- Importance of a 'single source of authoritative information' integrating groundwater data across SADC; and
- Illustrating the importance of groundwater stewardship for livelihood creation.

The results from this technical assessment clearly indicate the dire need for SADC-GMI to continue fulfilling their mandate of addressing groundwater management challenges in the SADC Member States. A more focused approach will be required to enhance groundwater management in the region going forward. This will allow SADC-GMI to increase the scale of interventions thereby expanding, deepening and optimising positive impacts.

3.2.4 International and regional water conventions/protocols on shared watercourses and transboundary aquifers in SADC

The United Nations (UN) Convention of the Law of Non-Navigational Uses of International Watercourses, commonly referred to as the UN Watercourses Convention, is an international treaty, adopted by the United Nations on 21 May 1997, pertaining to the uses and conservation of all waters

that cross international boundaries, including both surface and groundwater. At the time of voting, all except four of the SADC Member States voted for its adoption. Due to the increasing demands for water and the impact of human behaviour, the UN drafted the document to help conserve, protect and manage water resources for present and future generations. With the treaty having been ratified by only 36 states globally, most countries remain outside its scope. In the SADC region, Namibia and South Africa are reportedly parties to the UN Watercourses Convention. The convention is regarded as a crucial step in establishing international law governing water including in the SADC region.

The Revised SADC Protocol and the Regional Water Strategy has informed agreements and institutions on shared watercourses. Since the mid-1990s, when the original Protocol was ratified, there has been a move towards basin or regional-wide cooperation on shared waters and away from bilateral arrangements. There are transboundary basin agreements and RBO in place in many of the region's major shared rivers. A few of these legal agreements are specific for transboundary groundwater systems.

Some transboundary aquifers have been delineated and some areas prone to groundwater drought have been identified. To date, limited research projects aimed at gaining in-depth understanding of these aquifers have been concluded and gaps in the understanding of transboundary aquifers remain. Information systems to manage groundwater data, however, are disparate throughout the SADC region and institutions to manage groundwater are inadequate and are functioning within an environment of scarce financial and human resources. The hydrogeological capacity in public institutions such as government departments is a major concern and regulations to protect groundwater resources are often not in place (SADC-GMI Regional Gap Analysis, 2019,).

Groundwater features to some extent in a number of river basin agreements. For example, in the Zambezi Watercourse Commission Agreement of 2004 (ZAMCOM), the watercourse is considered *"the system of surface and ground waters of the Zambezi constituting by virtue of their physical relationship a unitary whole flowing normally into a common terminus, the Indian Ocean"*. The ZAMCOM Agreement also states that *"Member States shall take all appropriate technical, legislative, administrative and other measures in the utilisation of the Zambezi Watercourse in order to...prevent, reduce or control pollution of the surface and ground waters of the Watercourse and to protect and enhance the quality status of the water and associated ecosystems for the benefit of present and future generations"* (Croneborg, 2014).

The inter-dependence between river and groundwater flows is a priority for transboundary cooperation on shared watercourses. This is important in shallow alluvial aquifers. Surface water flows can contribute directly into groundwater resources, often in high-flow or high-rainfall periods/events. Equally, groundwater can be the 'influent' to surface flows. Understanding the transmission between the two is particularly important with respect to drought, pollution and the sustainability of groundwater dependent ecosystems and community livelihoods. Despite the importance of transboundary groundwater cooperation in the context of river basins, there is little data collected and exchanged across the SADC Member States on shared aquifers. Moreover, the protocols, mechanisms and IT-solutions for groundwater data-exchange need strengthening in the context of RBO (SADC-GMI Regional Gap Analysis, 2019).

Recognising these challenges, SADC-GMI partnered with various key stakeholders (SADC Member States, International Cooperating Partners, Regional Partners and universities) in order to address the transboundary aquifer knowledge gaps through research. Some of these projects include:

- Conjunctive water resources management research in the Shire river/aquifer system involving transboundary diagnostic analysis (TDA) as well as stakeholder involvement for a strategic planning process to identify priority issues on transboundary cooperation;

- Assistance with the TDA for the Tuli Karoo Aquifer Area and the surface water system in which it is situated to provide a framework for a thorough analysis of transboundary water bodies. There has been very little investigation into the Tuli Karoo Aquifer or associated surface waters to date and SADC-GMI's involvement in this study will assist further in the collection of data in this field; and
- Involvement in the development of a model for understanding the groundwater recharge and flow processes, water use and its dynamics in the Ramotswa Transboundary Aquifer Area.

Findings and lessons learned from TBA initiatives

The findings and lessons learned from two of the key TBA initiatives which SADC-GMI have been involved in are documented below:

- Conjunctive use advocacy should take place where river basins and aquifers straddle common boundaries;
- Sound data is required to plan and manage cross boundary conjunctive use;
- Integrated transboundary planning is still based primarily on hydrological boundaries, but consideration of groundwater is becoming more common. Linking transboundary and conjunctive use planning is complex, requiring technical and institutional cooperation;
- Transboundary RBOs provide a useful platform for institutionalising and sustaining cooperation. Groundwater requires more attention in RBOs;
- TBA is a useful tool to promote transboundary convergence and cooperation, and to inform strategic action planning. These tools have been used in the Shire pilot;
- Transboundary and conjunctive use planning is a progressive and time-consuming enterprise;
- Information gaps may constrain understanding and cooperation around shared aquifers. It may be necessary to develop and implement monitoring systems early in transboundary projects;
- Key constraints to collaboration in this context include lack of harmonising data, lack of political will, different national priorities, lack of data collection and monitoring practices and limited funding;
- Climate variability risk in the Tuli Karoo system is clear, and is shared with many other areas in Africa; and
- A healthy ecosystem is key to the viability of this shared system, with water playing a major role. Mining and inadequate sanitation impact water quality.

SADC-GMI has also contributed insights and knowledge to other TBAs in the region and continues to actively pursue opportunities for partnerships with several national, regional and international organizations in order to undertake more research to better understand transboundary aquifers in the region and to establish their groundwater potential.

3.2.5 The evolution and legacy of SADC groundwater management programmes

The SADC Secretariat developed a SADC Groundwater and Drought Management Project (GDMP) in 2009 which was implemented in the period 2005-2011, with support from the World Bank in recognition of Member States' increasing dependence on groundwater for both domestic and commercial water needs. The GDMP comprised four main components:

- **Component 1:** Testing of practical local groundwater drought management strategies at pilot level;
- **Component 2:** The development of groundwater drought management tools and guidelines;
- **Component 3:** Research into Groundwater Dependent Ecosystems (GDEs), their occurrence, vulnerability, value, protection and monitoring, and
- **Component 4:** Establishment of a SADC-GMI to continue long-term groundwater and drought monitoring and the promotion of better management and awareness in the SADC region and at national levels.

Due to administrative obstacles, the final component of the programme, i.e. the operationalisation of the SADC-GMI, did not transpire as planned.

Following on from the GDMP, the SADC Secretariat, through the Water Division in the Directorate of Infrastructure and Services, received a grant from the World Bank to implement the five-year (2014-2019) regional project for Sustainable Groundwater Management (SGM) in the SADC Member States (SADC-GMI Financial Sustainability Report, 2018). Due to some initial challenges encountered with regards to operationalisation of the SADC-GMI as the Implementing Agent for the project, the project's effective date was from 30 June 2015 with a closure date of 30 June 2019. However, the end date was extended to 31 December 2020 after an 18 months no-cost extension from 30 June 2019. This current project seeks to mitigate the effects of climate change, pollution and rapidly growing water demand in Southern Africa through strengthening of institutional and technical capacity to implement national reforms and to facilitate cooperation on shared aquifers in the region. The project implements priority actions in the work-programme for groundwater in the SADC Regional Strategic Action Plan for Integrated Water Resources Management (RSAPIII, 2011–2015) (replaced by the RSAPIV (2016-2020) in alignment with the Revised SADC Protocol on Shared Watercourses of 2000 and river basin agreements across the region. To achieve these objectives, the project consists of the following components (Croneborg, 2014):

- **Component A:** Operationalising the SADC Groundwater Management Institute (SADC-GMI) as a regional centre of excellence;
- **Component B:** Strengthening institutional capacity for the sustainable management of groundwater in SADC;
- **Component C:** Advancing knowledge on transboundary and national groundwater; and
- **Component D:** Promoting groundwater infrastructure management and development.

Through Component A, SADC-GMI was successfully operationalised. The remaining three components (B, C and D) have a greater impact in the areas of institutional strengthening, information and infrastructure aspects of groundwater management among SADC Member States from local to regional levels.

To date the SGM in SADC Member States Project has contributed towards the social and economic development in the SADC Member States, which has been achieved through several sustainable groundwater management and development initiatives, including:

- Development of **active partnerships** with Governments, RBOs and knowledge institutes in the region and beyond, providing support & guidance on groundwater development, management and governance related issues;
- **Training of numerous stakeholders** in the field of groundwater management on the guidelines for groundwater data collection, management and sharing as well as enabling policy, legal, regulatory and institutional environment for ground water;
- Implementation of several **groundwater infrastructure pilot projects** in all SADC Member States to promote sustainable groundwater management practices;
- Establishing the **SADC Groundwater Information Portal** (SADC-GIP) and the online **SADC Grey Literature Archive** (SADC-GLA) to improve regional data and information sharing;
- Establishment of **National Focal Groups** in five Member States to enhance transboundary groundwater capacity and management;
- Introduction to the principles for **conjunctive surface and groundwater management** in SADC through studies undertaken in Shire TBA (Malawi/Mozambique);
- Establishment of **formal cooperation with RBOs** in SADC through Memoranda of Understandings (MOUs) as well as the establishment of groundwater committees; and
- Promotion and sharing of **scientific knowledge and networking** through at the organisation and hosting of regional and international conferences (2018 and 2019).

Several lessons were learned through the implementation of these and other projects, a full technical assessment of the lessons learned are contained in Appendix H. One of the most prominent lessons across projects includes the need for deeper socio-economic groundwater impact projects that can be replicated at scale across the SADC region. Whilst policy and development of standards remain

important, the recent global COVID-19 pandemic and its public health and economic consequences have highlighted the stark realities regarding inequality in the access to potable water, sanitation and hygiene (WASH) facilities and water for livelihoods. This socio-economic context provides an additional lens through which SADC-GMI's past, current and future activities should be viewed.

SADC-GMI has evolved significantly from its conceptualisation as part of the original SADC GMDP project. From a mission-focused point of view, SADC-GMI managed to stay focused on its core mandate to enhance groundwater management in the SADC region through a variety of initiatives. From a technical point of view, SADC-GMI has remained true to its roots through supporting a range of sub-grantee pilot groundwater projects. These projects are at the core of effecting change in groundwater management in SADC Member States that impact on socio-economic conditions, access to water and equitable distribution of groundwater resources. The impact estimation and summaries of the current pilot projects are presented in Appendix G2 and provide a compelling argument for utilising groundwater for socio-economic development. The innovative nature of these projects and its scalability is what will set SADC-GMI apart in all future endeavours.

Currently, 12 Member States are participating in sub-grantee pilot groundwater projects. The projects are in various stages of implementation. Preliminary feedback from these sub-grantees indicate that SADC-GMI have managed to facilitate the creation of small-scale projects with a degree of scalability and some positive socio-economic impacts. Figure 3-6 and Figure 3-7 provide an indication of the opinions of the sub-grantees collected through the sub-grantee survey regarding the scalability and socio-economic and water access impacts of the SGM Project.

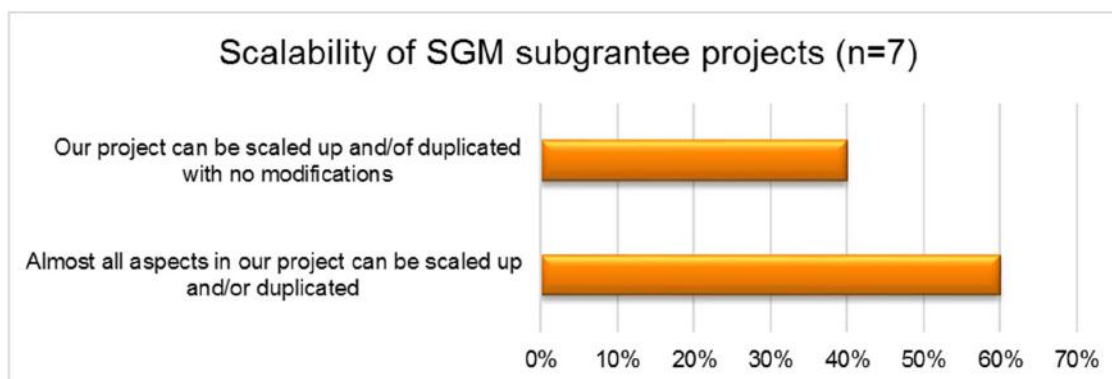


Figure 3-6: Scalability of the SGM sub-grantee projects

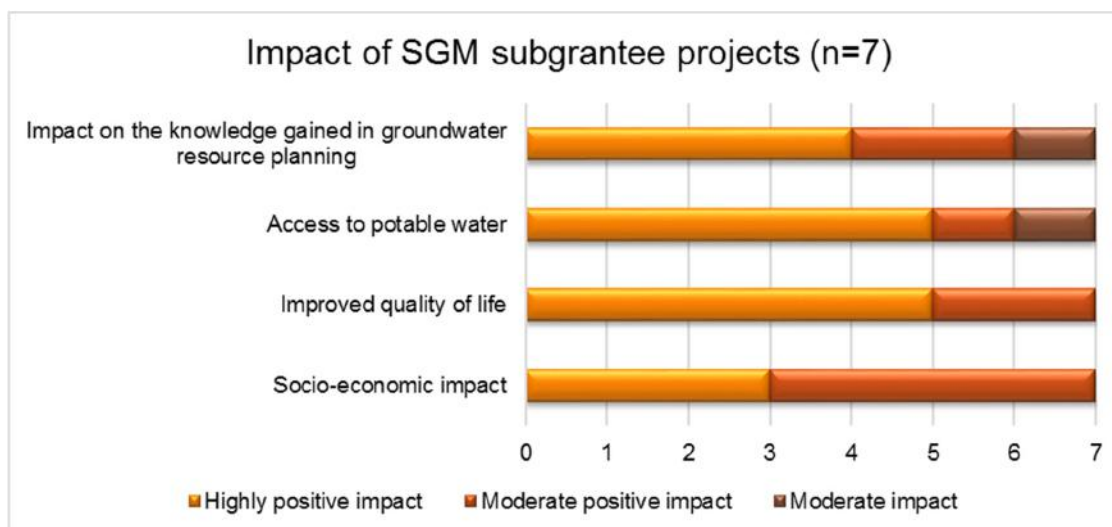


Figure 3-7: Socio-economic impact of SGM sub-grantee projects

The technical review of SADC-GMI activities, indicates that the following endeavours could assist in scaling up the infrastructure pilot projects:

- National focal groups for dissemination of information, toolkits and good practice standards;
- Published toolkits with technical specifications;
- Collaboration with other water-focused institutions to accelerate learning and implementation; and
- Formation of more public-private-civic partnerships to leverage off the water-focused interventions that large scale agriculture and industry is implementing as part of their corporate social responsibility mandate.

Furthermore, the results from the sub-grantee online questionnaires indicate that the following could assist in the implementation and scaling up of the infrastructure pilot project:

- The need for the dissemination conclusive guidelines for technical guidelines like drilling standards and borehole profiling;
- Specific guidance on project development and management;
- More structured technical oversight through mentoring to build capacity in the Member States;
- Creation of an integrated database of projects and impacts to illustrate the value to policy and decision-makers; and
- More flexibility in adapting infrastructure programmes in reaction to evolving conditions on the ground.

In summary, the technical review of the SADC-GMI SGM sub-grantee projects highlighted the following lessons:

- The need for more cohesive technical mentorship from qualified hydrogeologists to ensure that resources are efficiently allocated, and data collection programmes are instituted according to applicable standards;
- Unco-ordinated legislation and technical specifications in country-specific regulations make it very difficult to issue a cohesive call for water infrastructure project proposals across Member States; and
- Sophisticated technical equipment might not be readily available in Member States, requiring long procurement lead times and vulnerability to foreign exchange rates.

A review of the SADC-GMI SGM Project against Annex 6 in the appraisal document (WBG, 2014) also highlights the following:

- Although there seem to be a general awareness of a gender-focused approach to project development and implementation in scoping documents and proposals, follow through on ensuring gender balanced participation and benefits are not clearly illustrated in the SADC-GMI SGM Project documentation; and
- Through the implementation of the SGM Project, SADC-GMI has created several internationally compliant secondary knowledge products, such as environmental and social safeguard (ESS) toolkits that would make the implementation of future infrastructure projects easier.

3.2.6 International commitment to regional projects in Africa

There has been a long-standing commitment by international development finance institutions (DFI) to global priorities and regional programmes to strengthen water resource management in Africa. This assistance is provided in the form of multi-lateral and bilateral technical and financial support to regional and national programmes and projects. Leading DFIs include the World Bank, European Union, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the Danish International Development Agency (Danida), the Swedish International Development Cooperation Agency (Sida), Agence Française de Développement (AFD) and Global Environment Facility (GEF), amongst others. These institutions mostly provide assistance to regional and national structures and programmes using tailored cooperation strategies.

For example, the World Bank Group (WBG) has provided dedicated support to Africa since 2005 and has a large portfolio of active operations and projects across the continent, including the SADC region.

The WBG Regional Integration and Cooperation Assistance Strategy (RICAS) for Africa covering 2018 – 2023 provides the framework strategy for development engagement (WBG, 2018). These strategies are designed to address the many African challenges such as climate change, water resource management, food security and poverty alleviation. It is therefore necessary to match and align new development programmes and projects with the priority areas of DFI strategies and development frameworks.

At continental level, the African Union's Agenda 2063 provides a blueprint and master plan for transforming Africa into the global powerhouse within a 50-year period (African Union Commission, 2015a). The First Ten-Year Implementation Plan of Agenda 2063, spans from 2014 to 2023. This provides a strategically focused framework to guide development assistance in support of regional integration and promote goals, priority areas and targets that the continent aims to achieve at national, regional and continental levels (African Union Commission, 2015b). Some of the past and current initiatives it builds on include: the Lagos Plan of Action, The Abuja Treaty, The Minimum Integration Programme, the Programme for Infrastructural Development in Africa (PIDA), the Comprehensive Africa Agricultural Development Programme (CAADP), The New partnership for Africa's Development (NEPAD), Regional Plans and Programmes and National Plans.

At regional level, the SADC Protocol on Shared Watercourse to fosters closer cooperation for judicious, sustainable and co-ordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation. This strategic objective is operationalised through the Regional Indicative Strategic Development Plan (RISDP) 2015-2020, a coherent and strategically focused implementation framework guiding the regional integration agenda of SADC since 2005. It is designed to provide clear strategic direction with respect to SADC programmes, projects and activities in line with the SADC Common Agenda and strategic priorities, as enshrined in the SADC Treaty of 1992.

Many DFI's provide technical and development assistance in the water sector on issues including water supply, sanitation, water resource planning and management, training and capacity building, technical research and mapping and monitoring and evaluation. Cooperation programmes and projects are developed around a set of agreed key objectives and comprise a number of components covering a combination of development areas. This approach to development assistance by DFIs is evident in recent programmes and project in the water sector in SADC Member States. Against the background of the United Nations Sustainable Development (SDG) Goal 6 to 'ensure availability and sustainable management of water and sanitation for all by 2030' (United Nations, 2015), and existing regional commitments, DFI support to water resource management in Africa, and the SADC region in particular, is likely to continue attracting technical assistance and funding.

Against this background of international commitment to groundwater management in Africa, SADC-GMI has commissioned several studies to map the donor landscape to its key objectives. These reviews have indicated several avenues through which SADC-GMI could diversify its funding support-base. From a technical perspective, it will serve SADC-GMI well to actively monitor shifting donor priorities, the performance of similar organisations as well as actively seek out partnerships to accelerate innovation and implementation in groundwater management

3.3 Recommendations for designing a new programme

From the technical review it is clear that SADC-GMI has built up significant momentum in becoming a centre of excellence in groundwater management in the region. It is important that future programmes build on these successes, but also take cognizance of the lessons learned from implementing a variety of programmes in a relatively short period of time. Technical key recommendations are as follows:

- A more focused approach will be required to enhance groundwater management in the region going forward. This will allow SADC-GMI to increase the scale of interventions thereby expanding and deepening and optimising positive impacts;
- Continued data management and collection is an essential component to facilitate effective groundwater management. SADC-GMI, through the development of the GIP and GLA has established a central point for storing and linkages to groundwater data for the region. It is recommended that these initiatives are further expanded and improved upon to ensure that reliable data is captured and stored in the appropriate format and platforms, which will assist in planning and managing cross boundary conjunctive use;
- Integrated transboundary planning is still based primarily on hydrological boundaries, but consideration of groundwater is becoming more common. Linking transboundary and conjunctive use planning is complex, requiring technical and institutional cooperation. SADC-GMI can facilitate and foster the development of relationships and networks to ensure sustainable technical and institutional cooperation;
- Information gaps may constrain understanding and cooperation around shared aquifers. It may be necessary to develop and implement monitoring systems early in transboundary projects and further engagement of SADC-GMI with relevant institutions can facilitate this; and
- Capacity building of groundwater management for regional and national institutions.

3.4 Conclusions

Groundwater is an essential resource for sustainable development within the SADC region, yet its functioning in the hydrological environment is poorly understood compared to surface water. It plays a fundamental role to providing water security during periods of drought or due to the effects of climate change and supports socio economic development. Human wellbeing, food production, ecosystems, industries and growing cities across the region are directly reliant on groundwater. Limitations which contribute to poor management include capacity challenges, knowledge gaps, funding, insufficient data and lack of cooperation between Member States. Through the SGM Project, SADC-GMI has facilitated engagement and established partnerships to support sustainable management of groundwater at national and transboundary levels across SADC Member States.

The next chapter (Chapter 4) presents the assessment of the organisation structure and capacity review.

4 Organisational structure and capacity assessment

Key points from the chapter

- The integrated results from the OCAT assessment shows that SADC-GMI has specific strengths and challenges as an organisation
- Monitoring and evaluation, follow up on risk assessments and systematic knowledge management need particular attention
- Temporary nature of staff contracts threatens institutional knowledge and partnership network development
- SADC-GMI should investigate the possibility of generating revenue from selected knowledge projects
- An independent brand performance analysis will provide valuable insights into how SADC-GMI is positioned in the non-profit water arena

4.1 Introduction

The organisational structure and capacity review of SADC-GMI's strategy and implementation of objectives was undertaken by the SRK team under the technical guidance of Mrs Geralda Wildschutt. Mrs Wildschutt is a social scientist and organisational development expert with over 20 years' experience in development organisations, both as Board member and external consultant. She directed formulating lessons learned about organisational structure and capacity review based on background research, the OCAT assessment, interviews with staff and key partners and online surveys.

The organisational structure and capacity review were benchmarked against various examples of good practice in non-profit organisation management available in literature as well as the expert's experience in working with similar organisations. These included review of published good practice benchmarks that were used to compile the lessons learned. This good practice overview is presented in Appendix J.

The results of the organisational structure and capacity review are presented in this chapter and are grouped according to each of SADC-GMI's key strategic objectives. In addition to document review, the results of the OCAT assessment provide an overview of SADC-GMI's current organisational capacity. Appendix F2 and G2 provides additional insight into the partner and sub-grantee perceptions of SADC-GMI organisational capacity.

4.2 Overview of current organisational capacity

The integrated results of the OCAT assessment are presented in Figure 4-1 and the detailed results of each section of the OCAT are contained in Appendix C2.

As evident from Figure 4-1, SADC-GMI as an organisation has areas of inherent strengths, but also has organisational aspects that need to be given attention as the organisation moves into its next funding cycle. Areas of strengths include vision, mission, strategy and planning, leadership, human resources and information systems whereas aspects such as Board leadership, fund stability and programmes design and implementation need attention. These findings were confirmed by document review, interviews and survey results and are discussed in subsequent sections.

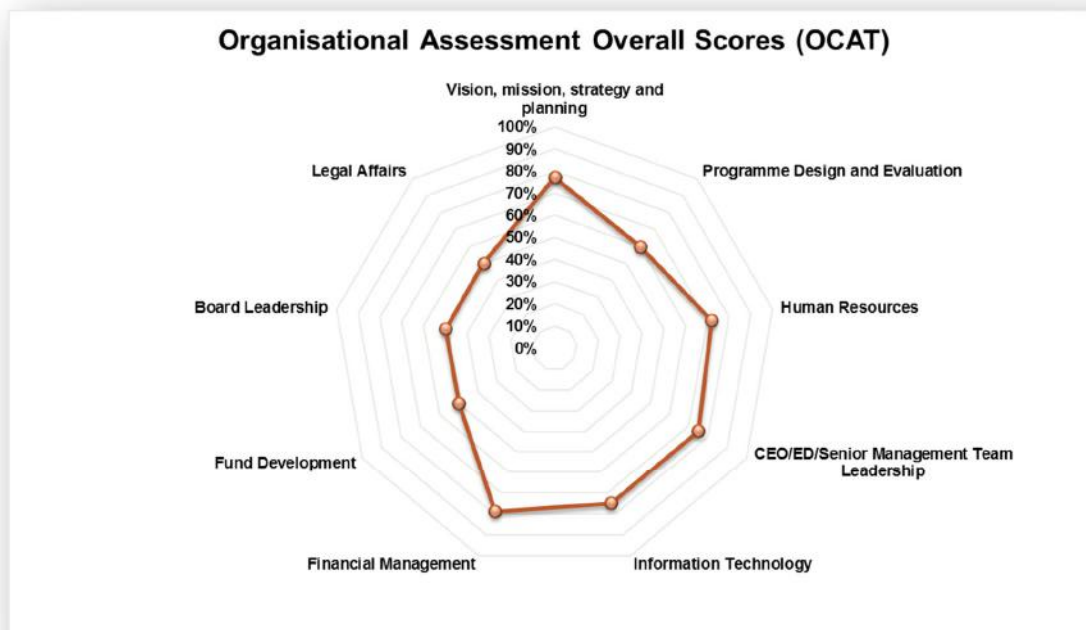


Figure 4-1: Consolidated results of the organisational assessment tool (OCAT)

4.3 Lessons learned from operationalising SADC-GMI

SADC-GMI is a regional centre for groundwater under the strategic guidance of the SADC Secretariat, Directorate of Infrastructure and Services – Water Division, in Gaborone, Botswana. SADC-GMI draws its mandate from the fourth phase Regional Strategic Action Plan for Integrated Water Resources Management (RSAP IV: 2016-2020). It was registered as a Not-for-Profit company under Section 21 of the South African Companies Act No 71, of 2008 as amended.

The vision, mission, strategic intent and mandate of the organization are clearly outlined in the latest Strategic Business Plan (2018/2023), and the mandate has stayed consistent since inception. The organization has moved from its 'establishment phase' (first Strategic Plan's outcome), and now sees itself as a full-fledged organization with most structures in place.

At a strategic, funding and operational level, SADC-GMI appears sound and has undertaken two cycles of strategic planning (with a current Strategic Business Plan in place), has plans for fundraising and potential donors described, and operationally has some policies, systems and procedures in place. The most recent Strategic Business Plan process were sound and the business plan is of high quality to guide the organization in all relevant business areas, e.g. organizational development, financial management and funding, information technology and communication.

A risk assessment with mitigation action plan, as part of the Strategic Business Plan, should guide the organization well with regards to potential pitfalls and ways to manage these.

4.3.1 SADC-GMI organisational evolution

SADC-GMI's organisational evolution to date provides several lessons to help strengthen its sustainability and efficiency going forward. These lessons include:

- The successful delivery of SADC-GMI's strategy will strongly depend on the staff's ability and skills to execute this plan, along with strong governance and oversight from an efficient Board and Executive Director. The staff complement seems appropriate, since all relevant roles are in place

to deliver the strategy. However, the fact that most positions are contract and time-bound will increase operational challenges and compromise strategic delivery. This point is further discussed under Human Resources;

- The most recent risk assessment indicates several high residual risks that should be closely monitored, the effectiveness of risk mitigation measured, and changes implemented when required. It is unclear whether a new 2020 risk assessment was undertaken or when this process is due, but it is an important process that should continue and include measures to mitigate and monitor the severity of these risks; and
- Weaknesses and threats described in the SWOT analysis undertaken as part of the Strategic Business Plan are severe enough to cripple this organization if effective strategies and controls are not employed. A few important constraints are highlighted here such as lack of track record with funding, heavy reliance on the UFS, limited brand recognition, inconsistency in data availability across countries, inadequate involvement of politicians and competition with other regional organisations.

4.3.2 Monitoring and evaluation

Monitoring and evaluation of both internal and external processes are an essential part of measuring impact and making continual improvements. The following lessons were identified from expert review of SADC-GMI's monitoring and evaluation processes:

- Whilst SADC-GMI uses a 'Contracts Monitoring Excel spreadsheet' to record status of the various projects as well as a detailed cumulative progress report, it is unclear if an auditable documentation repository exists to measure impact and provide insights into actions that can be taken to continually improve project and programme implementation. If this repository exists, a comprehensive and systematic document control system with clear links to components, strategic objectives and specific interventions will aid in implementing a more efficient monitoring and evaluation system; and
- Specific monitoring and evaluation frameworks are in place for key projects such as the Sustainable Groundwater Management Project, contained in the Sub-grantee Manual. It is however important to design and implement an internal monitoring and evaluation framework to ensure continual improvement of SADC-GMI's internal processes.

4.3.3 Human resources

SADC-GMI's organizational structure is lean with a staff complement of eight roles in place to deliver the 2019-2023 strategy. This is an improvement from the 2018 situation where the SADC-GMI staff comprised five members (three permanent and two appointed under the GEF-CIWA project). The bulk of the current eight positions are contract-bound and end on 31 December 2020 (as per job descriptions provided). The approach of keeping a core team and employing contract staff when funding for projects are secured, is a common approach in non-profit organizations due to funding constraints. It is however risky to the sustainability and strategic delivery of the organizations, since a lack of job security and on-boarding new staff creates internal instability.

A partnership and association model to complement the staff had been proposed as an organizational structure in the 2019-2023 Strategic Business Plan, but it is unclear whether this had been implemented and the effectiveness of the model. It is an approach used by many organizations and has merit, but also several challenges. While SADC-GMI has several strategic partnerships, it is not clear where the critical gaps are in relation to using associates and partners.

This approach requires core staff to spend sufficient time in partnership selection, and relationship building to ensure relationships are built on trust and strategic fit. This duty is described in job descriptions of several roles, but these positions are all short-term, and will make partnership building challenging.

Focal groups in each SADC Member State as an implementation arm of SADC-GMI is a good approach to complement the staff of the organization. The focal groups are composed of stakeholders

who are representatives of the 15 SADC Member States. This structure must be assessed as part of the project's evaluation to ascertain the success of the structure as a method of project delivery.

The roles reviewed are based on the SADC-GMI organogram, presented in Appendix A2, and include the following schematic (Figure 4-2):

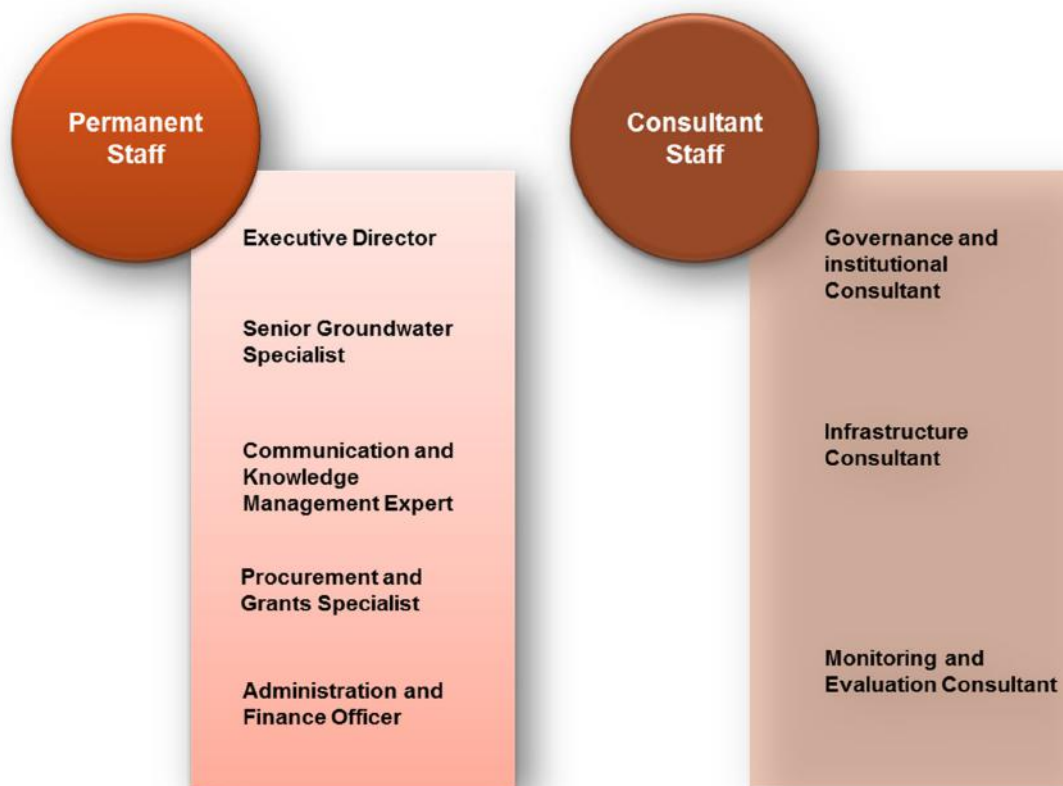


Figure 4-2: Roles reviewed during organisational assessment

The following lessons can be learned from the human resources review:

- SADC-GMI should consider and plan for permanent positions. This will ensure critical work continues uninterrupted by the same expert and provides a certain security to the employee;
- Critical roles that are short-term contract bound create uncertainty in the organization and create a stop-start cycle (and with new people) that is disruptive to culture and teamwork;
- The lack of a retention plan increases this organisational capacity risk and while new funding will create a sense of stability, it is important for a retention plan to be developed with permanent positions;
- Fund raising should weigh higher in the job description of the Executive Director to match the reality in time spent on this activity, particularly until the organization is in a financial healthy state;
- Government relations should be included in one of the full-time staff job descriptions as the positioning of key government departments in SADC Member States is critical to influence and advocate for policy reforms, access to data, funding support and project delivery;
- Marketing and brand positioning could be outsourced to smaller companies specializing in social media and brand management. This will enable the Communication and Knowledge Management Specialist to focus on critical internal tasks such as creating a comprehensive document control system;
- The demands of project implementation on the Infrastructure Specialist could be lessened through making specific knowledge products (such as ESS toolkits) available from which new infrastructure project participants can access practical information to help with project implementation;

- Procurement processes, especially for sub-grantees in SADC Member States, can be extremely complex and often lead to project delays. It has been repeatedly highlighted in feedback from the sub-grantee questionnaire that procurement was a challenge during the implementation of the pilot projects (see Appendix G2). SADC-GMI should consider an online 'track-and-trace' solution to help the Procurement and Grants Specialist with managing this process. A detailed review of procurement processes is provided in Section 6; and
- There is a definite need to include more technical expertise as part of the permanent core team as currently only one of the team is a qualified hydrogeologist.

4.4 Lessons learned from implementing institutional capacity building programmes

Institutional capacity building across SADC Member States is one of SADC-GMI's key deliverables. The most recent Strategic Business Plan strongly focused on the development and implementation of a Capacity Building strategy and Implementation Plan. SADC-GMI has actioned this part of its mandate through several interventions and projects.

SADC-GMI has developed the Terms of Reference (ToR) for a "Development of an operation and maintenance training manual". SADC-GMI appointed the International Groundwater Resources Assessment Centre (IGRAC) to execute the project, "Capacity building for groundwater data collection and management in SADC Member States". The project ran from September 2017 to April 2019 and included a capacity building component for 22 young professionals from 11 SADC Member States.

SADC-GMI acknowledges the need to build partnerships in order to leverage ongoing capacity building initiatives. In this regard, SADC-GMI partnered with the United Nations Educational, Scientific and Cultural Organizations – International Hydrological Programme (UNESCO-IHP), the UFS's Institute for Groundwater Studies (IGS) and WaterNet, to deliver training interventions in several topics including International Water Law and Gender, Groundwater Modelling, Managed Aquifer Recharge and Windows Information System for Hydrogeologists (WISH).

SADC-GMI also responded to the disparities that existed in drilling and data collection for boreholes in the region by partnering with IGS, WaterNet and the Africa Groundwater Network (AGW-Net) to develop a course on 'Cost effective Boreholes Drilling'. In addition, a ToR exists for a training manual on the preparation of proposals to access funding for groundwater related infrastructure.

4.4.1 Capacity building and training

Capacity building and training regarding groundwater management will remain a key component of SADC-GMI's strategy. The lessons learned from its projects and programmes up to now indicate that there are several capacity building and training gaps in SADC-GMI's internal planning processes that still needs to be filled, namely:

- Development of a capacity building and training calendar;
- Development a capacity building implementation plan;
- Monitoring and evaluation of progress against the plan; and
- Development of appropriate training materials and tools.

In addition, SADC-GMI should investigate the possibility of generating revenue from commercial and academic stakeholders through access to knowledge projects within the framework of SADC Secretariat policies and procedures.

4.5 Lessons learned from implementing advancing groundwater knowledge programmes

SADC-GMI has recognized the need for expert internal capacity in the knowledge management field and has appointed a Communication and Knowledge Management Specialist. Its role as Centre of

Excellence is heavily dependent on the knowledge content, technical know-how and support and knowledge sharing platforms that it creates for SADC Member States. General feedback from the partner and sub-grantee surveys indicate that this position was timely and that the incumbent currently fulfils this role efficiently.

SADC-GMI has made several interventions in both internal and external information technology management. Internally, the information technology-related procedures currently adequately cover the needs of the organization.

External information technology platforms and knowledge projects are one of SADC-GMI's key deliverables as a Centre of Excellence in Groundwater Management. Data collection and management had been identified as a weakness and risk to the vision and mandate of SADC-GMI by several sources, including the UFS 2017/8 report and the Framework for Institutionalizing Groundwater, 2019.

SADC-GMI has delivered several products to support this weakness and take on a leading role in managing the regional risk. One instrument is the "SADC Framework for Data Collection and Management (April 2019)", which aims to drive implementation of policies and strategies making use of existing technical guidelines. The project was implemented between 2017 and 2019, but it is unclear whether any evaluation had been done to demonstrate usage and benefit to SADC Member States.

SADC-GMI has updated the SADC-Groundwater Information Portal (SADC, 2017) (SADC-GIP) with data which became available through the SGM in SADC Member States Project, and this portal is available to SADC Member States. The SADC-GIP's main feature is a map viewer through which users can browse maps, create overlays and access information behind the maps. The SADC-GIP also contains a document database from which authorised users can download data and maps and can upload new data and maps in a password protected environment. A ToR is available for a consultancy company to support the enhancement of the SADC-GIP to enable widespread access to groundwater data for the SADC region, but it is unclear if this project was delivered.

The SADC Groundwater Grey Literature Archive (SADC et al., 2017) is a good research and information source of groundwater studies in SADC Member States. Additionally, the Africa Groundwater Atlas (2018), with country-specific descriptions in a Wikipedia style format provides information for research and decision-making purposes.

These findings are confirmed by the results from the partner- and sub-grantee surveys presented in Figures 4-3 and 4-4, which indicate that stakeholders find it easy to access SADC-GMI's website.

Figure 4-3 indicates that most of the respondents were able to access SADC-GMI's online resources. Considering the geographic spread of SADC-GMI's sub-grantees and partners, it is to be expected that some stakeholders would have intermittent access to internet connectivity. This factor should be kept in mind in designing future knowledge products by providing alternative means to access information. For example, knowledge hubs could be created at the physical locations of strategic partners. These results are confirmed by comments obtained from some sub-grantees who request hard copies of key documents to be made available (see Appendix G2)

Figure 4-4 shows the most useful website information as rated by both partners and sub-grantees. The results indicate the importance of providing not only integrated data in the form of hydrogeological maps, but also in widely sharing groundwater related bodies of knowledge that exist in various locations in the SADC region.

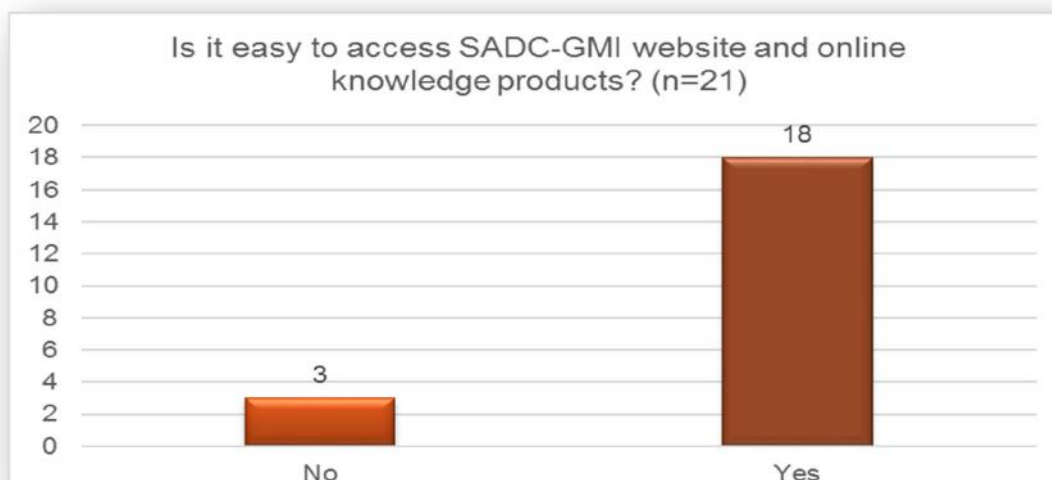


Figure 4-3: Ease of access to SADC-GMI's online knowledge products

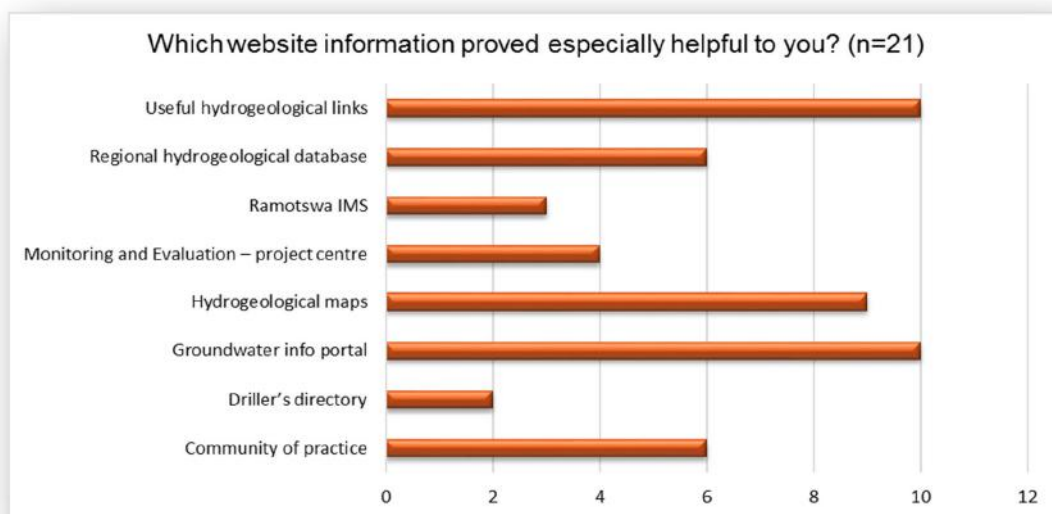


Figure 4-4: Most useful information on SADC-GMI website

4.5.1 Information technology

The following lessons can be learned from SADC-GMI's current information technology management processes:

- It is evident that SADC-GMI has worked hard to fill the gap that was identified in data management and access to information for research, policy and decision-making at the SADC Member State level. This is a complex and fast-changing arena, and relevant, up-to-date information and data will always be a demand from clients, and therefore a business function that SADC-GMI should well-resource and drive with efficiency;
- To ensure data security, SADC-GMI should consider performing sporadic ethical hacking penetration testing; and
- Commercial and academic access to groundwater data is a potential revenue earning service offering and this possibility should be investigated within the framework of SADC policies and procedures.

4.5.2 Knowledge management

The following lessons can be learned from SADC-GMI's current information technology management processes:

- This business function is core to the organization's mandate, current funding and its role as Centre of Excellence, and therefore should have a dedicated resource managing its delivery;
- A detailed monitoring and evaluation programme should be developed to understand the impact of each knowledge tool and overall change achieved in building knowledge at the SADC Member State level; and
- A comprehensive and detailed document management system, including naming conventions and filing requirements should be developed to facilitate easy access to SADC-GMI's internal and external documentation.

4.6 Recommendations for designing a new programme

Based on the organisational structure and capacity assessment provided above, the following key recommendations are provided:

- The organizational structure made up of a small core team, supported by partners and associates when required, is appropriate for a small organization and NPO, but permanent positions should be considered when funding is obtained. This will increase retention, stability, and opportunity for the core team to deliver the strategy;
- The organizational structure should be reviewed in the light of fundraising decisions and based on the outcome of a diversified resource mobilization strategy. If the organization chooses to pursue revenue streams such as consultancy services, paid training and partnerships with private sector, it may challenge the taxation laws related to non-profit organizations. The hybrid model, where a non-profit and private company (Pty Ltd) are both operated under one BoD, should be investigated as an alternative;
- The current partnerships should be increased to include universities in different SADC Member States, which will allow for post-graduate students to pursue their research in groundwater related fields that will benefit SADC-GMI;
- The role of 'government relations' should be made more explicit in the job description of the Executive Director or the Communications and Knowledge Management expert. A government relations strategy may be necessary to guide this work. The establishment of strong relationships with governments and relevant departments is critical to the mandate of SADC-GMI;
- Should SADC-GMI want to operate independently from the UFS, internal capacity building and support will be required, especially for financial and reporting functions;
- SADC-GMI's brand position should be assessed alongside a competitor analysis, in order to implement a focused marketing and communication plan in those SADC countries with the lowest levels of awareness of the institute and the field of groundwater management; and
- Capacity building programmes are much needed and should focus on new trends, particularly the role of groundwater in livelihoods, food security, entrepreneurship and climate change, with a focus on socio-economic improvements at the grassroots level.

4.7 Conclusions

A culture of innovation and continuous improvement is required to stay agile and ahead of the competition in the water-related non-profit organisation arena. From an organisational structure and capacity point of view, the results of this assessment indicate that SADC-GMI is on the right track considering it is a very young organization. It is critical that SADC-GMI considers key improvement areas such as monitoring and evaluation, generating revenue from knowledge products, systematic knowledge management, strengthening brand awareness and instituting measures to improve staff retention and performance management.

The next chapter identifies lessons learned by SADC-GMI in relation to governance, compliance and funding.

5 Governance, compliance and funding assessment

Key points from the chapter

- SADC-GMI broadly complies with the South African legislation applicable to Non-profit Companies (NPCs)
- SADC-GMI's Board of Directors (BoD) are well established, but in need of continuous capacity building and regular self-assessments
- A Theory of Change (ToC) and log frame development framework is recommended for planning, monitoring and evaluation and impact measurement
- Funding to continue SADC-GMI activities beyond 2020 is a current imperative and efforts to promote diversification and long-term sustainability are also important
- Over-reliance on one donor support places SADC-GMI at high risk and more skills and capacity is needed to diversify fund-raising initiatives

5.1 Introduction

The governance, compliance and funding components of SADC-GMI's strategy and implementation of objectives was undertaken by the SRK team under the technical guidance of Mr Tim Hart and Mrs Retha Eastes. Mr Hart is a social development consultant with over 45 years of experience and Mrs Eastes is a business advisory consultant with over 20 years' experience. Both helped formulate lessons learned related to strengthening SADC-GMI's institutional capacity. The results from SRK's governance, compliance and funding analysis are presented in this chapter and relate mostly to the strengthening SADC-GMI's institutional capacity component.

5.2 Governance and compliance related lessons from operationalising SADC-GMI

For the purpose of the review, governance is seen to include SADC-GMI legal frameworks and contractual arrangements (together with associated obligations and commitments), high-level directive frameworks and systems (vision, mission, goals, strategy, planning and leadership) and the role and operation of the Board (including elements of compliance). The sub-sections below present the observations and findings of the governance review.

5.2.1 Legal and contractual

SADC-GMI operates in a nested hierarchy of legal frameworks. The legal frameworks and contractual arrangements are presented in Appendix K and fall into the following broad categories:

- Treaties, policies and cross-national planning frameworks that position the SADC Water Division and SADC-GMI in the Southern African region; and
- Contracts and agreements that frame the role and operation of SADC-GMI itself.

Based on the data collected and reviewed, the following legal and contractual lessons learned are highlighted:

- The SADC Protocol, regional water policy, regional strategy, and strategic development plan provide a sound framework for SADC-GMI to operate as a regional advocate for sustainable groundwater management and development, in alignment with its vision and mission. Without these instruments and their associated institutional arrangements, the SADC-GMI vision and mission would have been difficult to realise; and

- SADC-GMI is registered as a Non-Profit Company (NPC) in terms of South African company law. It is arranged in broad alignment with the provisions of the Memorandum of Incorporation, including Board membership and numbers. It is noted that SADC-GMI must finalise official accreditation with the South African Department for International Relations and Cooperation (World Bank, 2019), an action that would facilitate access to South African funding. The current status of this task is unknown.

5.2.2 Mission and vision

The SADC-GMI vision and mission statements are clear and focussed and provides continuity with the legacy of its predecessor, which gives longstanding stakeholders a level of comfort in SADC-GMI's reputation and ability to deliver. It aligns well with the intent of broader water sector initiatives under SADC, including the policy and legal framework and the overarching coordinating role of the SADC Water Division. The vision and mission remained unchanged through the recent (2018) strategic planning cycle, suggesting that they are well-supported and are judged to be sufficiently clear and aspirational to guide strategic thinking into the next phase of the programme.

5.2.3 Strategic planning and planning systems

As indicated in the organisational structure and capacity assessment chapter, a comprehensive and widely consulted SADC-GMI Strategic Business Plan was compiled in 2018, covering the period 2018-2023. This is the second such plan, the first addressing the period 2010-2012. The first plan focussed predominantly on tasks to establish and consolidate SADC-GMI. Establishment processes were delayed initially, with substantial progress only from 2014 onward (SADC-GMI, 2018).

The Strategic Business Plan prepared in 2018 is comprehensive, with a good balance between strategic assessment (situational review, SWOT analysis, risk assessment) and forward-looking purpose. In the latter context, a clear implementation roadmap is provided together with a framework for Strategic Business Plan monitoring and review. The 2018 Strategic Business Plan was built on consultation with strategic stakeholders. These consultations included bi-lateral interviews with key groups (SADC Water Division, the host institution, donors, key institutional experts and SADC-GMI staff) a planning review workshop with staff, and discussions with the Board and Steering Committee. Strategic plans are not of much use if there is limited or no stakeholder buy-in, but in this case structured and incremental engagement should have built substantial backing for the plan.

The 2018 Strategic Business Plan is only the second to be prepared by SADC-GMI since establishment in 2009. The first plan was set up in 2010. Good practice would be to have a strategic planning cycle of three to five years, with annual fine-tuning as necessary. It has been noted that SADC-GMI establishment processes were delayed in the initial years, accounting perhaps for the planning gap (SADC-GMI, 2018).

SADC-GMI is seeking to follow an institutional evolution model, moving through phases from initial set-up to consolidation and impact. It is important that a planning cycle (with associated capacity) is set up to reflect and support this evolution. In this regard, a Theory of Change (ToC) approach with associated log frame planning methodology can assist SADC-GMI to plan with outcomes and impact in mind. Section 8-2 provides more information on the ToC approach.

5.2.4 Goals, objectives and performance targets

SADC-GMI has set two primary goals for the next phase of institutional development (SADC-GMI, 2018):

- To be recognised as a "Centre of Excellence" in groundwater management; and
- To be financially sustainable.

In pursuit of the goals, four strategic objectives and many strategic actions (19 in all) have been defined. The Strategic Business Plan notes that objectives and actions should drive a process of continuous improvement (SADC-GMI, 2018). The plan further contains a schedule setting timeline for the execution of individual strategic actions, over the period 2018-2023 (SADC-GMI, 2018).

The goals and objectives align with the SADC-GMI vision and mission and reflect the phases of institutional development underpinning strategic planning. Detailed strategic actions provide practical guidance on the tasks required to realise the objectives. From the perspective of this high-level review, many of the strategic actions are complex and multi-layered of themselves, and collectively appear to pose a challenge for the limited technical and operational capacity of SADC-GMI. As mentioned, more systematic approach, including a ToC and a log frame detailing specific interventions, inputs, outcomes and potential impacts, will assist in planning, implementation, monitoring and evaluation.

The Strategic Business Plan provides guidance on business plan monitoring and evaluation, noting that an important element of the monitoring and evaluation framework will be engagement with management structures at regional, national and local levels, and reporting through these structures (SADC-GMI, 2018). The plan has no detail on the monitoring framework but notes that a balanced scorecard approach will be adopted. Instead a monitoring and evaluation framework which flows from the ToC and log frame planning is recommended to indicate continuous improvement, progress and potential impact.

5.2.5 Powers and duties of Board of Directors

The Board's basic responsibilities are established by statute, regulation and case law. In addition, most boards also assume broad responsibilities for other areas that the board has identified as being critical to the organisation's success.

NPO boards have similar responsibilities and must ensure that they fully understand their legal obligations as they are defined under the NPC documents of incorporation and by-laws, and applicable federal, provincial and international laws, regulations and best practises.

The Board is ultimately responsible for the effective and ethical running of the NPO, even if operational management and oversight is delegated to the organisation's Executive Director and a management team. The board's primary role is stewardship: overseeing management and ensuring that the NPO's affairs are being conducted in a way that achieves the organisation's objectives.

The powers and duties of SADC-GMI directors are described in the Articles of Association of the original Section 21 company (CIPC South Africa, 2011). As noted previously, SADC-GMI is now classified as an NPC, but the Articles have not been replaced unless specifically amended. The defined powers and duties are largely generic, relating to the purchase of property or rights, the hiring and removal of managers and staff, the engagement of consultants and advisors, borrowing or lending money, delegation of responsibilities, the establishment of committees and the creation and preservation of board records.

The SADC-GMI Articles of Association are relatively silent on the value-adding responsibilities of SADC-GMI directors. On the one hand this will give a strong Board of Directors a great deal of room to be proactive and innovative. The Articles provide little guidance to an evolving board. Board capacity building will have to find a balance between encouraging creative leadership and respect for legal and fiduciary responsibilities. Board compliance with powers and duties provisions in the Articles of Association does not appear to be an issue at present.

5.2.6 Board composition, capacity and leadership

At the time of compiling the 2018 Strategic Business Plan, the SADC-GMI Board comprised a representative of the SADC Water Division as Chair, the GMI Executive Director, a UFS representative

and representatives from SADC Member States (SADC-GMI, 2018). The Board increased from three members in 2016 to seven in 2018 (SADC-GMI, 2018). The additional members were representatives from Swaziland (eSwatini), Namibia, South Africa and UFS (SADC-GMI, 2018). The Board is required to meet quarterly, and it has an overarching mandate to review and support the progress of the SADC groundwater management project. It is noted that the quarterly meeting schedule was maintained in 2017, 2018 and 2019 (SADC-GMI, 2020).

A strong board and effective leadership by the board are key elements of NPO success. The impression from the review is that whilst the SADC-GMI Board has compliant numbers, it is not optimally functional. The recent establishment of two board committees is likely to address this issue through governance and business development support. These results are consistent with the findings of the OCAT assessment as presented in Chapter 4.

The 2018 Strategic Business Plan notes two substantial risks related to the Board (SADC-GMI, 2018). The first risk is that whilst the Board has a critical role in guiding and growing a new organisation, it may not do so due to its SADC Member State representation model and the possible associated lack of focussed strategic skills. The second risk relates to the Board Chair. In alignment with the Articles of Association, the Board (in 2018) was chaired by the head of the SADC Water Division. Staffing uncertainties at the SADC Water Division have the potential to undermine the Chair position and function, a major issue at a time when decisive leadership is required.

An initiative to re-think the structure and operation of the SADC-GMI Board is underway, with two sub-committees recently formed. The audit committee will provide guidance regarding governance and financial matters and the business development committee will guide the SADC-GMI team in diversifying its income base. Regular self-assessment is good practice for all boards, and this practice should be introduced in SADC-GMI (if not already done). It is noted that the 2019 World Bank support mission to SADC-GMI raised no concerns regarding Board roles and functioning (World Bank, 2019).

5.2.7 Board functional involvement and relationship with staff

The review documentation does not provide insight into the extent to which the Board champions individual priority functions and initiatives (for example funding stability), but the linking role of the Executive Director is noted; engaging with and reporting to the Board and providing leadership to SADC-GMI staff. The recruitment and appointment of SADC-GMI staff is led by the Executive Director in consultation with the Board. During the interview with the SADC Secretariat, it was clear that at least some Board members are intimately familiar with the SADC-GMI's activities and progress through scheduled progress reports.

5.3 Funding related lessons from operationalising SADC-GMI

All the sources of data collection, including staff interviews and the OCAT assessment indicated major financial risk to the sustainability of SADC-GMI, deriving from over-dependence on donor funding and from one donor in particular (SADC-GMI, 2018). Since establishment, SADC-GMI has been funded under an agreement with the World Bank, acting as an agent for the Global Environmental Facility (GEF) Trust and Cooperation in International Waters in Africa (CIWA) (GEF and CIWA, 2015). The SGM in SADC Member States Project is due to close on December 31, 2020, when the current funding agreement ends, but has subsequently been extended at no cost (World Bank, 2019). The SADC Secretariat and SADC-GMI have expressed interest in continued funding support from World Bank, GEF and CIWA (World Bank, 2019), but the need for funding diversification is underlined in the Strategic Business Plan and emphasised by the current review (SADC-GMI, 2018).

5.3.1 Funding stability and risk

Several data collection methods noted constraints to seeking other donor funding and these challenges were emphasised during the interview with the SADC Secretariat. Issues include poor awareness of the SADC-GMI brand and competition in the water sector for donor-sourced resources. Against this background, other income diversification options are being explored such as (SADC-GMI, 2018):

- Income from services, including fees from training and conferences, project implementation, research and technical consulting and private sector subscription fees;
- Donations, including in-kind contributions from SADC Member States and corporate social responsibility donations;
- Income from the publication of a SADC regional groundwater journal;
- Partnerships with offshore funders with an interest in SADC groundwater management; and
- Income from grant and global finance sources, including from climate funding initiatives.

Securing funding beyond 2020 is being given urgent attention by SADC-GMI. Actions include the mobilisation of the current SADC-GMI LLP assignment, which will lead to the preparation of a project funding motivation and memorandum.

Whilst funding to continue SADC-GMI activities beyond 2020 is clearly an imperative, efforts to promote diversification and long-term sustainability are also important. It is noted that the development of a financial sustainability plan is an operational priority (SADC-GMI, 2018). The 2020 Physical Activities and Indicators Progress Report indicates that a costed Financial Stability Plan was approved in June 2018, and that implementation is underway.

Initiatives in this plan, include proposals and / or discussions with Regional Waters, the African Development Bank, BRS Biodiversity Fund and Department of Water and Sanitation South Africa (SADC-GMI, 2020). Reviewed documentation and interviews did not provide a current update of how these initiatives are currently being managed and monitored

Income reliance ratio look at the revenue stream of a non-profit company and are expressed a percentage of revenue from a specific funding source. Due to the nature of grant funding, a non-profit can end up with a disproportionate amount of its funding coming from one source. This would give a high reliance ratio and indicate a significant risk to the NPO if that grant source were to stop its funding.

The calculation in Table 5-1 is based on the actual income and sources as reflected in the audited financial statements and compares with the budgets and targets set for other funding sources in the financial sustainability report May 2018 and grant funding as per Financial Progress report dated 29 February 2020 that formed part of the April 2020 board report. Calculations reflect values for the 2018, 2019 and 2020 financial years. To address the sustainability of SADC-GMI it was a strategic goal to decrease dependency on grant funding and secure 4,7% of total income through sources other than grant funding such as project managements fees as well as training and conference income.

Currently the SADC GMI is still 99% dependent on grant funding as the main source of income and realignment and implementation of strategies to secure and generate income through different income streams must be a priority. In interpreting these figures, cognisance should be taken of the administrative and management burden the grant funding placed on the relatively small team. Focused attention on diversification of income should be a priority in future programmes.

Table 5-1: SADC-GMI income reliance ratio

Reporting period: 2017/2018 financial year to 2019/2020 financial year (3 years)			
	Cumulative Budget*	Actual Cumulative* Budget Spend	

	USD	USD	
RELIANCE RATIO			
Grant income	6 822 155	8 017 144	An indication of a reliance on a type of income generation, which requires focus on that area, and may be a risk
Total Income	7 160 949	8 096 739	
	95,3%	99,0%	

5.3.2 Funding infrastructure and skills

There are general funding capacity constraints in SADC-GMI. The interviews indicated that the Executive Director has longstanding fundraising skills. Among the current SADC-GMI staff, the following have fundraising and financial planning responsibilities:

- Executive Director - Raise funds for long-term sustainability;
- Administration and Finance Officer - Lead the financial planning and management function, including budget and contract arrangements;
- Governance and Institutional Consultant - Develop financial and management tools; and
- Communication and awareness building are generally acknowledged to be necessary for fundraising efforts. This responsibility falls to the Communication and Knowledge Management Specialist.

It is unclear from the review, if these staff members have the appropriate time and skill sets to fulfil these crucial functions fundamental to SADC-GMI's fundraising needs. The interviews and online questionnaires indicated that the internal staff members have the skillsets and extended network but lack the time to give fundraising the attention it deserves.

5.3.3 Funding diversification planning

At least two reviews of potential funding sources have been undertaken by SADC-GMI. A scan undertaken in the context of the Strategic Business Plan assessed 20 donors in terms of relevance to the ongoing work of GMI (SADC-GMI, 2018). Criteria included groundwater relevance, SADC funding appetite and recent relevant projects. The top scores were those for Austrian Development Cooperation (ADC), Enabel (Belgian), the Danish International Development Agency (DANIDA), Irish Aid, the Italian Directorate General of Development Cooperation, the Norwegian Agency for Development Cooperation (Norad), the Portuguese Institute for Development Assistance (IPAD), the Swedish International Development Cooperation Agency (Sida), the Swiss Agency for Development and Cooperation (SDC) and the US Agency for International Development (USAID).

In an internal donor profiling exercise, SADC-GMI profiled 33 funding organisations according (among other criteria) to mandate, eligible countries, areas of focus and project alignment. The organisations were not ranked, but some of those showing the closest match to SADC-GMI were the Development Bank of Southern Africa (DBSA), the SADC Water Fund and the SADC Project Preparation and Development Facility (PPDF).

Funding diversification planning is clearly proceeding in SADC-GMI, including structured reviews of the donor and general funding landscape. However, it is not clear from the review documentation and interviews how this information has informed or will inform diversification and sustainable funding planning going forward. This may be because the links have not been formally documented, but it may also indicate a relative lack of robust coordination in the sustainable funding planning initiative, and in the mobilisation of fundraising initiatives. If the latter, serious attention to coordination is indicated.

Another aspect of funding sustainability that should be carefully considered is the use of subscription-based access to data, knowledge products, training and capacity building events to generate a portion of self-sustainable income for SADC-GMI.

5.4 Recommendations

Based on the organisational structure and capacity assessment provided above, the following key recommendations are proposed to improve governance, compliance and fund management:

- The roles, responsibility and authority of the BoD needs to be clarified through continuous Board capacity building initiatives;
- From a governance point of view, a monitoring and evaluation framework needs to be implemented from Board level right through to pilot project level;
- The BoD should continue to provide technical guidance in specific areas through selected Board committees, such as the recently established audit and business development committees. This will strengthen the capacity and skills of the staff members and stretch resources further;
- In line with non-profit organisation management good practice standards, SADC-GMI should develop a ToC with associated log frame planning process;
- More in-house fundraising capacity is urgently needed in parallel with stronger brand establishment; and
- Focused attention should be given to development on digital knowledge, products which could supplement SADC-GMI's income through providing passive income.

5.5 Conclusions

SADC-GMI operate within a nested hierarchy of legal frameworks and contractual arrangements. The organisation functions under vision and mission statements that are clear and focussed and the strategic objectives and goals set through an established planning system. SADC-GMI has a Board with defined power and duties, with broad stakeholder representation. There are initiatives underway to strengthen the Board's leadership and functional involvement with SADC-GMI staff. With 99% of its income reliant on grant funding and an over-reliance on one donor, SADC-GMI is at high financial risk. This has prompted efforts to promote diversification and long-term sustainability.

The next chapter (Chapter 6) presents the findings of an assessment of financial management practices and provides feedback on the cost-benefit analysis conducted of the SADC-GMI location.

6 Financial management assessment and cost-benefit analysis of SADC-GMI location

Key points from the chapter

- SADC-GMI will benefit from its recently adopted annual integrated reporting practices;
- The development of alternative revenue streams is an urgent priority;
- Spending analysis against budget, actuals and projected spend indicated overspend in some areas and underspend in others;
- SADC-GMI is not ready to operate independently without the support of a hosting agreement or a professional consultant fulfilling certain functions;
- Approximately 87% of SADC-GMI spend is dedicated to fixed costs;
- Several policies and procedures need to be operationalised to test its efficiency;
- The cost-benefit analysis indicates that it will be most beneficial for SADC-GMI to move to a hosted scenario in Gauteng with outsourced support for financial management

6.1 Introduction

The financial management assessment and institutional CBA were undertaken by the SRK team under the technical guidance of Mrs Retha Eastes. Mrs Eastes is a Business Advisory consultant with over 20 years' experience. The SRK team undertook extensive interviews, market research and document reviews to formulate the financial management lessons learned and to perform the institutional CBA. The results from SRK's financial management review and institutional CBA are presented in this chapter and relate mostly to the 'strengthening SADC-GMI's institutional capacity' component.

6.2 Financial management lessons from operationalising SADC-GMI

Traditional financial measures and ratios are not always applicable to NPOs that need to measure performance in terms of donations, memberships, grants, total expenses and a variety of non-financial measures. NPOs need to explain their performance to stakeholders beyond pure financial results and integrated reporting is part of the solution. These assessments are based on:

- Financially stability and risk;
- Sound financial practises and processes;
- Financial resources and efficiency;
- Project versus overhead / management spending; and
- Allocation of resources to execute strategy/mission.

During the interviews, SADC-GMI indicated that its first public integrated report is being developed, a process that will support transparency and brand visibility. Integrated reporting is designed to collate all the relevant data about an organisation's strategy, risks and opportunities, risk management, environmental and societal impacts, as well as its financial data and results. SADC-GMI should present this information in a report that is transparent, focused on long-term value creation as well as short-term contribution to stakeholders, and explain how all these elements form a coherent whole.

During the interview with SADC Secretariat members it was stated that monthly or quarterly reports, clearly measuring actual achievements against targets set, is a priority. Financial performance of the organisation must be measured, and reporting should not be restricted to project performance.

As the reporting requirements of NPOs continue to grow, NPO's need information systems that can generate information at the required level of detail and within appropriate timeframes. Reports should

give the Board the ability to understand whether the organisation delivered results in line with expectations and, implicitly, how it understood the organisation's stakeholders' expectations, executed its strategy and managed the organisation's resources, risks and relationships.

The reports should also enable the Board to focus on the critical performance measures and indicators that management uses to assess and manage the organisation's performance against stated objectives and strategies, question any exceptional results and adjust strategy and plans accordingly. The ToC framework and log frame approach presented in Chapter 7 should assist SADC-GMI to achieve this.

The budget used for analysis in this document has been compiled by splitting operational (SADC-GMI management cost) and project-related costs. The amounts are based on historical spend and figures projected based on the SPB dated May 2018. It is currently unclear if an updated budget has been prepared and made available for distribution and input.

6.2.1 Financial statements and documents reviewed

SADC-GMI's financial year end is 31 March. This review focussed on Audited Financial Statements for 2018 and 2019 as well as the management accounts for the year ending 31 March 2020. All financial reporting is done according to South African legislations and meets minimum standards and requirements.

Current funding structure, limited incomes sources and increased project spending, limits the use and effectiveness of ratio-based performance indicators but it assists with a baseline to test planning scenarios and options. It can be a powerful tool to track improvements and support strategic and decision-making processes. A diversification of income streams as described in the SPB was set to include:

- Fees and services;
- Donations;
- Publications;
- Partnerships; and
- Grants and global finance.

However, this goal has not materialised to date, and should receive urgent attention going forward.

A budget or base case expenditure projection was developed as part of the Strategic Business Plan. These involved a minimum, base case spend as well as full capacity spend. The base case projection scenario was used in the review. A review of expenditure projections is needed with adjustments for lessons learned and incorporation of best practises.

6.2.2 Financial management

In terms of essential financial policies, procedures and safeguards, SADC-GMI as an organisation has recently approved Financial Management Guidelines and Procurement Manual documents. Effective implementation, measurement and control, based on the updated guidelines must be assessed.

Up to this point in its organisational evolution, SADC-GMI has relied on the policies, processes and safeguards as provided by the agreement with the UFS. The contractual duties as prescribed in the hosting agreement, gave the UFS an oversight role into SADC-GMI's financial processes and functions. During interview with staff and consultants/ service providers it is clear that financial and administrative staff are very competent, but that the team lacks the necessary experience to deal with South African regulatory and statutory requirements. It is advisable to build capacity through additional resources to bridge these gaps.

SADC-GMI is not yet ready as an organisation to independently fulfil their full financial, statutory and corporate governance role and operate independently. Should the organisation not be in a hosting agreement that includes the required capacity, an independent service provider should be contracted.

SADC-GMI has access to two staff members and a consultant, with financial experience. The efficiency of the resources as well as other resources such as information technology were assessed during interview phase and is reported in Chapter 4.

The Service Level Agreement (SLA) with UFS was signed in 2016 and is a prerequisite in the grant agreement. Professional fees charges by UFS will reduce effective from 2021/2022 onwards. A better understanding of applicable rates and services is needed for an updated projections and review. The SLA and its implications are discussed in detail in Section 4.

Project versus overhead / management spending

Managing overhead costs and supporting the effective execution of projects and strategic goals are a priority for NPOs to build trust and gain support from funders. Core or operational expenses must be managed but still ensure effective execution of task and reward skilled employees who support strategic goals. The breakdown of SADC-GMI's overhead spend is presented in Table 6-1. Table 6-2 provides an analysis of SADC-GMI's overhead costs versus all costs, giving an indication which ratio of income is being spent on project-related strategic objectives.

Table 6-1: Breakdown of SADC-GMI's overhead / core spend

Type of core expense	Percentage of overall spend
Employee costs	11.54%
Professional services (other)	19.24%
Consultation fees	25.99%
Travel costs	14.98%

The breakdown of SADC-GMI's core spend as a percentage of overall spend was analysed to inform the cost-benefit analysis presented in Section 0.

Table 6-2: Fixed cost vs all cost ratio

	Budget	Actual	Target
OVERHEAD RATIO			
Operational/Core Spend	1 500 047	4 917 940	An indication of fixed / overhead costs vs all costs
Total Spend	1 703 970	5 665 907	
	88,0%	86,8%	

As indicated in Table 6-2 approximately 87% of SADC-GMI's spend is allocated to fixed costs.

Allocation of resources to execute strategy

As part of the SADC-GMI's grant funding mandate the WBG and partners require that allocated resources are spent to ensure that strategic objectives are achieved. To analyse extend to which the resources were utilised to execute strategy, the following analyses were made:

- Project versus core spend ratio (Table 6-3);
- Project and strategic versus grant income ratio (Table 6-4); and
- Grant funding mandate compared to actual and projected spend per strategic objective component (Table 6-5).

Table 6-3: Project versus core spend ratio

	Budget	Actual	Target
PROJECT VS CORE RATIO			
Project Spend	203 923	747 967	An indication of core/overhead spend vs all project spend
Operational/Core Spend	1 500 047	4 971 940	
	13,6%	15,0%	

Table 6-4: Project and strategic versus grant income ratio

	Budget	Actual	Target
PROJECT and STRATEGIC VS GRANT INCOME RATIO			
Project and Strategic Spend	195 564	905 995	Is resources and funds allocated towards strategic goals: Project, training, conference
Grant Income	1 500 047	8 017 144	
	13,0%	11,3%	

The Grant Funding mandate requires a distribution of spend between strategic goals and operational/core management spend.

Table 6-5: Grant funding mandate compared to actual and projected spend per strategic objective area

Component	Mandated spend \$Mil	%	Actual 31/12/2019 \$	%	Projected 03/06/2021 \$	%
A: Operationalising the SADC Groundwater Management Institute	2,8	27,45	2 898 137	47,86%	4 018 960	39,14%
B: Strengthening institutional frameworks for sustainable groundwater management	1,5	14,71	1 303 384	21,52%	1 488 706	14,50%
C: Advancing knowledge & information-sharing on transboundary and national groundwater	3	29,41	702 592	11,60%	1 879 831	18,31%
D: Promoting groundwater infrastructure development	2,9	28,43	1 151 788	19,02%	2 881 586	28,06%
	10,2	100%	6 055 901	100%	10 269 083	100%

As indicated in Table 6-5 above and Figure 6-1 below, a discrepancy exists between the proportional spend amongst SADC-GMI strategic objectives, as mandated by the WBG, and the actual spend as at 31 Dec 2019 and the projected spend as of 30 June 2021. The areas of overspend is indicated in light brown in the table above and the areas of underspend are indicated in light orange.

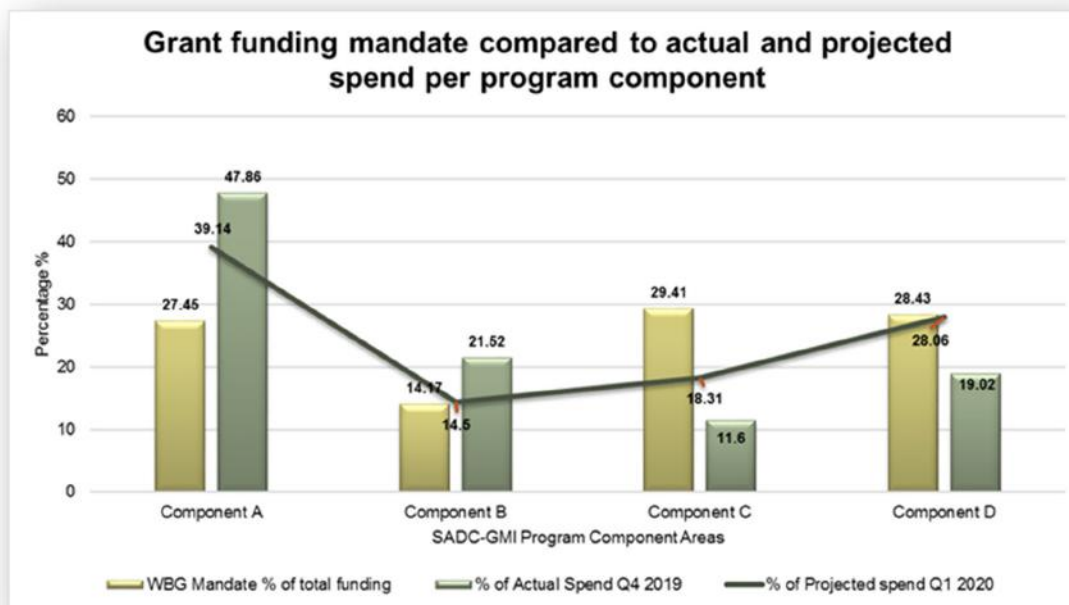


Figure 6-1: Grant funding mandate compared to actual and projected spend per strategic objective area

Analysis of these figures provide important insight into the programme implementation lessons SADC-GMI has learned. These lessons were formulated in an interview with SRK and the financial expert and include:

- The improvement evident in the projected spend viz a viz the actual spend indicates that SADC-GMI is aware of discrepancies in budgeted as opposed to actual spend and is actively working to improve fund allocation in the next year;
- The current relative overspend in Component A can be attributed to a combination of the following factors:
 - The UFS hosting and support was not budgeted for in full
 - The planned staff contingent was three people, but the implementation of the programmes necessitated eight people (five permanent and three temporary)
 - The programme was designed in 2014, but implementation was only started in 2016. The long lead time caused a mismatch between planned and actual costs in several programme components
 - Some funds were reallocated from Component C to Component A2 (as permitted by donor agreement) as SADC-GMI needed institutional capacity to implement Component C; and
- Component C requires significant levels of buy-in from several stakeholder groups who have an interest in transboundary aquifer management. The multi-layered and nuanced transboundary aquifer research processes proved challenging to implement for the following reasons:
 - Lengthy process to obtain buy-in from key stakeholders
 - Lengthy consultation process to obtain permission through the steering committee from different member countries in drawing up ToRs
 - Long lead time necessary for advocacy, procurement processes and consultation
 - Multifactorial nature of transboundary aquifer management where socio-economic, political, geological, hydro-geological, legal and policy frameworks all contribute to the success of the project.

These lessons learned were confirmed during the interview with the Dean of the UFS, Professor Vermeulen who indicated that throughout the four-year hosting period, SADC-GMI showed significant

improvement in planning, budgeting and structuring programme expenses. These lessons learned highlight the following considerations for inclusion in future programmes:

- More flexibility to spend funds where it is most needed to meet strategic goals and execute projects effectively and timeously should form part of grant and funding, terms of reference negotiations where possible. The necessary reporting and control requirements, to keep team focussed and the donors informed should be agreed upon;
- Providing more flexibility in terms of continuous assessment and fine tuning of stated objectives as programme goals are ground-truthed through implementation;
- Make provision for time delays due to specific funder requirements that might not have been clear upfront. This recommendation is echoed in the results from the sub-grantee questionnaire;
- SADC-GMI has built up a track record over the past four years in donor programme management – the additional administrative burdens imposed by the agreement with the UFS should be replaced with standard good practice internal and external auditing functions, such as a procurement approval matrix. This could lead to significant savings in terms of administrative overheads; and
- SADC-GMI's current programme had 30 individual output indicators tied to specific budget actions, future programmes should be more focused with less output indicators and more flexibility within each key result area to account for unforeseen circumstances in the field.

Asset management

In terms of the Contract Agreement with the WBG, on assets is silent and the accounting principle of assets that are bought with funds from the grant are immediately expensed. These assets are recorded in the SADC-GMI's assets register in line with the Company's Policies and Guidelines. The corporate governance guidelines and permission for removal of assets from asset register and redundancy of assets are subject to Board approval. However, to date, no assets have been removed or made redundant and the process has not been tested.

SADC-GMI is a young established NPO that operated under the protection and guidance of UFS. The organisation has grown and matured and aims to gain independence and operate autonomously. Several internal governance systems (currently fulfilled by the UFS) need to be established before SADC-GMI can operate independently within good corporate governance guidelines. Appendix L summarises financial and governance recommendations which were taken into consideration while conducting the cost-benefit analysis (see Section 6.3).

6.3 Cost-benefit analysis of SADC-GMI location

6.3.1 Cost-benefit analysis context

The institutional CBA was conducted to support SADC-GMI to objectively assess its institutional arrangements, especially the hosting agreement with the UFS. As SADC-GMI approaches a new funding cycle, it is seeking to gain an independent analysis of the costs versus the benefits of maintaining organisational status quo. The analysis was supported by a documentation review, interviews with staff, current partners, potential partners as well as commercial research.

The results were also informed by and validated against the findings of the other data collection methods and expert opinions. The OCAT analysis provided particular insight into the organisational consequences of moving away from Bloemfontein and the UFS hosting agreement. The human resources and financial management sections of the OCAT instrument were scored twice, once with the current UFS-hosting scenario in mind and the second time by considering how SADC-GMI would score if it operated independently in Bloemfontein or in another location. The comparative results of both scenarios are presented in Figure 6-2.

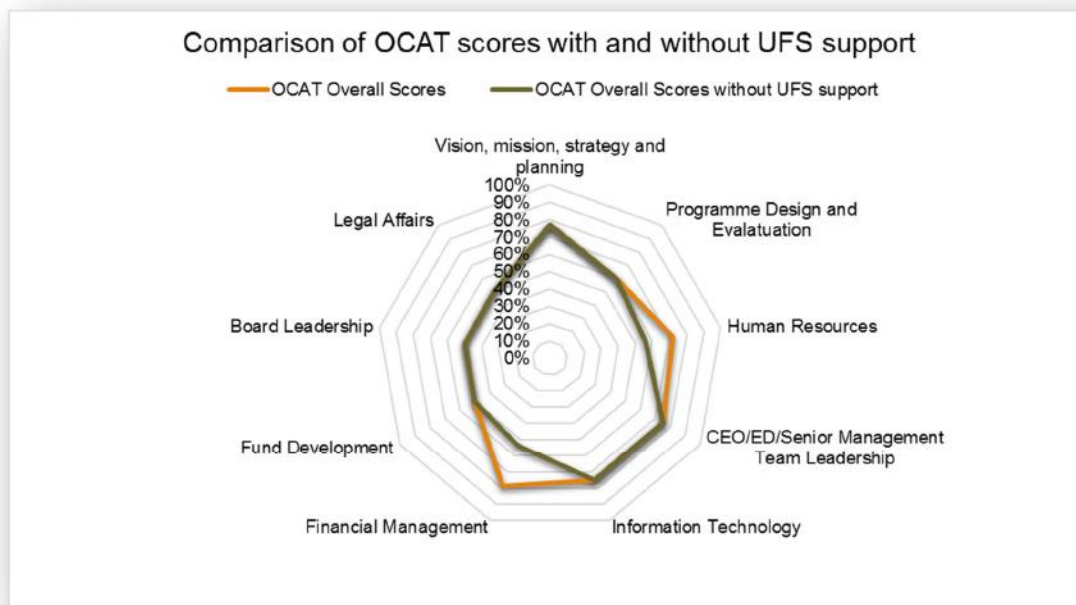


Figure 6-2: Comparison of OCAT scores with and without UFS support

As indicated in Figure 6-2, the organisational health of SADC-GMI would be significantly impacted by severing the hosting agreement with UFS, especially in financial management and human resources areas. The functions fulfilled by UFS would have to be either brought inhouse to the SADC-GMI team, or alternatively, by an independent contractor. Some functions fulfilled by the UFS are performed because it is contractually required by the donor but could be brought in-house with the necessary skills transfer and auditing checks and balances in place. The full cost-benefit analysis is appended in full in Appendix M. It took cognisance of the results of the comparative OCAT assessment and considered a variety of factors to inform decision-making regarding SADC-GMI's hosting agreements. Figure 6-3 indicates the factors considered in weighting the cost-benefit analysis of SADC-GMI's location.



Figure 6-3: Factors considered in the SADC-GMI location cost-benefit analysis

6.3.2 Comparative analysis

Based on documentation reviewed, interviews with the current hosting organisation, SADC-GMI and SADC Secretariat, the scenarios presented in Table 6-6 were considered in the location cost-benefit analysis:

Table 6-6: Scenarios compared for the purposes of the CBA

	Location	Hosting	Financial and support services
1	Bloemfontein	UFS	UFS
2	Bloemfontein	Commercial Property	Commercial entity
3	Pretoria	Council for Scientific Research (CSIR)	CSIR or commercial entity
4	Pretoria	University of Pretoria (UP)	UP or commercial entity
5	Pretoria	International Water Management Institute (IWMI)	IWMI or commercial entity
6	Pretoria	Commercial property	Commercial entity
7	Centurion	Commercial property	Commercial entity
8	Midrand	Commercial property	Commercial entity
9	Melrose	Commercial property	Commercial entity

The University of the Witwatersrand (WITS) were approached but declined the request to serve as host to SADC-GMI. The three new potential hosts (i.e. UP, CSIR and IWMI) that were approached all indicated that they would welcome hosting SADC-GMI. The UFS indicated that they would be interested in continuing to host SADC-GMI pending a renegotiation of the service level agreement. During the interview with the SADC Secretariat, a preference was indicated to be hosted by the CSIR as a strong association with a specific academic institution could limit SADC-GMI brand exposure. The comparative benefits of the hosting options investigated are provided in Table 6-7.

Table 6-7: Comparative benefits of potential hosting agreements

BENEFIT	UFS	CSIR	UP	IWMI
TECHNICAL SUPPORT	During the interview and general discussions, it became apparent that all 4 institutions are very interested in building and growing their relationship with SADC GMI			
FINANCIAL ADMINISTRATIVE SUPPORT	The current terms and roles will be reviewed and clearly redefined, but SLA can be renegotiated	Organisation indicated that they do have the capacity to assist with financial and administrative support as currently provided by UFS but it will need to be defined and negotiated. Commercial pricing and service level agreements will provide a very strong baseline for future negotiations		
OPERATIONAL SUPPORT AND TECHNICAL SUPPORT	All parties indicated that they want to build a relationship and will be willing to provided support and sharing of resources and research facilities. Facilities to accommodate the hosting is available but terms and more details will be subject to availability, needs and negotiations			
OTHER	UFS shared the steep learning curve and capacity building and knowledge that was gained by both institutions during their relationship specifically related to financial management and corporate governance as per WB standards. The knowledge and experience gap that might be created by a possible move and alternative service provider will need mitigation and an additional resource cost is item is provided for in the CBA	The parties started the process and intuitional protocols to refer the request to senior management and get input and preliminary approval to engage in a more detailed discussion and possible of arrangements and terms		

The research regarding different commercial rental agreements and the cost of independent financial and administrative support indicated the following:

- Cost of suitable commercial rental space (without utilities, cleaning and maintenance) averages at around R130/m²;
- Cost of securing professional financial and administrative support similar to what UFS provided averages at approximately R1 million per year (compared to UFS). Depending on new ToR negotiations with potential funders, this amount could be reduced by outsourcing some functions to a professional service provider whilst simultaneously building in-house capacity in existing staff members; and
- The cost of a permanent resource with the necessary skills is an option and the cost would be similar to making use of outsourced services. It is however preferable to use outsourced services as independent and specialist services build credibility with external stakeholders and provide a bigger base of skills, knowledge and resources that can be tapped into when necessary.

A full breakdown of the parameters used to determine short term and long-term costs of moving locations are provided in Appendix M.

6.3.3 Summary of key findings of the cost-benefit analysis

The findings of the CBA indicate that it would be beneficial for SADC-GMI to move from Bloemfontein to Gauteng. It also showed that a hosted option in Gauteng such as the UP, IWMI or CSIR would be the most cost-efficient option. The relative cost of establishing itself independently in a commercial property location is approximately R100 000 per year more expensive, but the benefits of associating with reputable organisations should be taken into account when making the final decision. Figure 6-4 indicates the ranking each option obtained after all factors were taken into consideration, where six indicates the least desirable ranking and 1 indicates the most desirable ranking. The full analytic process used to arrive at these conclusions are presented in Appendix M.

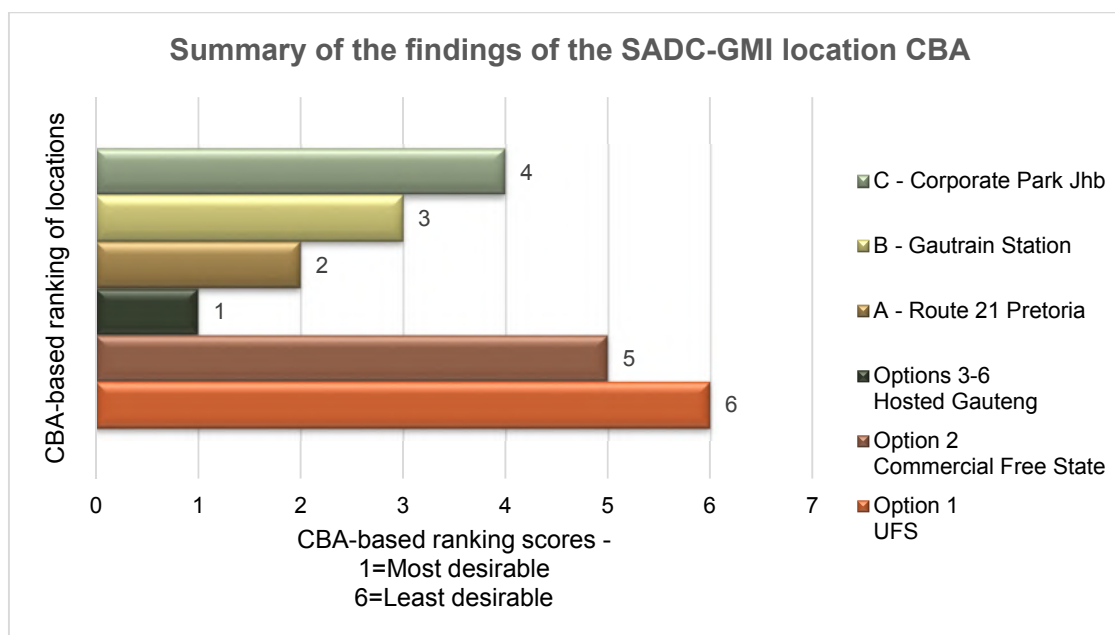


Figure 6-4: Summary of key cost-benefit analysis results

Decisions about whether to make use of a professional consultant to provide financial and organisational support or making use of the organisational infrastructure at the new host institution will have to be carefully considered and negotiated. Subsequent interviews with identified hosts are underway to gain more insight into hosting terms and conditions.

6.4 Recommendations for designing a new programme

Based on the results of the financial management assessment and CBA of SADC-GMI location the following recommendations are made:

- Annual integrated reporting should be considered;
- Investigation of alternative revenue streams should be given urgent attention;
- Recently developed and dormant policies and procedures should be operationally tested;
- Fixed cost budgeting should receive more attention to take contingencies and realistic costing into account to prevent overspending on fixed cost viz a viz project cost; and
- Regarding location, SADC-GMI should pursue a hosted option in Gauteng with hosted or outsourced financial management and governance support and continued internal capacity building.

6.5 Conclusions

Up to this point in its organisational evolution, SADC-GMI has relied on the policies, processes and safeguards as provided by the agreement with the UFS. Although the financial and administrative staff are very competent, the team lacks the necessary experience to deal with South African regulatory and statutory requirements. The review of expenses indicates that SADC-GMI needed more resources than planned in operationalising the institute and building regional capacity necessitating a reduction in spend on the other strategic priorities. SADC-GMI is a young established NPO that operated under the protection and guidance of UFS, but the organisation has grown and matured.

The findings of the CBA indicate that it would be beneficial for SADC-GMI to move from Bloemfontein to Gauteng. It also showed that a hosted option in Gauteng such as the UP, IWMI or CSIR would be the most cost-efficient option. The relative cost of establishing itself independently in a commercial property location is approximately R100 000 per year more expensive.

The next chapter (Chapter 7) presents a summary of the key conclusions and recommendations arising from the expert assessments.

7 Conclusions and recommendations

Drawing on a multi-faceted methodology, the lessons learned and emerging issues report came to a number of key conclusions and recommendations relating to groundwater management in the SADC region, the organisational and capacity of SADC-GMI, governance, compliance and funding and financial management and cost benefit analysis of SADC-GMI location.

7.1 Key conclusions

Amidst declining levels of surface water, groundwater plays a crucial role in providing water security during periods of drought or due to the effects of climate change and supports socio economic development. The management of these groundwater reserves is often challenged by a lack of capacity, knowledge gaps, funding, insufficient data and lack of cooperation between Member States. Through the SGM Project, SADC-GMI has facilitated engagement and established partnerships to support sustainable management of groundwater at national and transboundary levels across SADC Member States.

SADC-GMI as an organisation has areas of inherent strengths and is on the right track considering it is a very young organization, but there are also a number of organisational aspects that need to be given attention as the organisation moves into its next funding cycle. The organisational structure and capacity assessment highlighted the need for SADC-GMI to consider key improvement in areas such as monitoring and evaluation, generating revenue from knowledge products, systematic knowledge management, strengthening brand awareness and instituting measures to improve staff retention and performance management.

SADC-GMI operate within a nested hierarchy of legal frameworks and contractual arrangements. The organisation functions under vision and mission statements that are clear and focussed and the strategic objectives and goals set through an established planning system. SADC-GMI has a Board with defined power and duties, with broad stakeholder representation. There are initiatives underway to strengthen the Board's leadership and functional involvement with SADC-GMI staff. With 99% of its income reliant on grant funding and an over-reliance on one donor, SADC-GMI is at high financial risk. This has prompted efforts to promote diversification and long-term sustainability.

Currently, SADC-GMI's agreement with the UFS provides many of the policies, processes and safeguards. Although the financial and administrative staff are very competent, the team lacks the necessary experience to deal with South African regulatory and statutory requirements. The review of expenses indicates that SADC-GMI needed more resources than planned in operationalising the institute and building regional capacity necessitating a reduction in spend on the other strategic priorities. SADC-GMI is a young established NPO that operated under the protection and guidance of UFS, but the organisation has grown and matured.

Evidence as per the CBA indicate that it would be beneficial for SADC-GMI to move from Bloemfontein to Gauteng. Moreover, it highlighted that a hosted option in Gauteng such as the UP, IWMI or CSIR would be the most cost-efficient option. The relative cost of establishing itself independently in a commercial property location is approximately R100 000 per year more expensive.

7.2 Key recommendations for designing a new programme

From the technical review it is clear that SADC-GMI has built up significant momentum in becoming a centre of excellence in groundwater management in the region. However, SADC-GMI still need to be cognisant of technical areas that can be improved based on lessons drawn from the implementation of the SGM in SADC Member States Project.

7.2.1 Recommendations arising from technical assessment

A number of key recommendations were raised by the technical assessment. For SADC-GMI to increase the scale of interventions thereby expanding and deepening and optimising positive impacts, it needs to adopt a more focused approach. Key to this strategy is data management and collection, which through the GIP and GLA has established a central point for data collection in the region - it is crucial that data monitoring, storage and management underlying such initiatives are expanded and improved upon. Data management and collection can also be used to develop and implement early monitoring systems in transboundary projects, which may prove vital in alleviating information gaps that constrain understanding and cooperation around shared aquifers. Moreover, management of groundwater can be improved upon through integrated transboundary planning, requiring technical and institutional cooperation. SADC-GMI can facilitate the development of such relationships and networks to ensure sustainable technical and institutional cooperation.

7.2.2 Recommendations arising from organisational structure and capacity assessment

Drawing on the organisational structure and capacity assessment a number of key recommendations were developed to improve the organisational and capacity of SADC. In order for SADC-GMI to increase retention, stability, and opportunity for the core team to achieve their strategic goals, the recruitment of further permanent staff should be considered when funding is obtained. Moreover, given that SADC-GMI is pursuing revenue streams through consultancy services, paid training and partnerships with the private sector, potentially challenging the taxation laws related to NGOs, its organizational structure should be reviewed, with a Hybrid Model offering a suitable alternative. SADC-GMI should also consider developing further partnerships with academic institutions in other SADC Member States, thereby broadening their research output and the capacity of researchers in these countries. Capacity building initiatives are also much needed and should focus on new trends, particularly the role of groundwater in livelihoods, food security, entrepreneurship and climate change, with a focus on socio-economic improvements at the grassroots level.

7.2.3 Recommendations arising from governance, compliance and funding assessment

The governance, compliance and funding assessment highlighted the following key recommendations to improve governance, compliance and fund management at SADC-GMI. The roles, responsibility and authority of the BoD needs to be clarified through continuous Board capacity building initiatives. Moreover, the BoD should also provide more technical guidance in specific areas through selected Board committees, strengthening the capacity and skills of the staff members. To ensure further accountable governance, a monitoring and evaluation framework needs to be implemented from board level right through to pilot project level. Further transparency can be developed via the yearly publishing of an integrated public report, which the SADC-GMI is in the process of implementing. SADC-GMI should also focus on raising in-house fundraising capacity which is urgently needed in parallel with stronger brand establishment. While an additional income stream can be achieved via the development of digital knowledge and products.

7.2.4 Recommendations arising from financial management assessment and CBA of SADC-GMI location

From the financial management assessment and CBA of SADC-GMI location there are a number of recommendations which aim to improve the financial management of SADC-GMI. Annual integrated reporting should be considered to provide transparency and information to stakeholders. The investigation of alternative revenue streams should be given urgent attention to supplement grant income. Recently developed and dormant policies and procedures should be operationally tested.

While fixed cost budgeting should receive more attention to take contingencies and realistic costing into account to prevent overspending on fixed cost viz a viz project cost. In terms of location, SADC-GMI should consider pursuing a hosted option in Gauteng with hosted or outsourced financial management and governance support.

8 Concept plan framework

SADC-GMI has embarked on a journey to become a centre of excellence in groundwater management in the SADC region and has achieved several of its objectives since its official establishment (see section 1.2). This report provides valuable insights into SADC-GMI's strengths and achievements as well as focused input in how to improve future projects, programmes and interventions based on lessons learned.

Experts, SADC-GMI staff and key stakeholders such as the SADC Secretariat, UFS, IGS and other partners are of the opinion that SADC-GMI grew sufficiently as an organisation to operate independently provided that certain safeguards are provided, and policies and procedures put in place.

8.1 Future evolution of SADC-GMI

The visioning and conceptualisation of the future evolution of SADC-GMI has been articulated by the Executive Director of SADC-GMI to potential funders through various means. The purpose of this report is to support, expand on and scrutinize the lessons SADC-GMI learned from implementing its SGM in SADC Member States Project from 2014 to 2020.

Not only does the data collected through the methodological approach inform the lessons learned, but SADC-GMI also needs to take cognizance of several current socio-political factors which could potentially influence donor priorities and programme implementation. To date, SADC-GMI had four well-articulated strategic objectives to achieve in becoming a recognised centre of excellence in groundwater management. These four components form the basis of the lessons learned presented in this report and provide a foundation for formulating subsequent strategic objectives for the planning of the next phase in SADC-GMI's strategic business plan.

Figure 8-1 provides an overview of how SADC-GMI's original strategic objectives which were focused on sustainable groundwater management are evolving to answer the key question: 'Sustainable groundwater management for what?' This subtle change in focus enables SADC-GMI to be responsive to current socio-political factors and increase its ability to measure impact on beneficiaries. SADC-GMI proposes to answer this key question through:

- Capacity building of national and regional institutional organisations in groundwater management to promote climate resilience and socio-economic development;
- Generation and dissemination of groundwater knowledge to strengthen resilience and promote socio-economic development; and
- Promoting groundwater infrastructure innovation for resilience and livelihoods.

Figure 8-1 presents a schematic of the SADC-GMI's likely future evolution in terms of strategic focus from 2021 to 2031.

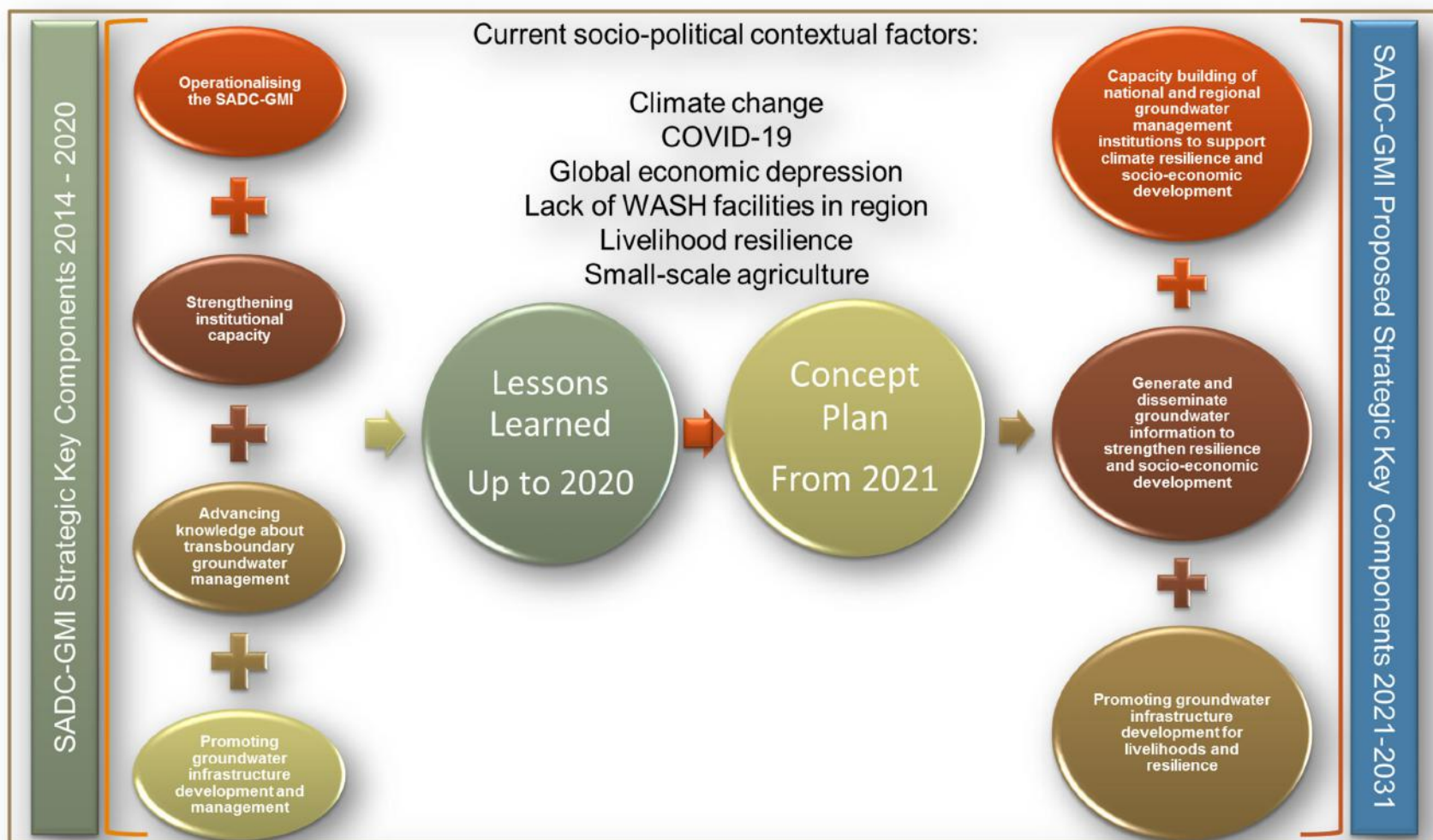


Figure 8-1: Future evolution of SADC-GMI based on lessons learned and contextual factors

8.2 Theory of Change

Theory of Change (ToC) is a comprehensive description and illustration of how and why a desired change is expected to happen in a specific context. It is focused on systematically mapping out what happens between what a programme or change initiative does (its interventions), how these lead to desired goals being achieved and what the potential impacts of these outcomes are. It does this by first identifying the desired long-term goals (i.e. groundwater management for resilience and socio-economic development) and then works backwards from these to identify the interventions, outputs, outcomes and potential impacts.

Figure 8-2 provides an illustration of SADC-GMI's ToC conceptualisation. It includes the three components identified and described in Section 8.1.1 and provides a pathway to indicate how some of the objectives of each component will contribute to the ultimate vision of contributing to climate resilience and equitable groundwater management for socio-economic development in the SADC region. It includes three levels of participants in effecting change (enablers, implementers and influencers) and is not intended to include a detailed description of all interventions. It rather provides a roadmap to determine detailed interventions and ensure that each intervention contributes to SADC-GMI's ultimate vision in a systematic way.

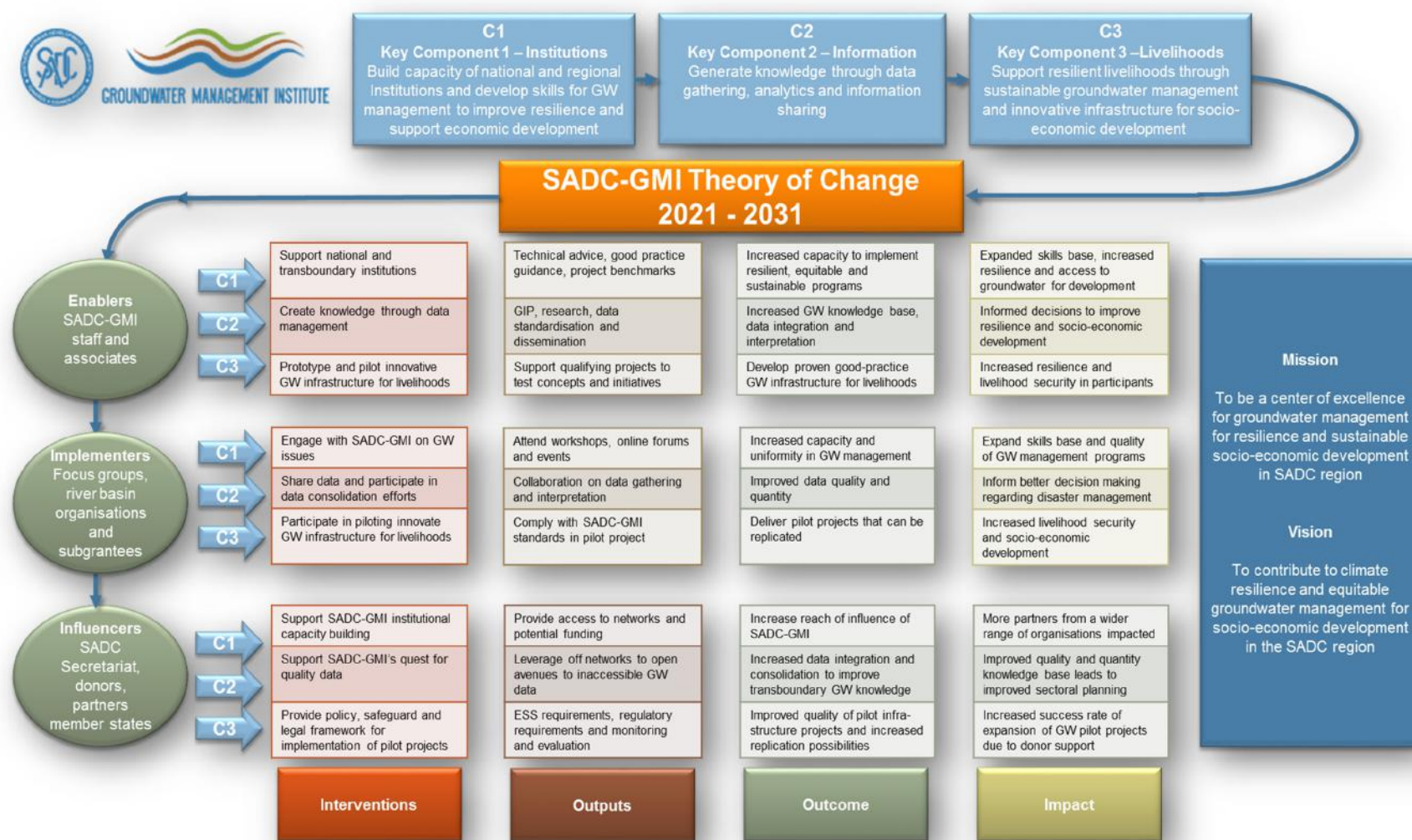


Figure 8-2: SADC-GMI's conceptualisation of its Theory of Change

8.3 Critical success factors

There are certain critical recommendations that must be implemented as a prerequisite for the successful implementation of the next phase of SADC-GMI's programme implementation.

8.3.1 SADC-GMI internal management and funding

As SADC-GMI evolved, its attention moved increasingly outwards to fulfil its mandate. In the next phase of SADC-GMI's evolution as an organisation it is essential that the following key recommendations are implemented to ensure organisational health and sustainability:

- Increased BoD capacity building and involvement through selected technical committees;
- Focused approach to programme development through ToC and log frame development to be able to demonstrate impact more efficiently;
- Diversification of funding through generating its own revenue;
- Increased in-house technical competence;
- Outsourced support in financial management whilst building in-house capacity; and
- Improved internal and external evaluation and monitoring.

8.3.2 Key result area A: institutional capacity building

It is evident from the technical assessment that institutional capacity building remains a huge need in the SADC region – on all levels of the regional water framework (see Section 3.3.2). To address these issues, it is critical that SADC-GMI focus on the following:

- The establishment of national focal groups for dissemination of information, toolkits and good practice standards; and
- Cooperation with international bodies to build a regional framework and good practice standards in transboundary aquifer management.

8.3.3 Key result area B: information generation and dissemination

Data is the currency of the future, and SADC-GMI is well-placed to leverage off its access to integrated data sets and stakeholders with data to generate revenue from commercial and institutional partners. To do this successfully, SADC-GMI will have to implement the following key recommendations:

- Standardise and develop knowledge products;
- Advocate and lobby for standardisation of groundwater data; and
- Position itself as a thought leader in groundwater data management.

8.3.4 Key result area C: support of livelihoods through groundwater management

Private investors, funders, donors and other stakeholders are increasingly motivated by demonstrated excellence in environmental, social and governance (ESG) performance when considering support to non-profit initiatives. Most recently, the 'S' in ESG has received increased attention as COVID-19 and its public health and economic consequences exposed deep inequality globally. Donors increasingly demand that programmes demonstrate positive social impact in a quantifiable manner and that programmes are implemented in a way that uphold ESS standards. SADC-GMI has an opportunity to design (and ultimately implement) its new programme with high levels of ESG excellence by implementing the following key recommendations:

- Answer the question 'Groundwater for what?' with a systematic, well designed programme that can demonstrate the logical pathway from strategic objectives to impact in a succinct and focused manner;
- Be responsive to current issues such as gender imbalances, land-use, food security, WASH programmes and vulnerable people in the design and implementation of programmes; and

- Adopt a bottom-up approach to support livelihoods, by acknowledging that farmers and communities, on the ground are already adapting to climate change and food security challenges.

8.4 Concept plan framework

The lessons learned presented in this report seen within the context of SADC-GMI's proposed future evolutions and ToC framework provide the context within which a draft concept plan framework can be proposed. This concept plan framework, will be inform SADC-GMI's funding applications and strategy for the next 10 years, broken down in two five-year tranches. Table 8-1 provides a summary of the concept plan framework. This framework will be expanded on in the next phase of this lessons learned project through SADC-GMI staff feedback and online workshop interaction with key stakeholders.

Table 8-1: Concept plan framework summary

SADC-GMI CONCEPT PLAN FRAMEWORK – 2021 to 2031 Sustainable groundwater management for resilience and economic development in the SADC region	
Vision:	To be a centre of excellence for groundwater management for resilience and sustainable socio-economic development in the SADC region
Mission:	To contribute to climate change resilience and equitable groundwater management for socio-economic development in the SADC region
Rationale:	The successful establishment SADC-GMI followed by project implementation based on four key objectives, have positioned SADC-GMI well to envision and plan a new programme to expand and deepen efforts in addressing some of the great development challenges of the SADC region
Three key components:	<ul style="list-style-type: none"> • Build institutional groundwater capacity to improve resilience and support economic development • Generate and disseminate information through data analytics and sharing • Support resilient livelihoods through groundwater management and innovative infrastructure for socio-economic development
Key Result Area 1: Build institutions and develop skills	Intervention 1: Enhance capacity of SADC-GMI to support national and transboundary institutions to improve groundwater-based resilience and economic development
	Intervention 2: Improve capacity of SADC Secretariat, RBOs and Member State National Departments to include groundwater management for economic development in their programmes
	Intervention 3: Develop technical and vocational skills among stakeholders at local, national and transboundary level in the SADC region for effective groundwater-based resilience and economic development
Key result area 2: Generating and disseminating information	Intervention 1: Generating and disseminating knowledge to institutions: <ul style="list-style-type: none"> • Expansion of the SADC Groundwater Information Portal (SADC-GMI) and the SADC Grey Literature Archive (SADC-GLA) with new information and data-services • Develop sector-specific knowledge products and information to promote equitable and sustainable economic development in the SADC Region • Undertake research to advance the role of groundwater in promoting sustainable economic development • Manage knowledge through data/information sharing events, platforms and networks
	Intervention 2: Generating and providing timely access to knowledge to local stakeholders and water users:

SADC-GMI CONCEPT PLAN FRAMEWORK – 2021 to 2031 Sustainable groundwater management for resilience and economic development in the SADC region	
	<ul style="list-style-type: none"> • Upgrade the SADC-GIP with a suite of near real-time monitoring data from Member States and global data sets to develop new generation knowledge products and services • Provide timely and targeted information through digital means on important topics like water resources before the growing season and the status of water points before the season to stakeholders like farmers and local infrastructure managers to make better decisions and reduce vulnerability to extreme weather events <p>Intervention 3: Generating and providing timely access to knowledge for planners and decision-makers:</p> <ul style="list-style-type: none"> • Provide sector-specific information on groundwater resource potential, development, vulnerability and uses to support medium- and long-term economic planning • Develop timely and targeted information products to help optimize conjunctive resource use, infrastructure management and investments • Generate regular bulletins on resource status to help governments and other organisations with disaster preparedness and response
Key result area 3: Building resilient livelihoods	<p>Intervention 1 Pilot and upscale the implementation of innovative and ESS-compliant infrastructure projects promoting sustainable groundwater management practices for socio-economic development</p>
	<p>Intervention 2 Build capacity of communities in SADC Member States to improve resilience and socio-economic development through groundwater use</p>
	<p>Intervention 3 Design and install groundwater monitoring networks in national and transboundary aquifers to support the equitable and sustainable use of groundwater for socio-economic development</p>

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Appendices

Appendix A: SADC-GMI Board of Directors and staff compliment table

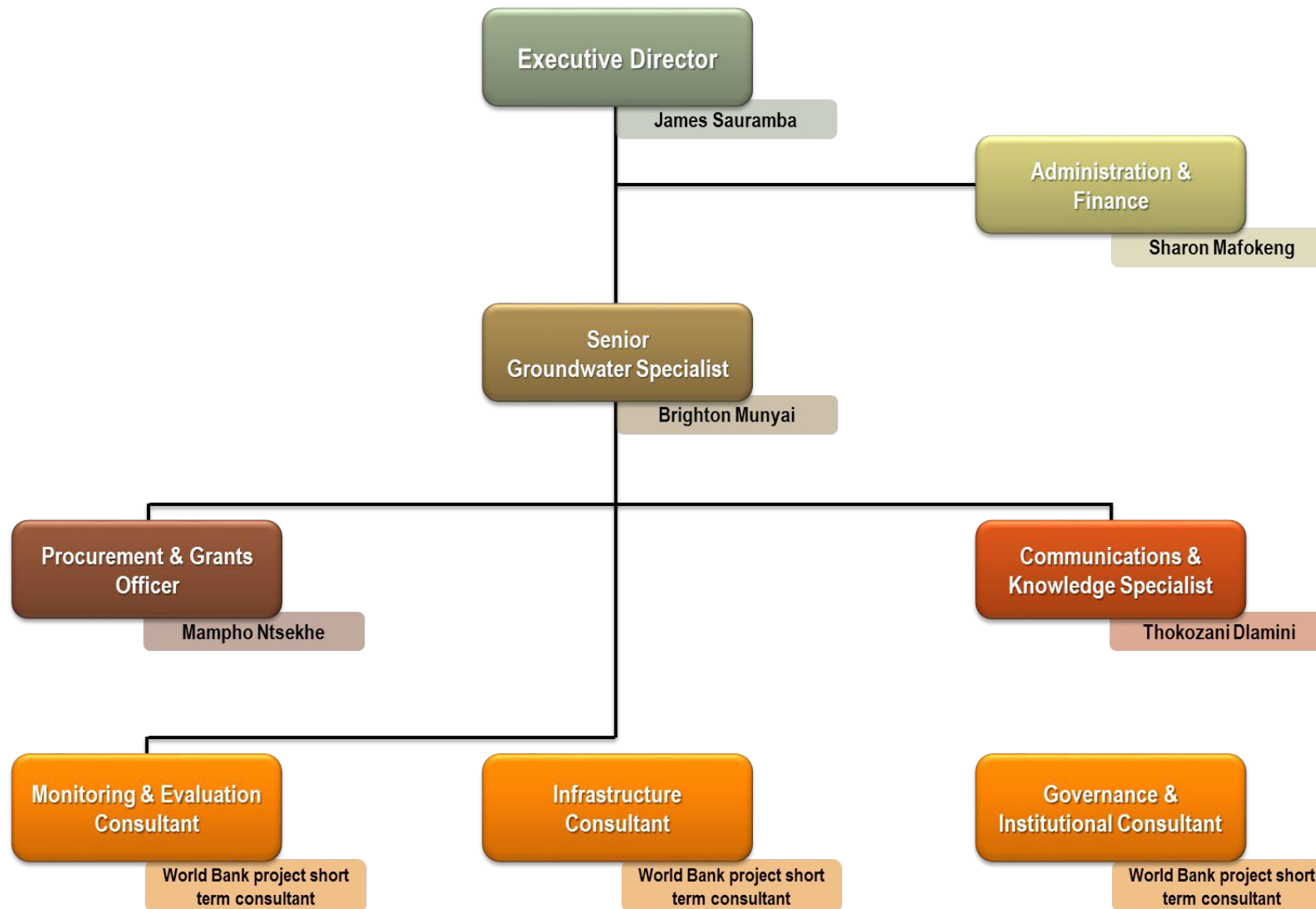
Appendix A1: SADC-GMI BoD and staff compliment

SADC-GMI Board of Directors and staff compliment

Board of Directors	Mr James Sauramba: SADC-GMI Executive Director – South Africa
	Dr Patrice Kandolo Kabeya: SADC Secretariat – Botswana (Board Chairperson)
	Ms Ana Isabel Fotine: Mponda Ministério de Obras Públicas Habitação e Recursos Hídricos, (Departamento dos Rios Internacionais) - Mozambique
	Mr Eelco Lukas: Institute for Groundwater Studies (UFS) – South Africa
	Ms Maria Amakali: Ministry of Agriculture, Water and Forestry – Namibia
	Dr George V. Lugomela: Ministry of Water – Tanzania
	Ms Zandile Kabini: Independent Non- Executive Director - Finance
	Prof. John Mubangizi - University of the Free State
	Mr Michael Marler: Independent Non-Executive Director - Business Development
	Mrs. Perle Du Plessis: SADC-GMI Public Officer
Permanent Staff	Mr James Sauramba: SADC-GMI Executive Director
	Mr Brighton Munyai: Senior Groundwater Specialist
	Ms Mampho Ntsekhe: Grants and Procurement Officer
	Mr Thokozani Dlamini: Communications and Knowledge Management Specialist
	Ms Sharon Mofokeng: Admin and Finance Officer
Consultants	Mr Micah Majiwa: Governance & Institutional Consultant (based in Zimbabwe)
	Mr Kasonde Mulenga: Infrastructure Consultant (based in Port Elizabeth)
	Mr James Manda: Monitoring & Evaluation Consultant (based in Malawi)

Appendix A2: Organogram

SADC-GMI Organogram



Appendix B: Document database index

Document database

Important documents	Information SRK has received from SADC-GMI
World Bank Project Appraisal Document	Report No. PAD685, April 2014
SADC-GMI Presentations to the World Bank	Two presentations received (v2 and v5)
Aide Memoir	World Bank visit in September 2019
Projects	Information SRK has received from SADC-GMI/researched
Follow-Up Impact Evaluation of Pilot Projects Implemented Under the Sustainable Groundwater and Drought Management Project in the Limpopo Basin	Two-page summary document on SADC-GMI website
Enhancing the SADC-GIP	Terms of Reference and situational analysis Report (March 2020)
Updating the SADC Grey Literature Archive	Terms of Reference and situational Analysis Report (March 2020)
Assessment of Groundwater priority intervention.	Terms of Reference and inception report (April 2020)
Water resources management in the Eastern Kalahari Karoo Transboundary Aquifer.	Terms of Reference and inception report (April 2020)
Development of an operation and maintenance training manual	Terms of Reference
Training manual on the preparation of proposals to access funding for Groundwater related infrastructure	Terms of Reference, inception report (February 2020) and technical report (April 2020)
Establishment of Nations Focal groups in the SADC Region	Terms of Reference and inception report (April 2020)
Draft Transboundary Diagnostic Analysis (Baseline Report) for the Tuli Karoo System	<ul style="list-style-type: none"> • Issues Paper prepared in October 2018 • Transboundary Diagnostic Analysis of the Shire River-Aquifer System – January 2019 • Strategic Action Plan for the Shire River-Aquifer System – April 2019 • Research paper: Adapting to Climate Change in the SADC Region – October 2018 • Shire ConWat Joint Knowledge Management and Closing Workshop Report – April 2019 • Conjunctive Water Management Report: Toward a Framework for Conjunctive Transboundary Water Management in the SADC region
Draft Transboundary Diagnostic Analysis (Baseline Report) for the Tuli Karoo System	September 2019
Capacity needs assessment to determine priority challenges for capacity development initiatives in Member States: Final Report	June 2018

Appendix B: Document database

Policy, legal and institutional development and other relevant documents	Information SRK has received from SADC-GMI
15 Gap analysis Reports for each country	Various in three clusters (cluster 1, 2 and 3)
SADC Framework for Groundwater Data Collection and Management: Executive summary and Full Report	April 2019
State of Groundwater Data Collection and Data Management in SADC Member States	Final Report – 31 January 2019
Regional Gap Analysis and Action Plan Report	Final Report – February 2019 (Report Number 2)
Revised Protocol on Shared Water Courses	August 2000
Regional Water Policy	2005
Regional Water Strategy	2006
Regional Strategic Action Plan on Integrated Water Resources Development and Management Phase IV	RSAP IV (2016-2020)
Assessment of Groundwater Challenges and Opportunities in Support of Sustainable Development in Sub-Saharan Africa	August 2018
Guidance document: Development of a groundwater Policy, Legal and Institutional Roadmap	September 2019 (Report Number 3.1)
Guidance Document: Operation and Maintenance of Groundwater Schemes	October 2019 (Report Number 3.2)
Guidance Document: Building Groundwater Resilience	September 2019 (Report Number 3.3)
Guidance Document: Institutionalisation of Groundwater Management (DRAFT) August 2019	August 2019 (Report Number 3.4)
Guidance Document: Strategic Approach to Financing Groundwater Management (DRAFT) Making groundwater fit to finance -A key factor in implementation	August 2019 (Report Number 3.5)
Sub Grant Manual	2017
SADC GDMP Strategic Business Plan	2010-2012
SADC-GMI Strategic Business Plan (2018-2023)	2018-2023
Financial Sustainability Report – Assessment, Findings and Options	May 2018

Appendix B: Document database

WB-SADC-Grant-Agreement	Internal SADC- GMI Document
WB_UFS_Project_Agreement	Internal SADC- GMI Document
Experts and Stakeholders' Workshop on the AMCOW Pan-African Groundwater Program (APAGroP)	Concept Note and Summary Report (October 2019)
Progress Reports	Information SRK has received from SADC-GMI
Cumulative Progress Report – P127086	23 September 2019
Sub-grant Physical and ESS Cumulative Progress Report	29 February 2020
Financial Progress Report	29 February 2020
Contracts Monitoring report	29 February 2020

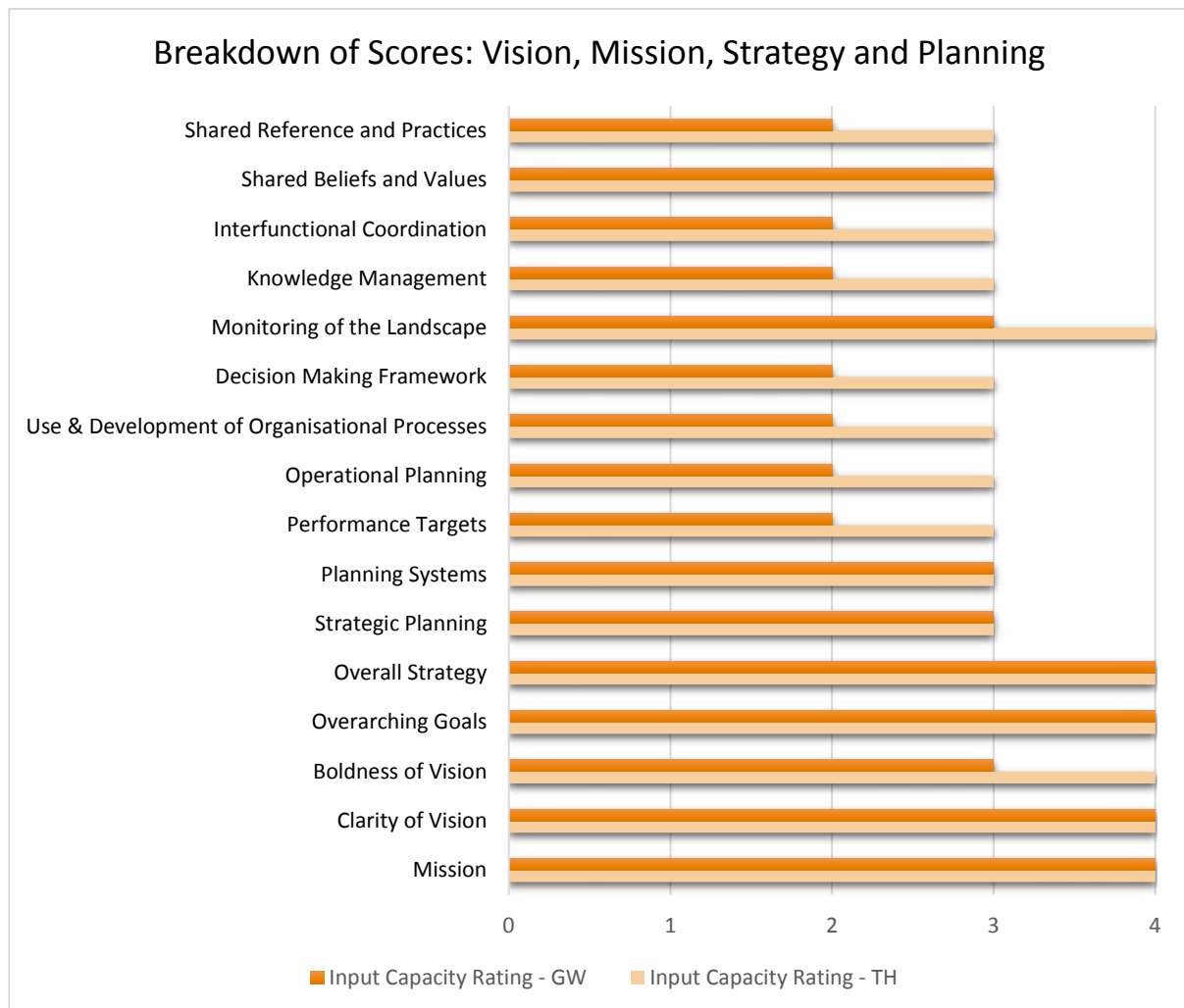
Appendix C: Organisational Assessment Tool (OCAT)

Appendix C1: OCAT

Organisational Capacity Assessment Tool

Included in this appendix is a detailed breakdown of the individual scores which make up the nine topics used in the overall OCAT scoring graph. Each topic is further broken down into a number of different input criteria – these were averaged out to determine the overall score for each topic. A detailed breakdown of the scores given for each of the input criteria is detailed in the graphs below. The input criteria scores were determined by the key experts, whose comments and recommendations are still being processed. Additionally, included are the rubrics used for each topic where a detailed guideline of how each different input criteria is to be graded and analysed is given.

1. Vision, mission, strategy and planning - TH & GW



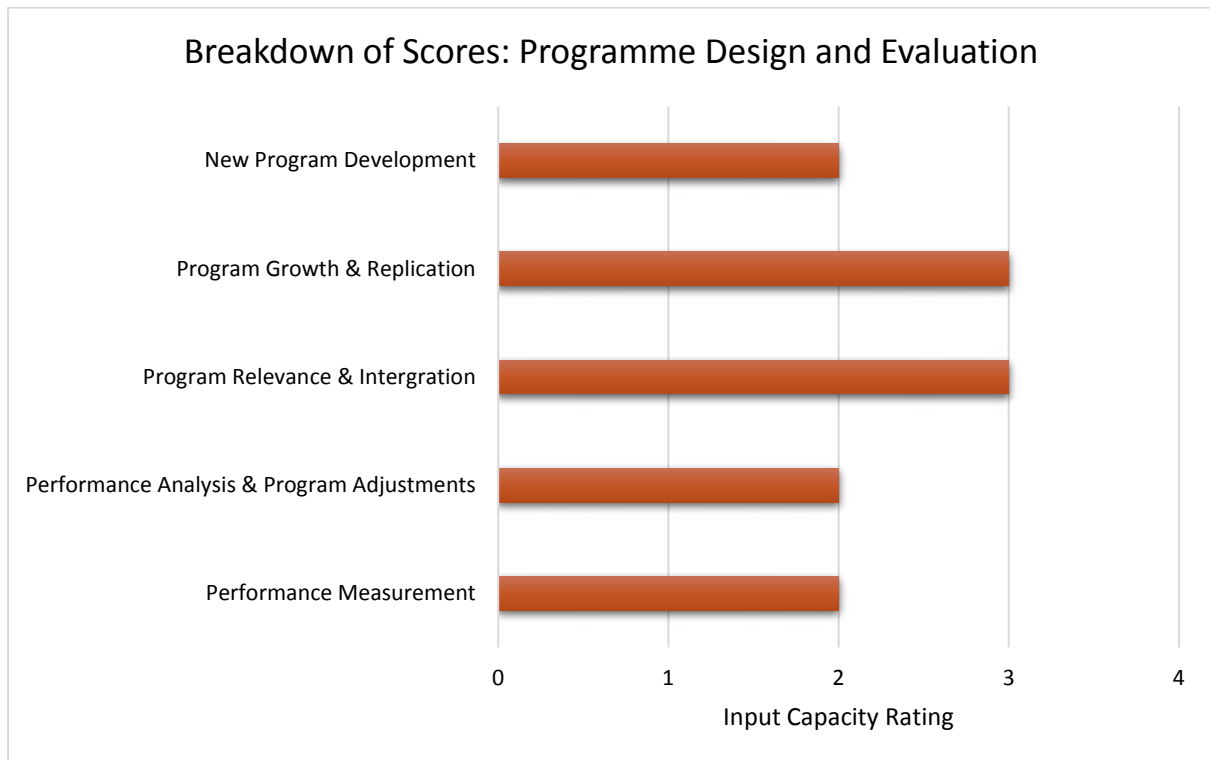
1. MISSION, VISION, STRATEGY, & PLANNING					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
1.01	Mission	No written mission or limited expression of the organization's reason for existence; lacks clarity or specificity; either held by very few in organization or rarely referred to	Some expression of organization's reason for existence that reflects its values and purpose, but may lack clarity; held by only a few; lacks broad agreement or rarely referred to	Clear expression of organization's reason for existence which reflects its values and purpose; held by many within organization and often referred to	Clear expression of organization's reason for existence which describes an enduring reality that reflects its values and purpose; broadly held within organization and frequently referred to
1.02	Clarity of Vision	Little shared understanding of what organization aspires to become or achieve beyond the stated mission	Somewhat clear or specific understanding of what organization aspires to become or achieve; held by only a few; or "on the wall," but rarely used to direct actions or set priorities	Clear and specific understanding of what organization aspires to become or achieve; held by many within the organization and often used to direct actions and set priorities	Clear, specific, and compelling understanding of what organization aspires to become or achieve; broadly held within organization and consistently used to direct actions and set priorities
1.03	Boldness of Vision	No clear vision articulated	Vision exists but falls short of reflecting an inspiring view of the future and of being demanding yet achievable	Vision is distinctive along only one of following two attributes: reflects an inspiring view of future; demanding yet achievable	Vision reflects an inspiring view of future and is demanding but achievable
1.04	Overarching Goals	Vision (if it exists) not explicitly translated into small set of concrete goals, though there may be general (but inconsistent and imprecise) knowledge within organization of overarching goals and what it aims to achieve	Vision translated into a concrete set of goals; goals lack at least two of following four attributes: clarity, boldness, associated metrics, or time frame for measuring attainment; goals known by only a few, or only occasionally used to direct actions or set priorities	Vision translated into small set of concrete goals, but goals lack at most two of following four attributes: clarity, boldness, associated metrics, or time frame for measuring attainment; goals are known by many within organization and often used by them to direct actions and set priorities	Vision translated into clear, bold set of (up to three) goals that organization aims to achieve, specified by concrete to measure success for each criterion, and by well-defined time frames for attaining goals; goals are broadly known within organization and consistently used to direct actions and set priorities
1.05	Overall Strategy	Strategy is either non-existent, unclear, or incoherent (largely set of scattered initiatives); strategy has no influence over day-to-day behaviour	Strategy exists but is either not clearly linked to mission, vision, and overarching goals, or lacks coherence, or is not easily actionable; strategy is not broadly known and has limited influence over day-to-day behaviour	Coherent strategy has been developed and is linked to mission and vision but is not fully ready to be acted upon; strategy is mostly known and day-to-day behaviour is partly driven by it	Organization has clear, coherent medium- to long-term strategy that is both actionable and linked to overall mission, vision, and overarching goals; strategy is broadly known and consistently helps drive day-to-day behaviour at all levels of organization

1. MISSION, VISION, STRATEGY, & PLANNING					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
1.06	Strategic Planning	Limited ability and tendency to develop strategic plan, either internally or via external assistance; if strategic plan exists, it is not used	Some ability and tendency to develop high-level strategic plan either internally or via external assistance; strategic plan roughly directs management decisions	Ability and tendency to develop and refine concrete, realistic strategic plan; some internal expertise in strategic planning or access to relevant external assistance; strategic planning carried out on a near-regular basis; strategic plan used to guide management decisions	Ability to develop and refine concrete, realistic and detailed strategic plan; critical mass of internal expertise in strategic planning, or efficient use of external, sustainable, highly qualified resources; strategic planning exercise carried out regularly; strategic plan used extensively to guide management decisions
1.07	Planning Systems	Planning happens on an ad hoc bases only and is not supported by systematically collected data	Planning done regularly and uses some systematically collected data	Regular planning complemented by ad hoc planning when needed; some data collected and used systematically to support planning effort and improve it	Regular planning complemented by ad hoc planning when needed; clear, formal systems for data collection in all relevant areas; data used systematically to support planning effort and improve it
1.08	Goals / Performance Targets	Targets are non-existent or few; targets are vague, or confusing, or either too easy or impossible to achieve; not clearly linked to aspirations and strategy, and may change from year to year; targets largely unknown or ignored by staff	Realistic targets exist in some key areas, and are mostly aligned with aspirations and strategy; may lack aggressiveness, or be short-term, lack milestones, or mostly focused on “inputs” (things to do right), or often renegotiated; staff may or may not know and adopt targets	Quantified, aggressive targets in most areas; linked to aspirations and strategy; mainly focused on “outputs/outcomes” (results of doing things right) with some “inputs”; typically multiyear targets, though may lack milestones; targets are known and adopted by most staff who usually use them to broadly guide work	Limited set of quantified, genuinely demanding performance targets in all areas; targets are tightly linked to aspirations and strategy, output/outcome-focused (i.e., results of doing things right, as opposed to inputs, things to do right), have annual milestones, and are long-term nature; staff consistently adopts targets and works diligently to achieve them
1.09	Operational Planning	Organization runs operations purely on day-to-day basis with no short- or longer-term planning activities; no experience in operational planning	Some ability and tendency to develop high-level operational plan either internally or via external assistance; operational plan loosely or not linked to strategic planning activities and used roughly to guide operations	Ability and tendency to develop and refine concrete, realistic operational plan; some internal expertise in operational planning or access to relevant external assistance; operational planning carried out on a near-regular basis; operational plan linked to strategic planning activities and used to guide operations	Organization develops and refines concrete, realistic, and detailed operational plan; has critical mass of internal expertise in operational planning, or efficiently uses external, sustainable, highly qualified resources; operational planning exercise carried out regularly; operational plan tightly linked to strategic planning activities and systematically used to direct operations

1. MISSION, VISION, STRATEGY, & PLANNING					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
1.10	Use & Development of Organizational Processes	Limited set of processes (e.g., decision making, planning, reviews) for ensuring effective functioning of the organization; use of processes is variable, or processes are seen as ad hoc requirements ("paperwork exercises"); no monitoring or assessment of processes	Basic set of processes in core areas for ensuring efficient functioning of organization; processes known, used, and truly accepted by only portion of staff; limited monitoring and assessment of processes, with few improvements made in consequence	Solid, well-designed set of processes in place in core areas to ensure smooth, effective functioning of organization; processes known and accepted by many, often used and contribute to increased impact; occasional monitoring and assessment of processes, with some improvements made	Robust, lean, and well-designed set of processes (e.g., decision making, planning, reviews) in place in all areas to ensure effective and efficient functioning of organization; processes are widely known, used and accepted, and are key to ensuring full impact of organization; continual monitoring and assessment of processes, and systematic improvement made
1.11	Decision Making Framework	Decisions made largely on an ad hoc basis by one person and/or whomever is accessible; highly informal	Appropriate decision makers known; decision making process fairly well established and process is generally followed, but often breaks down and becomes informal	Clear, largely formal lines/systems for decision making but decisions are not always appropriately implemented or followed; dissemination of decisions generally good but could be improved	Clear, formal lines/systems for decision making that involve as broad participation as practical and appropriate along with dissemination/interpretation of decision
1.12	Monitoring of Landscape	Minimal knowledge and understanding of other players and alternative models in program area	Basic knowledge of players and alternative models in program area but limited ability to adapt behaviour based on acquired understanding	Solid knowledge of players and alternative models in program area; good ability to adapt behaviour based on acquired understanding, but only occasionally carried out	Extensive knowledge of players and alternative models in program area; refined ability and systematic tendency to adapt behaviour based on understanding
1.13	Knowledge Management	No formal systems to capture and document internal knowledge	Systems exist in a few areas but either not user-friendly or not comprehensive enough to have an impact; systems known by only a few people, or only occasionally used	Well-designed, user-friendly systems in some areas; not fully comprehensive; systems are known by many people within the organization and often used	Well-designed, user-friendly, comprehensive systems to capture, document, and disseminate knowledge internally in all relevant areas; all staff is aware of systems, knowledgeable in their use, and make frequent use of them

1. MISSION, VISION, STRATEGY, & PLANNING					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
1.14	Interfunctional Coordination	Different programs and organizational units function in silos; little or dysfunctional coordination between them	Interactions between different programs and organizational units are generally good, though coordination issues do exist; some pooling of resources	All programs and units function together effectively with sharing of information and resources; few coordination issues	Constant and seamless integration between different programs and organizational units with few coordination issues; relationships are dictated by organizational needs (rather than hierarchy or politics)
1.15	Shared Beliefs & Values	No common set of basic beliefs and values exists within the organization	Common set of basic beliefs exists in some groups within the organization, but is not shared broadly; values may be only partially aligned with organizational purpose or only rarely harnessed to produce impact	Common set of basic beliefs held by many people within the organization; helps provide members a sense of identity; beliefs are aligned with organizational purpose and occasionally harnessed to produce impact	Common set of basic beliefs and values (e.g., social, religious) exists and is widely shared within the organization; provides members sense of identity and clear direction for behaviour; beliefs embodied by leader but nevertheless timeless and stable across leadership changes; beliefs clearly support overall purpose of the organization and are consistently harnessed to produce impact
1.16	Shared References & Practices	No major common set of practices and references exists within the organization (such as traditions, rituals, unwritten rules, stories, heroes or role models, symbols, language, dress)	Common set of references and practices exists in some groups within the organization, but are not shared broadly; may be only partially aligned with organizational purpose or only rarely harnessed to produce impact	Common set of references and practices exists, and are adopted by many people within the organization; references and practices are aligned with organizational purpose and occasionally harnessed to drive towards impact	Common set of references and practices exist within the organization, which may include: traditions, rituals, unwritten rules, stories, heroes or role models, symbols, language, dress; are truly shared and adopted by all members of the organization; actively designed and used to clearly support overall purpose of the organization and to drive performance

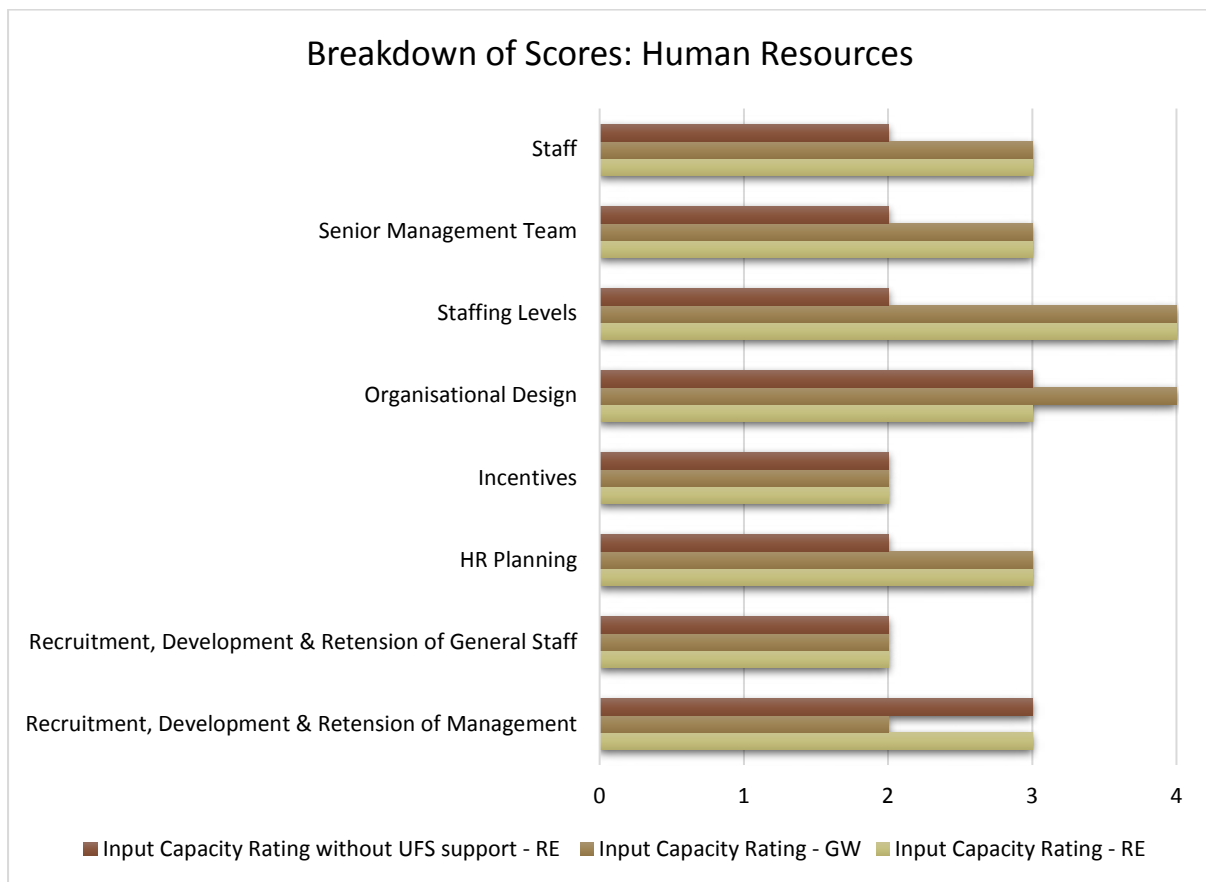
2. Programme Design and Evaluation – GW



2. PROGRAM DESIGN & EVALUATION					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
2.01	Performance Measurement	Very limited measurement and tracking of performance; all or most evaluation based on anecdotal evidence; organization collects some data on program activities and outputs (e.g., number of children served) but has no social impact measurement (measurement of social outcomes, e.g., drop-out rate lowered)	Performance partially measured and progress partially tracked; organization regularly collects solid data on program activities and outputs (e.g., number of children served) but lacks data-driven, externally validated social impact measurement	Performance measured and progress tracked in multiple ways, several times a year, considering social, financial, and organizational impact of program and activities; multiplicity of performance indicators; social impact measured, but control group, longitudinal (i.e., long-term) or third-party nature of evaluation is missing	Well-developed comprehensive, integrated system (e.g., balanced scorecard) used for measuring organization's performance and progress on continual basis, including social, financial, and organizational impact of program and activities; small number of clear, measurable, and meaningful key performance indicators; social impact measured based on longitudinal studies with control groups, and performed or supervised by third-party experts
2.02	Performance Analysis & Program Adjustments	Few external performance comparisons made; internal performance data rarely used to improve program and organization	Some efforts made to benchmark activities and outcomes against outside world; internal performance data used occasionally to improve organization	Effective internal and external benchmarking occurs but driven largely by top management and/or confined to selected areas; learnings distributed throughout organization, and often used to make adjustments and improvements	Comprehensive internal and external benchmarking part of the culture and used by staff in target-setting and daily operations; high awareness of how all activities rate against internal and external best-in-class benchmarks; systematic practice of making adjustments and improvements on basis of benchmarking
2.03	Program Relevance & Integration	Core programs and services vaguely defined and lack clear alignment with mission and goals; programs seem scattered and largely unrelated to each other	Most programs and services well defined and can be solidly linked with mission and goals; program offerings may be somewhat scattered and not fully integrated into clear strategy	Core programs and services well defined and aligned with mission and goals; program offerings fit together well as part of clear strategy	All programs and services well defined and fully aligned with mission and goals; program offerings are clearly linked to one another and to overall strategy; synergies across programs are captured

2. PROGRAM DESIGN & EVALUATION					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
2.04	Program Growth & Replication	No assessment of possibility of scaling up existing programs; limited ability to scale up or replicate existing programs	Limited assessment of possibility of scaling up existing programs and, even when judged appropriate, little or limited action taken; some ability either to scale up or replicate existing programs	Occasional assessment of possibility of scaling up existing programs and when judged appropriate, action occasionally taken; able to scale up or replicate existing programs	Frequent assessment of possibility of scaling up existing programs and when judged appropriate, action always taken; efficiently and effectively able to grow existing programs to meet needs of potential service recipients in local area or other geographies
2.05	New Program Development	No assessment of gaps in ability of current program to meet recipient needs; limited ability to create new programs; new programs created largely in response to funding availability	Limited assessment of gaps in ability of existing program to meet recipient needs, with little or limited action taken; some ability to modify existing programs and create new programs	Occasional assessment of gaps in ability of existing program to meet recipient needs, with some adjustments made; demonstrated ability to modify and fine-tune existing programs and create new programs	Continual assessment of gaps in ability of existing programs to meet recipient needs and adjustment always made; ability and tendency efficiently and effectively to create new, truly innovative programs to the needs of potential service recipients in local area or other geographies; continuous pipeline of new ideas

3. Human Resources – RE & GW

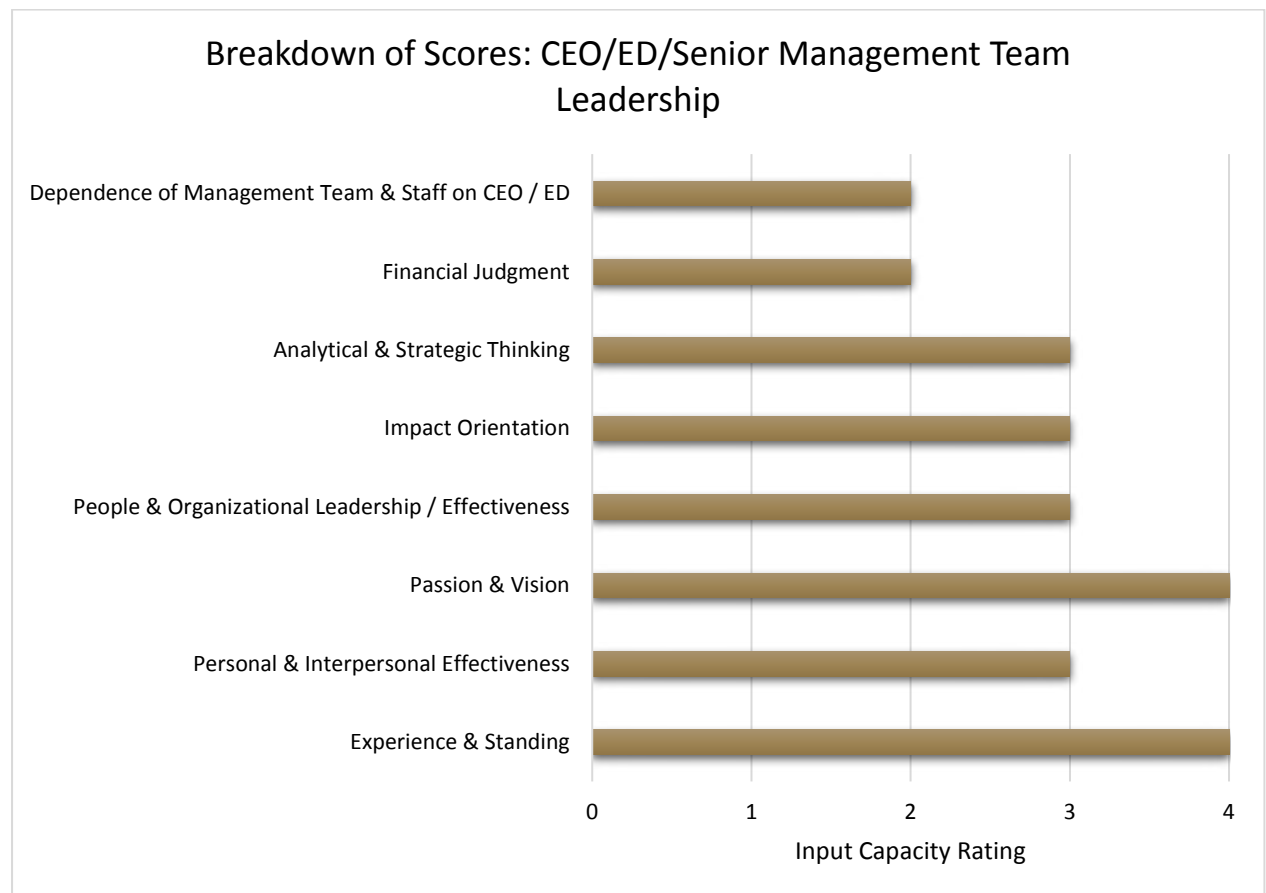


3. HUMAN RESOURCES					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
3.01	Recruitment, Development, & Retention of Management	Standard career paths in place without considering managerial development; no or very limited training, coaching, and feedback; no regular performance appraisals; no systems/processes to identify new managerial talent	Some tailoring of development plans for brightest stars; personal annual reviews incorporate development plan for each manager; limited willingness to ensure high-quality job occupancy; some formal recruiting networks are in place	Recruitment, development, and retention of key managers is priority and high on CEO/ED's agenda; some tailoring in development plans for brightest stars; relevant training, job rotation, coaching/feedback, and consistent performance appraisal are institutionalized; genuine concern for high-quality job occupancy; well connected to potential sources of new talent	Well-planned process to recruit, develop, and retain key managers; CEO/ED takes active interest in managerial development; individually tailored development plans for brightest stars; relevant and regular internal and external training, job rotation, coaching/feedback, and consistent performance appraisal are institutionalized; proven willingness to ensure high-quality job occupancy; well-connected to potential sources of new talent
3.02	Recruitment, Development, & Retention of General Staff	Standard career paths in place without considering staff development; limited training, coaching and feedback; no regular performance appraisals; no systems/processes to identify new talent	No active development tools/programs; feedback and coaching occur sporadically; performance evaluated occasionally; limited willingness to ensure high-quality job occupancy; sporadic initiatives to identify new talent	Limited use of active development tools/programs; frequent formal and informal coaching and feedback; performance regularly evaluated and discussed; genuine concern for high-quality job occupancy; regular concerted initiatives to identify new talent	Management actively interested in general staff development; well-thought-out and targeted development plans for key employees/positions; frequent, relevant training, job rotation, coaching/feedback, and consistent performance appraisal institutionalized; proven willingness to ensure high-quality job occupancy; continuous, proactive initiatives to identify new talent
3.03	Human Resources Planning	Organization uncovers and/or addresses HR needs only when too large to ignore; lack of HR planning activities and expertise (either internal or accessible external); no experience in HR planning	Some ability and tendency to develop high-level HR plan either internally or via external assistance; HR plan loosely or not linked to strategic planning activities and roughly guides HR activities	Ability and tendency to develop and refine concrete, realistic HR plan; some internal expertise in HR planning or access to relevant external assistance; HR planning carried out on near-regular basis; HR plan linked to strategic planning activities and used to guide HR activities	Organization is able to develop and refine concrete, realistic, and detailed HR plan; has critical mass of internal expertise in HR planning (via trained, dedicated HR manager), or efficiently uses external, sustainable, highly qualified resources; HR planning exercise carried out regularly; HR plan tightly linked to strategic planning activities and systematically used to direct HR activities

3. HUMAN RESOURCES					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
3.04	Incentives	No incentive system to speak of; or incentive system that is ineffective and/or generates bad will	Some basic elements of incentive system in place; may include one of following: competitive salary (possibly partly performance-based), attractive career development options, or opportunities for leadership and entrepreneurship; some evidence of motivational effect on staff performance	Many elements of incentive system in place; includes a few of following: competitive salary (partly performance-based), attractive career development options, opportunities for leadership and entrepreneurship; obvious effect in motivating staff to over-deliver	Well-designed, clear, and well-accepted incentive system; includes competitive salary (partly performance-based), attractive career development options, opportunities for leadership and entrepreneurship; system effective in motivating staff to over-deliver in their job
3.05	Organizational Design	Organizational entities (e.g., headquarters, regional and local offices) are not "designed," and roles, responsibilities of entities are neither formalized nor clear; absence of organization chart	Some organizational entities are clearly defined, others are not; most roles and responsibilities of organizational entities are formalized but may not reflect organizational realities; organization chart is incomplete and may be outdated	Organizational entities are clearly defined; all roles and responsibilities of organizational entities are formalized but do not necessarily reflect organizational realities; organization chart is complete but may be outdated	Roles and responsibilities of all organizational entities (e.g., headquarters, regional and local entities) are formalized, clear and complement each other; organization chart is complete and reflects current reality
3.06	Staffing Levels	Many positions within and peripheral to organization (e.g., staff, volunteers, board, senior management) are unfilled, inadequately filled, or experience high turnover and/or poor attendance	Most critical positions within and peripheral to organization (e.g., staff, volunteers, board, senior management) are staffed (no vacancies), and/or experience limited turnover or attendance problems	Positions within and peripheral to organization (e.g., staff, volunteers, board, senior management) are almost all staffed (no vacancies); few turnover or attendance problems	Positions within and peripheral to organization (e.g., staff, volunteers, board, senior management) are all fully staffed (no vacancies); no turnover or attendance problems

3. HUMAN RESOURCES					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
3.07	Senior Management Team	Team has no or very limited experience in non-profit or for-profit management; team represents few constituencies (non-profit, academia, corporate, government, etc.) and has no or very limited capabilities and track record from other fields; limited track record of learning and personal development; mostly energetic and committed	Team has some experience in non-profit or for-profit management; team represents some constituencies (non-profit, academia, corporate, government, etc.); some relevant capabilities and track record from other fields; good track record of learning and personal development; energetic and committed	Team has significant experience in non-profit or for-profit management; team represents most constituencies (non-profit, academia, corporate, government, etc.); significant relevant capabilities and track record from other fields; good track record of learning and personal development; highly energetic and committed	Team highly experienced in non-profit or for-profit management; drawn from full spectrum of constituencies (non-profit, academia, corporate, government, etc.); outstanding capabilities and track record from other fields; outstanding track record of learning and personal development; contagiously energetic and committed
3.08	Staff	Staff drawn from a narrow range of backgrounds and experiences; interest and abilities limited to present job; little ability to solve problems as they arise	Some variety of staff backgrounds and experiences; good capabilities, including some ability to solve problems as they arise; many interested in work beyond their current jobs and in the success of the organization's mission	Staff drawn from diverse backgrounds and experiences, and bring a broad range of skills; most are highly capable and committed to mission and strategy; eager to learn and develop, and assume increased responsibility	Staff drawn from extraordinarily diverse backgrounds and experiences, and bring broad range of skills; most staff are highly capable in multiple roles, committed both to mission/strategy and continuous learning; most are eager and able to take on special projects and collaborate across divisional lines; staff are frequent source of ideas and momentum for improvement and innovation

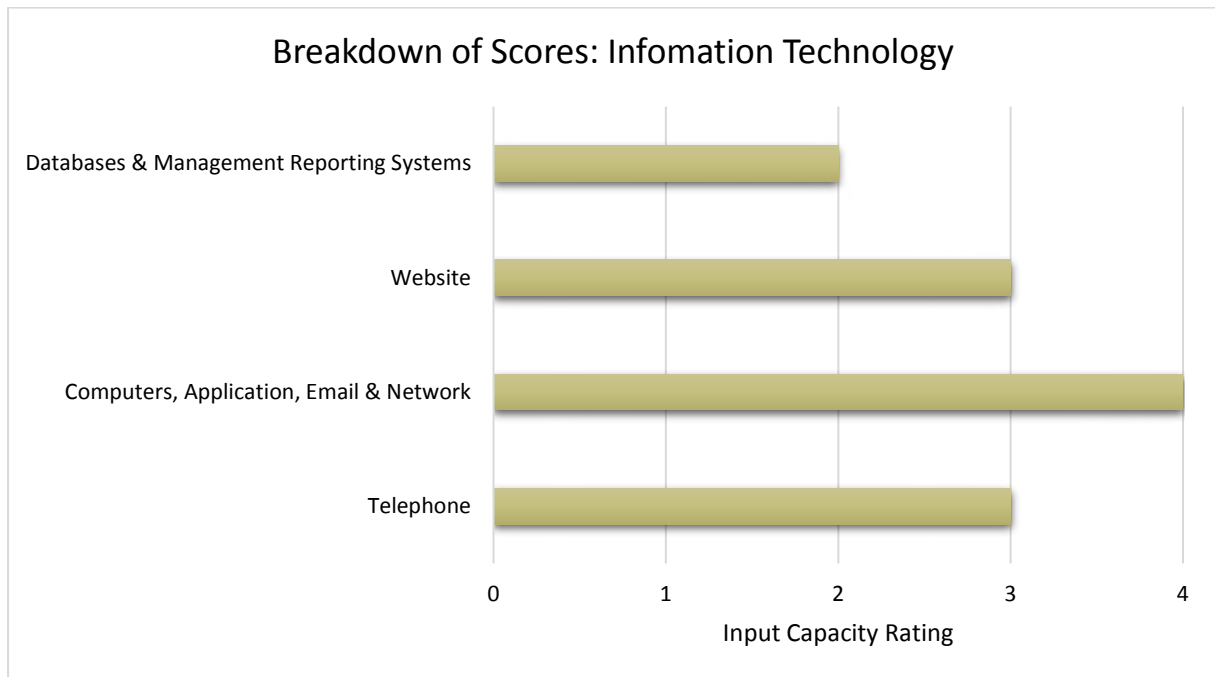
4. CEO/ED/Senior Management Team Leadership – GW



4. CEO/ED/SENIOR MANAGEMENT TEAM LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
4.01	Experience & Standing	Limited experience in non-profit management and few relevant capabilities from other field(s); little evidence of social entrepreneur-like qualities; limited recognition in the non-profit community	Some relevant experience in non-profit management; some relevant capabilities from other field(s); emerging social entrepreneur-like qualities; some local recognition in the non-profit community	Significant experience in non-profit management; many relevant capabilities from other field(s); significant evidence of social entrepreneur-like qualities; some national recognition as a leader/shaper in particular sector	Highly experienced in non-profit management; many distinctive capabilities from other field(s) (e.g., for-profit, academia); exceptional evidence of social entrepreneur-like qualities; possesses a comprehensive and deep understanding of the sector; recognized nationally as a leader/shaper in particular sector
4.02	Personal & Interpersonal Effectiveness	Fails to show respect for others consistently, may be openly judgmental or critical; has difficulty influencing without using power, limited charisma or influence; limited curiosity about new ideas and experiences	Earns respect of others, takes time to build relationships; has presence, is able to influence and build support using limited communication style; accepts learning and personal development opportunities that arise	Is respected and sought out by others for advice and counsel; has strong presence and charisma; uses multiple approaches to get buy-in, appreciates the impact of his/her words or actions; seeks new learning and personal development opportunities	Is viewed as outstanding "people person"; uses diversity of communication styles, including exceptional charisma, to inspire others and achieve impact; continually self-aware, actively works to better oneself; outstanding track record of learning and personal development
4.03	Passion & Vision	Low energy level and commitment; little continued attention to organizational vision	Good energy level; visible commitment to organization and its vision	Inspiringly energetic; shows constant, visible commitment to organization and its vision; excites others around vision	Contagiously energetic and highly committed; lives the organization's vision; compellingly articulates path to achieving vision that enables others to see where they are going
4.04	People & Organizational Leadership / Effectiveness	Has difficulty building trust and rapport with others; micromanages projects; shares little of own experiences as developmental/coaching tool	Is responsive to opportunities from others to work together; expresses confidence in others' ability to be successful; shares own experience and expertise	Actively and easily builds rapport and trust with others; effectively encourages others to succeed; gives others freedom to work their own way; gives people freedom to try out ideas and grow	Constantly establishing successful, win-win relationships with others, both within and outside the organization; delivers consistent, positive and reinforcing messages to motivate people; able to let others make decisions and take charge; finds or creates special opportunities to promote people's development

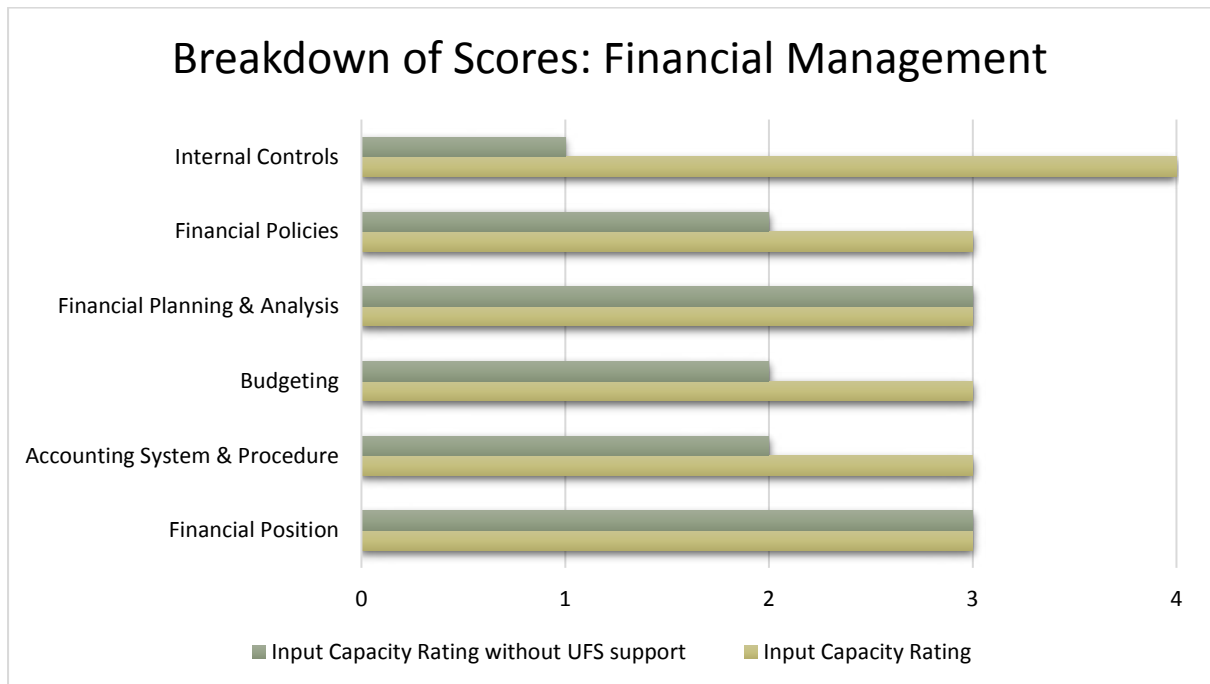
4. CEO/ED/SENIOR MANAGEMENT TEAM LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
4.05	Impact Orientation	Focused purely on social impact; financials viewed as an unfortunate constraint; fails to deliver impact consistently; delays decision making; reluctant to change status quo; mandates rather than leads change	Focused on social impact with some appreciation for cost-effectiveness when possible; constantly delivers satisfactory impact given resources; promptly addresses issues; understands implications and impact of change on people	Sees financial soundness as essential part of organizational impact, together with social impact; focuses on ways to better use existing resources to deliver highest impact possible; has a sense of urgency in addressing issues and rapidly moves from decision to action; develops and implements actions to overcome resistance to change	Guides organization to succeed simultaneously in dual mission of social impact and optimal financial efficiency; constantly seeks and finds new opportunities to improve impact; anticipates possible problems; has sense of urgency about upcoming challenges; communicates compelling need for change that creates drive; aligns entire organization to support change effort
4.06	Analytical & Strategic Thinking	Is uncomfortable with complexity and ambiguity and does whatever possible to reduce or avoid it; relies mainly on intuition rather than strategic analysis	Is able to cope with some complexity and ambiguity; able to analyze strategies but does not yet generate strategies	Quickly assimilates complex information and able to distill it to core issues; welcomes ambiguity and is comfortable dealing with the unknown; develops robust strategies	Has keen and exceptional ability to synthesize complexity; makes informed decisions in ambiguous, uncertain situations; develops strategic alternatives and identifies associated rewards, risks, and actions to lower risks
4.07	Financial Judgment	Has difficulty considering financial implications of decisions	Draws appropriate conclusions after studying all the facts; understands basic financial concepts and drives for financial impact of major decisions	Has sound financial judgment; consistently considers financial implications of decisions	Has exceptional financial judgment; has keen, almost intuitive sense for financial implications of decisions
4.08	Dependence of Management Team & Staff on CEO / ED	Very strong dependence on CEO/ED; organization would cease to exist without his/her presence	High dependence on CEO/ED; organization would continue to exist without his/her presence, but likely in a very different form	Limited dependence on CEO/ED; organization would continue in similar way without his/her presence but areas such as fund-raising or operations would likely suffer significantly during transition period; no member of management team could potentially take on CEO/ED role	Reliance but not dependence on CEO/ED; smooth transition to new leader could be expected; fund-raising and operations likely to continue without major problems; senior management team can fill in during transition time; several members of management team could potentially take on CEO/ED role

5. Information Technology – GW



5. INFORMATION TECHNOLOGY					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
5.01	Telephone / Fax	Status, lack of sophistication, or limited number of telephone and fax facilities are an impediment to day-to-day effectiveness and efficiency	Adequate basic telephone and fax facilities accessible to most staff; may be moderately reliable or user-friendly, or may lack certain features that would increase effectiveness and efficiency (e.g., individual voice-mail), or may not be easily accessible to some staff (e.g., front-line deliverers)	Solid basic telephone and fax facilities accessible to entire staff (in office and at front line); cater to day-to-day communication needs with essentially no problems; includes additional features contributing to increased effectiveness and efficiency (e.g., individual, remotely accessible voicemail)	Sophisticated and reliable telephone and fax facilities accessible by all staff (in office and at frontline), includes around-the-clock, individual voice mail; supplemented by additional facilities (e.g., pagers, cell phones) for selected staff; effective and essential in increasing staff effectiveness and efficiency
5.02	Computers, Applications, Network, & Email	Limited/no use of computers or other technology in day-to-day activity; and/or little or no usage by staff of existing IT infrastructure	Well-equipped at central level; incomplete/limited infrastructure at locations aside from central offices; equipment sharing may be common; satisfactory use of IT infrastructure by staff	Solid hardware and software infrastructure accessible by central and local staff; no or limited sharing of equipment is necessary; limited accessibility for frontline program deliverers; high usage level of IT infrastructure by staff; contributes to increased efficiency	State-of-the-art, fully networked computing hardware with comprehensive range of up-to-date software applications; all staff has individual computer access and e-mail; accessible by frontline program deliverers as well as entire staff; used regularly by staff; effective and essential in increasing staff efficiency
5.03	Web Site	Organization has no individual Web site	Basic Web site containing general information, but little information on current developments; site maintenance is a burden and performed only occasionally	Comprehensive Web site containing basic information on organization as well as up-to-date latest developments; most information is organization-specific; easy to maintain and regularly maintained	Sophisticated, comprehensive and interactive Web site, regularly maintained and kept up to date on latest area and organization developments; praised for its user-friendliness and depth of information; includes links to related organizations and useful resources on topic addressed by organization
5.04	Databases & Management Reporting Systems	No systems for tracking clients, staff volunteers, program outcomes and financial information	Electronic databases and management reporting systems exist only in few areas; systems perform only basic features, are awkward to use or are used only occasionally by staff	Electronic database and management reporting systems exist in most areas for tracking clients, staff, volunteers, program outcomes and financial information; commonly used and help increase information sharing and efficiency	Sophisticated, comprehensive electronic database and management reporting systems exist for tracking clients, staff, volunteers, program outcomes and financial information; widely used and essential in increasing information sharing and efficiency

6. Financial Management – RE

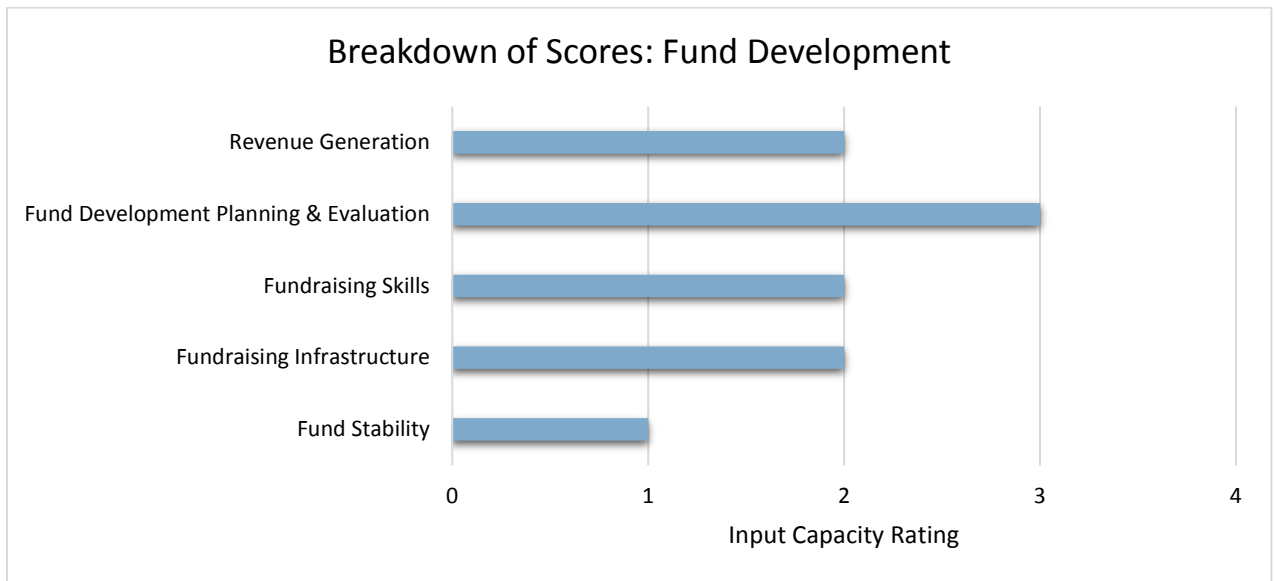


6. FINANCIAL MANAGEMENT					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
6.01	Financial Position	Cash available to pay bills on time, but not to support an operating reserve; assets not clearly designated as restricted or unrestricted	Cash available for timely payment of all obligations; board has not designated an operating reserve, but periodic surpluses could begin to support a reserve; minimal attention paid to the designation of unrestricted vs. restricted funds	Cash flow sufficient to meet obligations and take advantage of investment opportunities; board has established or is developing an operating reserve of at least three months of expenses; balance of restricted and unrestricted assets is justified	Cash available to meet all obligations and investment needs; board designated operating reserve appropriate to budget size of at least six months of expenses; most assets are in unrestricted accounts and good justifications exist for those that are restricted
6.02	Accounting System & Procedures	Basic system in place to ensure that revenue is deposited and bills are paid; major accounts reconciled periodically, though not necessarily monthly; supporting documentation for all transactions is retained, but chart of accounts not necessarily in use; system does not track joint/indirect costs	In addition to previous level, accounting practices conform to accepted standards to ensure that federal, state, and local reporting requirements and tax payments are met; records closed monthly; financial activities documented through a general ledger; chart of accounts includes separate accounts for restricted funds; system can track and allocate joint/indirect costs to individual programs	In addition to previous levels, accounting system provides information needed to make sound financial decisions; all accounts reconciled during monthly closing; financial activities fully tracked, supported, and reported through a general ledger system; chart of accounts provides accurate tracking of most financial activities; process exists to allocate indirect costs including general, management, and fundraising expenses	Robust systems in place governing all financial operations; clearly documented procedures ensure that all accounts are reconciled each month; all internal and external accounting functions are fully integrated with budgeting, decision making, and organizational goals; comprehensive chart of accounts tracks full range of financial activities; documented procedures in place for allocation of all joint/indirect costs
6.03	Budgeting	A general budget loosely based on previous performance is developed, reviewed, and approved by the board; only one budget for entire central organization; performance against budget loosely or not monitored	Annual budget based on previous year's financial performance includes program, management, and fundraising costs and all sources of funding and is used as an operational tool; some attempt to isolate divisional (program or geographical) budgets within central budget; performance-to-budget monitored periodically	Based on two or more years of data, budget reflects steady gradual growth or contraction and is integrated into most operations; solid efforts made to isolate divisional (program or geographical) budgets within central budget; performance-to-budget monitored regularly	Based on multiple years of data, budget is integrated into all operations and reflects steady gradual growth or contraction; conservative revenue projections (any increases justified by infrastructure changes); well-understood divisional (program or geographical) budgets within central budget; performance-to-budget closely monitored

6. FINANCIAL MANAGEMENT					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
6.04	Financial Planning & Analysis	No or limited financial planning; limited board oversight of financial performance; no or little cash flow monitoring or tracking of program unit costs; trend analysis not utilized as a planning method; financial planning capacity could be improved with more training	Limited financial plans with ad hoc updates; board reviews financial information at least quarterly; cash flow projections prepared periodically and used for planning; some trend analysis is conducted and some, but not all joint/indirect costs allocated to individual programs; training on financial and accounting topics is made available to staff and board members	Solid financial plans, regularly updated; board reviews financial information at each meeting; cash flow projections regularly updated and monitored closely; trends including year-end revenue and expense projections are monitored to assist in making sound management decisions; program unit costs monitored through documentation of staff time and other joint expenses; board and staff encouraged to pursue financial training	Very solid financial plans, continuously updated; financial performance indicators clearly identified and monitored by the board at least monthly; cash flow routinely monitored and reviewed in conjunction with other financial statements; current year and multi-year trend data collected, actively monitored, and used for ongoing planning purposes; cost center data accurately tracked, analyzed, and incorporated into financial plans; board and staff financial training is prioritized and fully funded
6.05	Financial Policies	Financial policies are not in writing and/or are followed on an ad hoc basis; in lieu of a CPA-conducted audit, financial statements are included in an annual report; minimal attention paid to insurance needs; no financial impropriety reporting mechanism in place	Written policies in place regarding some financial procedures; accounting duties are segregated adequately for internal controls purposes; in lieu of a full audit, a CPA prepares an annual review of the financial statements; liability reduction measures include insurance coverage appropriate for organization type and size and some method in place for personnel to report financial improprieties	Written financial policies adequate for the size and complexity of the organization include investment policies and position descriptions for financial and accounting personnel which delineate adequately segregated duties; a CPA prepares an annual audit or review of the financial statements; insurance needs reviewed by the board periodically for appropriate levels and types of coverage; confidential means for reporting financial impropriety in place with protections against potential retaliation	Comprehensive written financial policies outline authority over all assets, including investments, and provide guidelines for controlling their accumulation and consumption; annual independent audit arranged by the board, which institutes any required changes; insurance needs reviewed by the board at least annually for appropriate levels and types of coverage; staff and volunteers are well informed about a confidential means to report suspected financial impropriety and are protected against potential retaliation

6. FINANCIAL MANAGEMENT					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
6.06	Internal Controls	There are limited internal controls regarding disbursement, receipts, or assets and they are not in writing; accounting system lacks sufficient security controls	<p>A rudimentary security system is in place to safeguard the integrity of the accounting system; internal controls include some of these policies:</p> <ul style="list-style-type: none"> • Authorized check signers not involved in check writing, bookkeeping, or reconciliation • Controlled check stock access; policies prohibit signing blank checks or checks written to “cash” • Counter signature requirements for designated amounts • Cash receipts recorded and endorsed for deposit by staff not responsible for recording and reconciling bank deposits • Delinquent accounts receivable periodically reviewed to initiate collection procedures and write-offs • Fixed assets regularly inventoried 	<p>Accounting system security measures include password protection and periodic system data back-ups; internal controls include most of these policies:</p> <ul style="list-style-type: none"> • Authorized check signers not involved in check writing, bookkeeping, or reconciliation • Controlled check stock access; policies prohibit signing blank checks or checks written to “cash” • Counter signature requirements for designated amounts • Cash receipts recorded and endorsed for deposit by staff not responsible for recording and reconciling bank deposits • Delinquent accounts receivable periodically reviewed to initiate collection procedures and write-offs • Fixed assets regularly inventoried 	<p>Fully secure accounting data storage and retrieval system is in place; written internal controls include all of these policies:</p> <ul style="list-style-type: none"> • Authorized check signers not involved in check writing, bookkeeping, or reconciliation • Controlled check stock access; policies prohibit signing blank checks or checks written to “cash” • Counter signature requirements for designated amounts • Cash receipts recorded and endorsed for deposit by staff not responsible for recording and reconciling bank deposits • Delinquent accounts receivable periodically reviewed to initiate collection procedures and write-offs • Fixed assets regularly inventoried

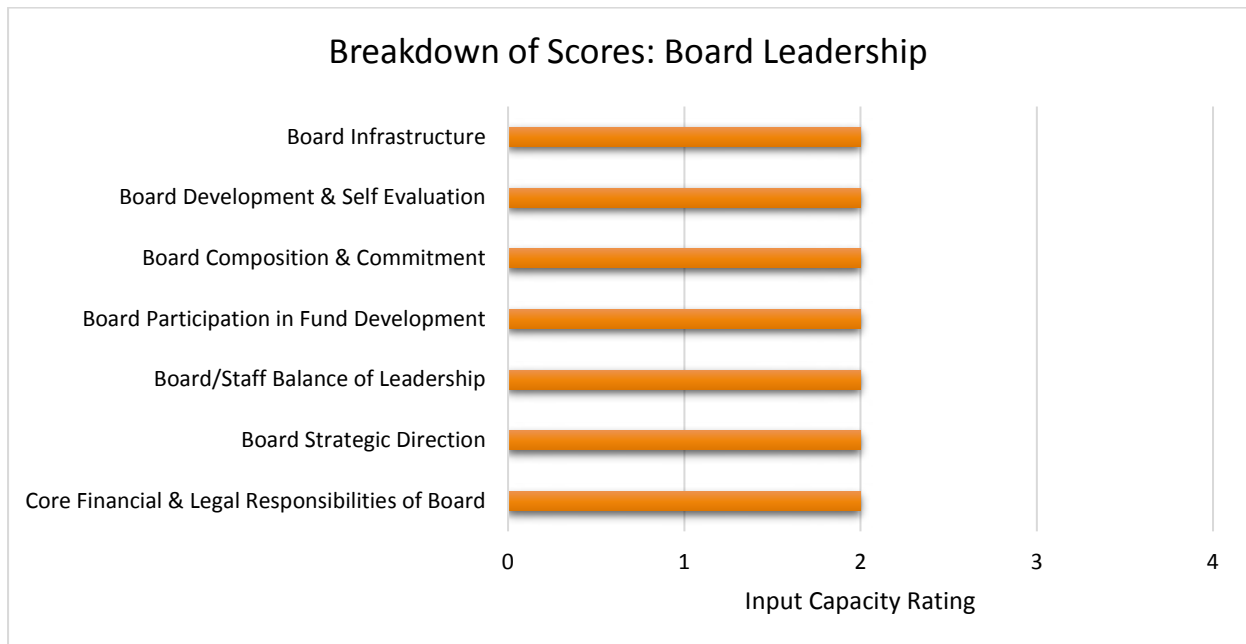
7. Fund Development - TH



7. FUND DEVELOPMENT					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
7.01	Funding Stability	Organization highly dependent on a few funding sources, largely of the same type (e.g., government, foundations, individuals, special events); no or narrow individual donor base; little or no funding stability from year to year	Organization has access to multiple types of funding (e.g., government, foundations, corporations, individuals, special events) but only a few funders in each type, or has many funders within only one or two types; little attention paid to growing the individual donor base; funding base still relatively unstable	Good diversity of funding sources with solid base of funders in most categories (e.g., government, foundations, corporations, individuals, special events); some activities to hedge against market instabilities (e.g., building of endowment and/or developing revenue-generating activities); more attention paid to individual donor base development	Highly diversified funding across multiple source types; maintenance and growth of a large and active individual donor base; insulated from market instabilities through fully developed endowment and/or sustainable revenue-generating activities; other non-profits emulate organization's fundraising strategies
7.02	Fundraising Infrastructure	Donor information is retained but is insufficiently tracked to be useful for organizational decision making; donors are thanked inconsistently; grant reporting requires laborious process of gathering information from multiple sources	Donor information is retained and managed sufficiently to track donor histories and produce basic reports showing funding trends, but system is not well documented; donor acknowledgements are prompt and meet federal, local, and state requirements; ad hoc management of prospective donor information; donor management system is insufficiently integrated with accounting and other internal systems to facilitate information gathering for grant and other reports	Well developed donor management system provides adequate information for most fund development needs, such as appropriate donor acknowledgement and accurate donor histories; some ability to track prospects, segment donor population, and analyze appeals results; system has flexibility to create new reports as needed for organizational decision making; some efforts to integrate donor management system with accounting and other internal systems to facilitate information gathering and reporting	Well documented and secure donor management system has tools to accurately track prospective donors and donor history, thank donors appropriately, fully segment donor population for targeted appeals, and analyze appeals results; system produces reports needed to integrate fund development with budgeting, decision making, and organizational goals, and interfaces well with accounting and other internal systems; documented procedures facilitate the generation of information needed for grant and other reports

7. FUND DEVELOPMENT					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
7.03	Fundraising Skills	Generally weak fundraising skills and lack of expertise (either internal or access to external expertise); inadequate time devoted to fundraising by staff or board; board used ineffectively or not at all for fundraising or cultivating donor contacts	Main fundraising needs covered by some combination of internal skills and expertise, and access to some external fundraising expertise; staff time devoted to fundraising is insufficient and overly reliant on executive director; ineffective use of board for fundraising or cultivating donor contacts	Regular fundraising needs adequately covered by well developed internal fundraising skills, with occasional access to external fundraising expertise; sufficient hours devoted to fundraising, but executive director may spend too much time relative to other staff; board used to lead occasional fundraising initiatives	Highly developed internal fundraising skills and expertise in all funding source types cover regular needs; access to external expertise for extraordinary needs; adequate staff time devoted to fundraising; executive director's fundraising time used strategically; board well utilized in leading and carrying out fundraising activities
7.04	Fund Development Planning & Evaluation	No or few systems in place for long-term planning, revenue diversification, outlining and managing to target goals, or evaluating fund development efforts; fund development strategy not well articulated and over reliant on funds from limited sources; fundraising more reactive than strategic	Recognize need to develop systems for long-term planning, revenue diversification, outlining and managing to target goals, and evaluation of fund development program; fund development strategy includes several activities, but is not well connected to long-term strategic plan and budget projections; fundraising activities more opportunistic than strategic	Some systems in place for long-term planning, revenue diversification, outlining and managing to target goals, and evaluating costs of fundraising activities; fund development strategy includes multiple activities and is loosely connected to long-term strategic plan and budget projections; fund development strategy more proactive than reactive	Well developed and documented systems for long-term planning, revenue diversification, outlining and managing to target goals; costs and effectiveness of fund development strategies are evaluated; multi-pronged fund development strategy is proactive and integrated into budget projections and long-term strategic plan, but organization can react quickly to changes in the funding environment
7.05	Revenue Generation	No internal revenue-generation activities; concepts such as cause-related marketing, fee-for-services and retailing are neither explored nor pursued	Some internal revenue generation activities, however financial net contribution is marginal; revenue generation activities distract from programmatic work and often tie up senior management team	Some proven internal revenue generation activities and skills; these activities provide substantial additional funds for program delivery, but partially distract from programmatic work and require significant senior management attention	Significant internal revenue generation; experienced and skilled in areas such as cause-related marketing, fee-for-services and retailing; revenue-generating activities support, but don't distract from focus on creating social impact

8. Board Leadership – TH



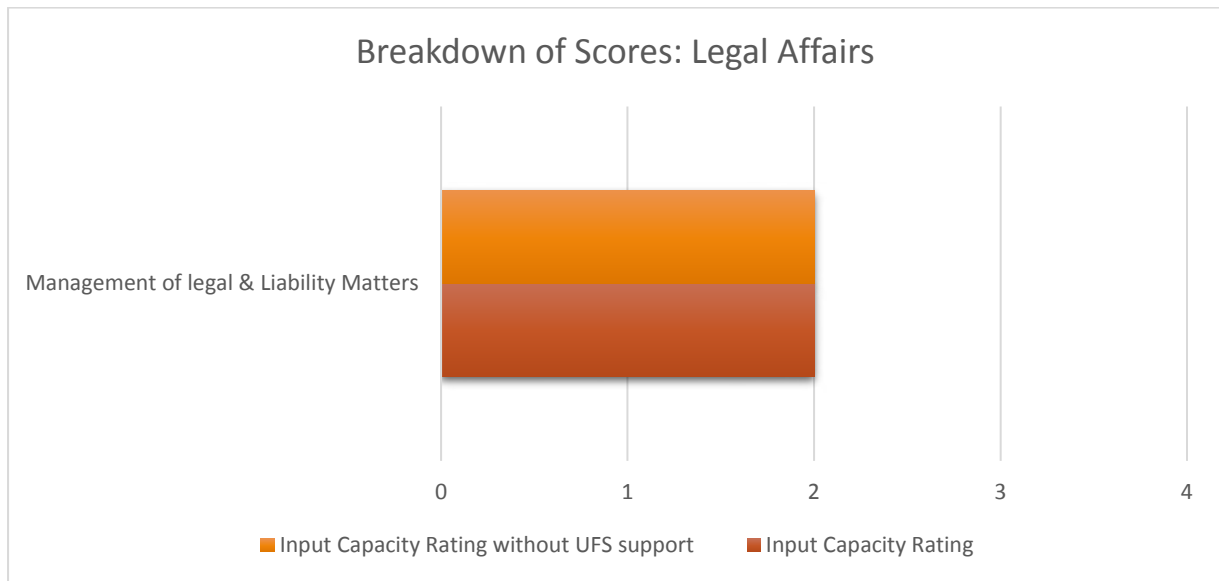
8. BOARD LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
8.01	Core Financial & Legal Responsibilities of the Board	Board does not carry out and/or lacks clear understanding of basic legal and fiduciary responsibilities (including establishing and following by-laws; complying with federal, state, and local financial reporting requirements and tax payments; hiring and supervising the CEO/ED); little input on budgeting; financial oversight delegated to treasurer	Board carries out and understands basic legal and fiduciary responsibilities (including establishing and following by-laws; complying with federal, state, and local financial reporting requirements and tax payments; hiring and supervising the CEO/ED); beyond basic requirements, board is involved in budget preparation and reviews financial statements regularly; CEO/ED performance reviews conducted periodically	Board carries out and clearly understands basic legal and fiduciary responsibilities (including establishing and following by-laws; complying with federal, state, and local financial reporting requirements and tax payments; hiring and supervising the CEO/ED); beyond basic requirements, board is involved in financial planning, reviews financial statements at every meeting, and co-defines and monitors CEO/ED's performance targets	Board's role extends far beyond basic legal and fiduciary responsibilities; in addition, board is actively involved in preparing and reviewing multi-year financial plans, reviews financial statements at least monthly, defines and monitors CEO/ED performance targets, reviews salary for appropriateness, and is attentive to CEO/ED's professional development
8.02	Board Strategic Direction	Overall lack of understanding of and/or disagreement over organization's mission/vision; no formal process for reviewing mission/vision, strategic planning, or monitoring program performance against mission	General agreement on mission, but vision may not be formalized; infrequent discussion of mission/vision or program performance against mission; little active involvement in mission/vision review or strategic planning beyond approving periodic staff-driven plans	Board members share common understanding of mission/vision, which they frequently refer to during strategic discussions; formal process for board's active involvement in reviewing mission/vision, strategic planning, and setting goals to monitor program performance against mission	Complete buy-in on mission/vision, which drive major strategic discussions; well documented process to facilitate board's regular review of mission/vision, active involvement in strategic planning, and cooperation with staff on setting goals to monitor program performance against mission

8. BOARD LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
8.03	Board/Staff Balance of Leadership	Board provides little direction, support, or accountability to staff leadership; no clear process for developing or selecting board leadership; board not fully informed about major organizational matters; too narrowly engaged or prone to micro-management; disagreement about appropriate level of board engagement; low level of understanding of leadership roles and responsibilities; little participation in reputation building	Board provides some direction, support, and accountability to staff leadership and is informed about most organizational matters; informal process of developing and selecting board leadership; board input on most major decisions is sought and valued; occasional disagreement on the distinction between board-level and staff-level decisions; members understand most leadership roles and responsibilities, including the need for participation in reputation building activities	Board provides direction, support, and accountability to staff leadership and is informed about all major matters; its input is actively sought and valued; process in place for selecting effective board leaders; some cultivation of future leaders; full participant in major decisions with clear understanding of distinction between board and staff decisions; clearly understands leadership roles and responsibilities and strives for a balance of engagement with staff leadership; members are effective ambassadors for the organization	Board provides strong direction, support, and accountability to staff leadership through clear goals and policies; acts as a strategic resource; process in place to identify, develop, and select effective board leaders; communication between board and staff leadership reflects mutual respect, awareness of appropriate roles and responsibilities, shared commitment, and valuing of collective wisdom; board actively supports CEO/ED's leadership development and proactively engages in outreach to build organization's reputation
8.04	Board Participation in Fund Development	Members do not recognize fundraising as one of the board's responsibilities and have little understanding of organization's resource needs; no goals or plans for board-driven fundraising activities exist; board members donate minimally to the organization	Members accept that the board has some fundraising responsibilities, but concerns exist regarding ability of board to be successful in this area; some understanding of organization's resource needs; several members have made significant financial gifts to the organization; board fundraising activities not yet underway	Many members embrace fundraising as one of the board's core roles and responsibilities and feel ownership of the organization's resource needs; core group of board members consistently donates at appropriate levels; realistic and appropriate board fundraising goals and plans exist; fundraising activities are underway	Majority of members embrace fundraising as a core board role and responsibility; each board member makes a regular donation to the organization that is personally significant; realistic and appropriate fundraising goals and plans are in place; board feels strong ownership for goals, is actively fundraising, and has achieved measurable progress towards goals

8. BOARD LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
8.05	Board Composition & Commitment	Limited diversity of fields of practice and expertise; drawn from a narrow spectrum of constituencies (non-profit, academia, corporate, government, etc.); not reflective of the community served; little or no relevant experience; limited capacity to donate financially; low commitment to organization's success, vision and mission	Some diversity in fields of practice and expertise including some of the skills and experience needed by the organization; membership represents a few different constituencies (non-profit, academia, corporate, government, etc.); some representation of community served; moderate capacity to donate financially; moderate commitment to organization's success, vision, and mission	Good diversity in fields of practice and expertise including most of the skills and experience needed by the organization; membership represents most constituencies (non-profit, academia, corporate, government, etc.); make-up generally reflects organization's stakeholders and community; good capacity to donate financially or connect to other donors; solid commitment to organization's success, vision, and mission	Broad variety of fields of practice and expertise drawn from all relevant constituencies (non-profit, academia, corporate, government, etc.); make-up closely reflects organization's stakeholders and community, includes functional and program content-related expertise, and high-profile names; proven track record of investing financially in the organization; outstanding commitment to organization's success, mission, and vision
8.06	Board Development & Self Evaluation	Ad hoc process for recruiting and nominating new members; little or no attention to board composition; no official orientation or training for new board members; no policy on member tenure; little or no on-going training and skill development; board does not set goals for itself; little or no board discussion of its own performance; lack of assessment of individual directors results in retention of low performing members	Committee to recruit new members meets occasionally; some attention paid to board composition, but no formal assessment is done; informal new member orientation; loosely followed policy on member tenure; some on-going training and skill development; informal board self evaluation on some objectives, but no formal structure for setting goals and evaluating performance against them; informal assessment of individual directors may result in retention of low performing members	Development committee meets regularly to assess board composition and identify and recruit new members to fill specific gaps in needed skills or attributes; orientation held for new board members; well understood policy on member tenure; board conducts on-going training and skill development; regular performance evaluations against board-established goals in some areas (e.g., fundraising), but results not well utilized to formulate plans for improvement; board assesses individual director performance at the time of re-nomination	Development committee meets year-round; annual assessment of board composition results in targeted recruiting of new members with specific skills and attributes; formal process for new member orientation; written policy on member tenure; high level of commitment to ongoing training and skill development; formal process for performance evaluation against goals set by the board; results used to make improvements; formal process for evaluation of individual directors; no collective tolerance for low performing members

8. BOARD LEADERSHIP					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
8.07	Board Infrastructure	Board either too small or too large for organization's needs; lack of communication about and/or incomplete understanding of board member roles and responsibilities; meetings infrequent, called at the last minute and/or poorly attended; meetings not always well-planned or productive; inconsistent use of agendas and minutes; some meetings start and/or end late; little or no use of sub-committees	Board working to find the number of members that best meets organization's needs; board member roles and responsibilities generally understood, but not written; attendance generally good at regular, purposeful meetings; established calendar of meetings publicized but not necessarily adhered to; agendas prepared and minutes recorded for most meetings; most meetings start and end on time; occasional meetings of ad hoc subcommittees support work of the full board	Board size appropriate for organization's needs; written board member job descriptions; attendance is consistently good at regular, purposeful, well-planned meetings; meeting calendar set and publicized in advance; agendas prepared and minutes recorded for every meeting; meetings generally start and end on time; committee system in place with generally understood division of roles and responsibilities between full board and subcommittees; regular committee meetings support work of the full board	Appropriately sized board holds regular, productive meetings following agendas agreed upon by board chair and CEO/ED; yearly meeting calendar set and distributed in advance; meeting agendas and materials sent in advance; all meetings start and end on time; consistent attendance highly valued; decisions recorded in official meeting minutes; members sign written contract detailing roles and responsibilities; formal committee structure clearly designates board-level vs. committee-level decisions; written descriptions of committee roles and responsibilities; focused committees result in more efficient board meetings

9. Legal Affairs – RE

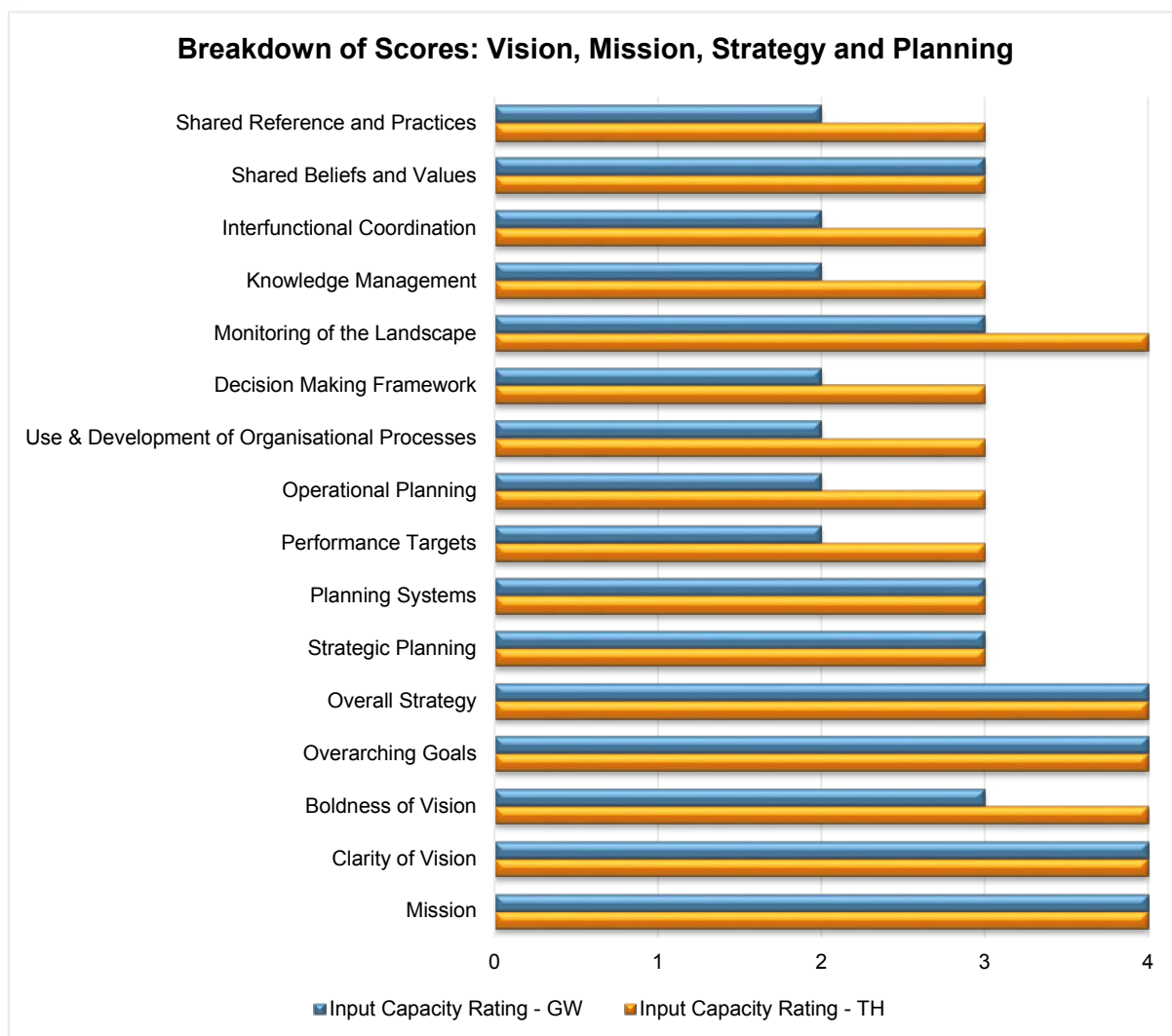


9. LEGAL AFFAIRS					
Capacity Elements		LEVEL ONE: Clear need for increased capacity	LEVEL TWO: Basic level of capacity in place	LEVEL THREE: Moderate level of capacity in place	LEVEL FOUR: High level of capacity in place
9.01	Management of Legal & Liability Matters	Organization does not anticipate legal issues, but finds help and addresses issues individually when they arise; property insurance includes liability component	Legal support resources identified, readily available, and employed on “as needed” basis; major liability exposures managed and insured (including property liability and workers compensation)	Legal support regularly available and consulted in planning; routine legal risk management and occasional review of insurance	Well-developed, effective, and efficient internal legal infrastructure for day-to-day legal work; additional access to general and specialized external expertise to cover peaks and extraordinary cases; continuous legal risk management and regular adjustment of insurance

Appendix C2: Expert comments on OCAT

Breakdown and comments for the OCAT scores

1. Vision, mission, strategy and planning - TH & GW

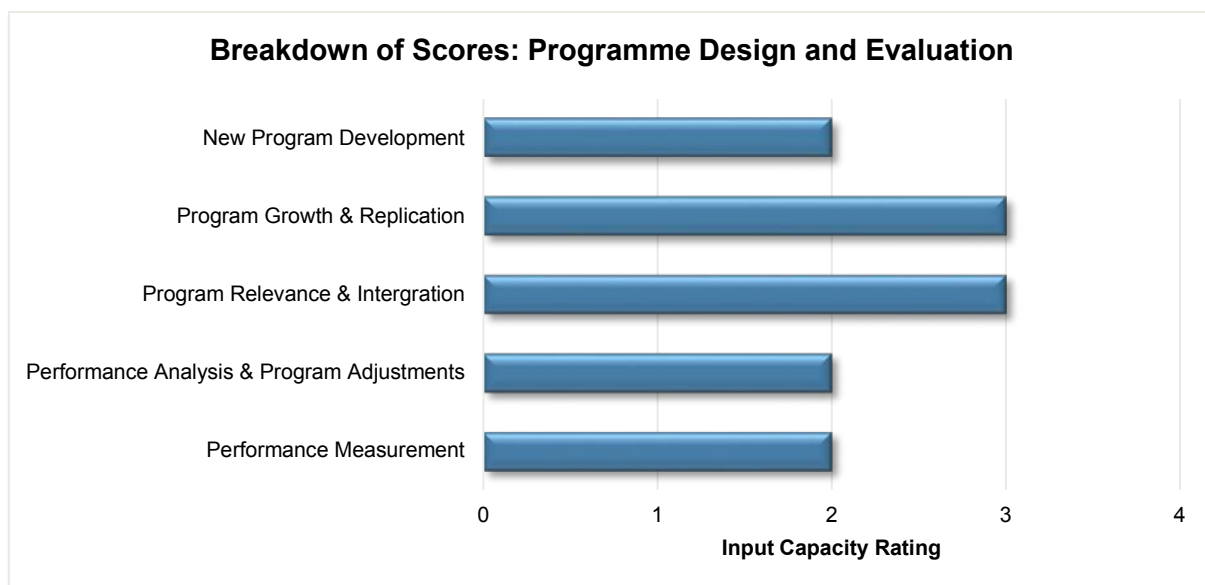


Capacity Element	Comment by the Expert - TH	Comment by the Expert - GW
Mission	The GMI mission is clearly stated and widely held (confirmed in GMI interviews). Elements of the mission carry through to values, objectives and actions. The mission has remained unchanged through the recent planning cycle (2018), demonstrating its durability (sources: document review, interviews)	The mission is clearly articulated as their mandate. It is clearly contained in relevant documents, i.e. strategy, monthly tracking, programs.
Clarity of Vision	The GMI vision is clear, specific and widely held (confirmed in GMI interviews). It conveys a clear understanding of what GMI aspires to become. The vision statement has remained unchanged and aligns well with the intent of broader water sector initiatives under SADC (sources: document review, interviews)	The clarity and application of the vision can be seen in how the pillars of the vision are tied to the Strategic targets and selected programs. The SADG-GMI Physical Activities and Indicators Progress report, completed monthly, is an active tracking of delivery against the pillars of the vision.

Capacity Element	Comment by the Expert - TH	Comment by the Expert - GW
Boldness of Vision	The vision has two elements: to be a centre of excellence and to promote sustainable regional groundwater management. Together these convey an inspiring view of the future, and are achievable (source: document review)	The vision is bold but the team has put mechanisms in place to deliver against each pillar and seem to be steadily tracking progress - it is achievable. The vision can be more bold on future orientation and innovation, based on new trends.
Overarching Goals	The vision translates into two primary goals (for the period up to 2023), four strategic objectives, and four activity" components". Clear actions are listed and defined (source - GMI Strategic Business Plan). The SBP provides a timetable for the actions, and performance under the components is monitored and measured (additional source: interviews).	The pillars of the vision translate into Strategic targets, which are monitored with Target indicators developed for attainment by December 2020. The goals are known by the team of 8 who works as a coherent unit. It does seem short-sighted to not set targets over a longer period of time - and appears that the team is very focused and constraint by their contract end date.
Overall Strategy	The 2018 SBP provides a clear five-year strategy for GMI. The plan covers all key elements of a robust plan (vision, mission, SWOT and situation assessment, goals, objectives, resources and resource scenarios, actions, assessment / monitoring. The plan is widely known and defined actions are convincingly argued to guide all day-to-day activities in GMI (source: interviews) (additional source: document review)	The Strategic Business Plan (2019-2023) fulfils all the criteria for this level 4 score. The linkages to mission, vision and mandate are clearly articulated and programs are designed to meet strategic targets. The timeframe seems too short-term and the implications of non-delivery of targets for the member states (clients) not clear. The sustainability plan also linked to overall strategy.
Strategic Planning	The 2018 SBP provides a clear five-year strategy for GMI. The plan covers all key elements of a robust plan (vision, mission, SWOT and situation assessment, goals, objectives, resources and resource scenarios, actions, assessment / monitoring. The plan is widely known and defined actions are convincingly argued to guide all day-to-day activities in GMI (source: interviews) (additional source: document review)	Current Strategic Business Plan is strong, and linkages to daily work and programs are strong. The team measure their delivery against the strategic targets on the SADC-GMI Physical Activities & Indicators Progress Report. Planning was done externally, and financial targets were not achieved, the targets are steep and the team is very small so prioritization may be a challenge.
Planning Systems	High-level strategic planning done twice to date, but more systematically in future. Evidence of supplementary planning, for example informed by World Bank implementation support missions. GMI has mobilised research in key strategic areas - for example work around policy, legal and institutional development in member states (source: interviews, document review)	Many of the systems and procedures are new and data collection to support planning would have been inconsistent. Information technology platforms are being improved, and data from clients/member states to improve planning not consistent or clear.
Performance Targets	As noted above, goals and objectives identified in the SBP are accompanied by clearly described strategic actions. The action descriptions include commentary on some of the outcomes of the actions. No specific targets are listed, but a schedule for all actions is provided. Project implementation activities are recorded and reported in a physical activities report, some against hard targets (source: reviewed documents)	The targets are measured in the "Physical Activities & Indicators Progress Reports". The team has a performance review annually and do monthly reviews of targets. These are linked to strategy and programs. The logical analysis framework can be done and recorded in a more concrete manner for clarity. The organization is young and processes not established for very long, so impact is difficult to ascertain.
Operational Planning	Operational planning takes place against the background of four "components". These align with the strategic objectives, and in turn include required activities. The components framework is detailed with objective and subjective indicators. GMI staff have capacity to update and implement the framework. External	The operational plan (monitoring of activities) is in place for program delivery (world bank project), but operational planning should be strengthened as an organization, for recruitment of staff (ground water experts), decision-making at Board level, program design and lessons learned to build more realistic timelines for

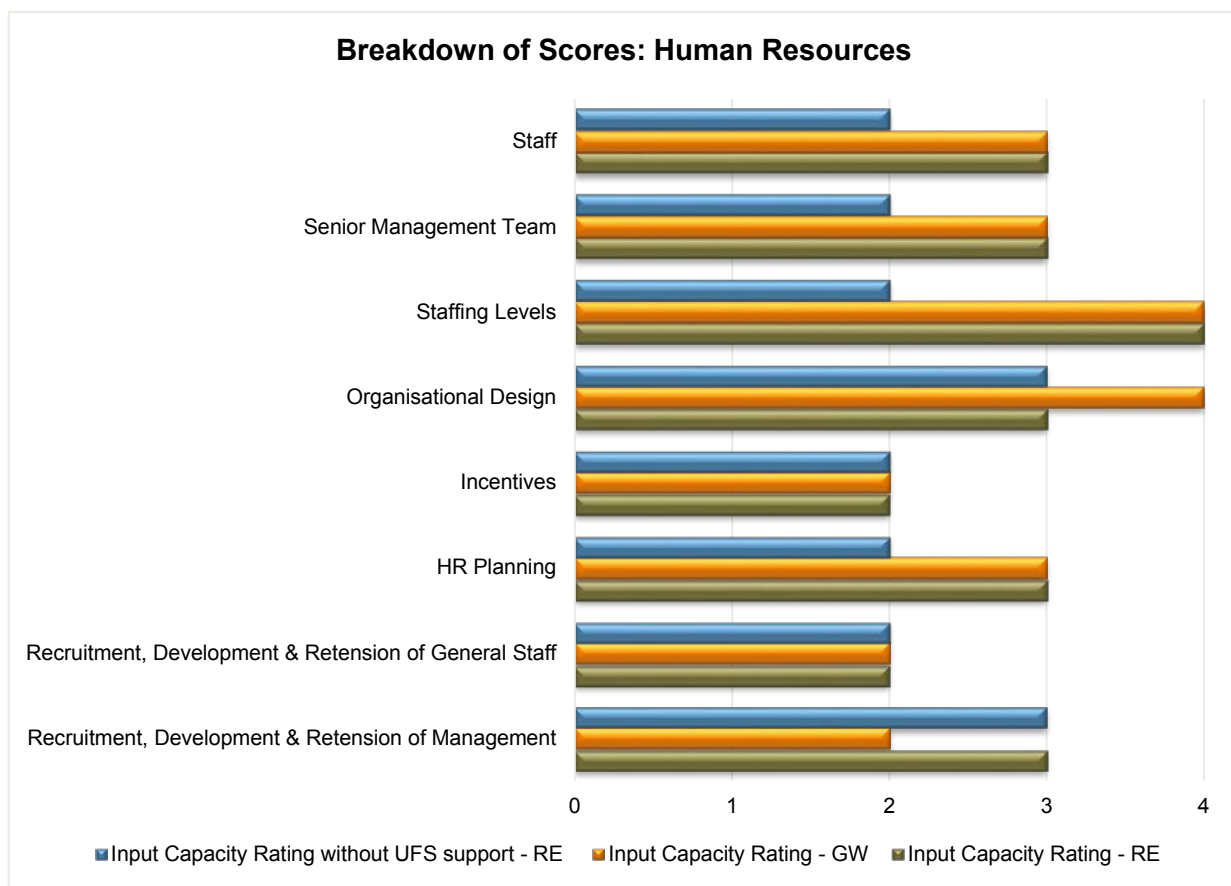
Capacity Element	Comment by the Expert - TH	Comment by the Expert - GW
	experts are used to advise key work areas (sources: interviews, document review)	projects, etc. More detailed operational plans for the organization.
Use & Development of Organisational Processes	Key processes are reflected in GMI staffing, for example administration and finance, procurement and grants, communications, governance and institutional development, monitoring and evaluation. It is noted that some systems and related services have been provided by the University of the Free State, but that independent processes and systems are under development (source: document review)	The processes, systems and procedures are all very new and therefore not yet tested and monitored. A strong awareness exist of what is necessary on a concerted effort is in place to develop strong processes.
Decision Making Framework	GMI is a very small organisation, and responsibility for functional areas resides mainly with individuals. In this context decision making and implementation is relatively clear and focussed. A clear impression is that the small team structure promotes consultative decision making (sources: interviews and document review)	Formal decision-trees for various purposes, i.e. project delivery as well as targets delivery not seen as part of the strategic document or any other documents
Monitoring of the Landscape	GMI is a very small organisation, and responsibility for functional areas resides mainly with individuals. In this context decision making and implementation is relatively clear and focussed. A clear impression is that the small team structure promotes consultative decision making (sources: interviews and document review)	The list and use of partners for programmatic delivery demonstrates a strong knowledge of the players and alternative models. Internal awareness of using the best partners. Using knowledge to adapt behaviour as an organization as well as programmatic delivery and selection develops over time and this organization is still very young.
Knowledge Management	Internal systems are under development but knowledge of those that are in place is good, due in part to the size of the organisation (source: document review)	Internal systems, policies and procedures are in either draft and/or development phase. Knowledge capturing and sharing across units will improve over time. At present the focus of 'knowledge management' seems to be as a Programmatic output only, for World Bank Project, and not an internal organizational knowledge capturing and sharing system to improve the organization.
Interfunctional Coordination	The size of GMI facilitates inter-functional coordination, and there is evidence of cross-functional cooperation, for example in areas of capacity building, sectoral conference organisation and strategic planning (sources: interviews and document review)	The team and programs seem to function as a collective with sharing of resources. This appears to be funding driven with a focus on the World Bank project, and clearer coordination and internal cooperation would allow of other programs to be implemented faster even if funding has not yet been secured. The organization is young and funder driven at present.
Shared Beliefs and Values	The extent of shared beliefs and values among GMI staff is not evident in documentation and has not been explored explicitly. However, belief in a common developmental vision, a small team, and shared Southern African roots probably facilitate beliefs and values alignment.	The team morale and camaraderie is strong with a shared passion for their work and purpose. It indicates shared values and beliefs. Although it appears to be strong in the organization, the youthfulness of the organization means these have not fully embedded over time or challenged individual values.
Shared Reference and Practices	Similar to above.	The organization is too young to have this formalized and integrated in their work performance/targets.

2. Programme Design and Evaluation – GW



Capacity Element	Comment by the Expert
Performance Measurement	Presentations containing detailed descriptions of project output and impact indicators demonstrate thinking and actions to achieve targets (Progress Report of Projects P127086, by James Sauramba, April 2020); Accumulative tracking in Physical Activities & Indicators Progress Report. There seems to be a lack of solid data from clients to influence project activities to ensure impact and focus, no formal methodology for performance measurement.
Performance Analysis & Program Adjustments	Research documents seem focused on gap analysis at member state level, and understanding needs/ capacity requirements, and current state, i.e. data management. There is evidence of new program development based on lessons learned and emerging trends. The SADC GW Management Project with the WB, has new project components detailed for future implementation. Research on state of data has resulted in a Guidance document/ framework, indicating response to learning and benchmarking
Program Relevance & Integration	Several programs were implemented all based on the strategic targets and mandate of the organization. Conferences, capacity building programs in borehole management, information and data management, etc. and WB project all indicate strong adherence to strategic mission. New programs require clearer guidance based on emerging issues, benchmark data, etc. indicated in interview with Gert. SADC-GMI developed, disseminated and trained over 200 participants on guidelines for GW Data Collection, Management and sharing as well as enabling policy, legal, regulatory & institutional environment for GW - demonstrating relevance.
Program Growth & Replication	There is evidence and plans to scale up existing programs, and new focus for WB sub-grantee program which will include "Institutions, Knowledge and Livelihoods" are clearly defined. Since original program had delays and an underestimation of appropriate timelines, the new program components need more detailed scoping, planning, and time estimate planning. The scaling of the projects in 'IT and data management' is appropriate and based on learning/ research outcome, and emerging trends.
New Program Development	Gap analysis work done on several areas demonstrate the correct thinking and planning. Needs of member states seem well understood and translate into appropriate program design. The new programs seem appropriately based on lessons learned and trends analysis. The challenge seems to be that SADC-GMI has to remain high level, but the lack of skills and constraints at grassroots level necessitates more hand-holding, capacity building, assessment, and getting their hands dirty. The new program has to be more detailed to consider all these elements to achieve the impact the organization wants.

3. Human Resources – RE & GW

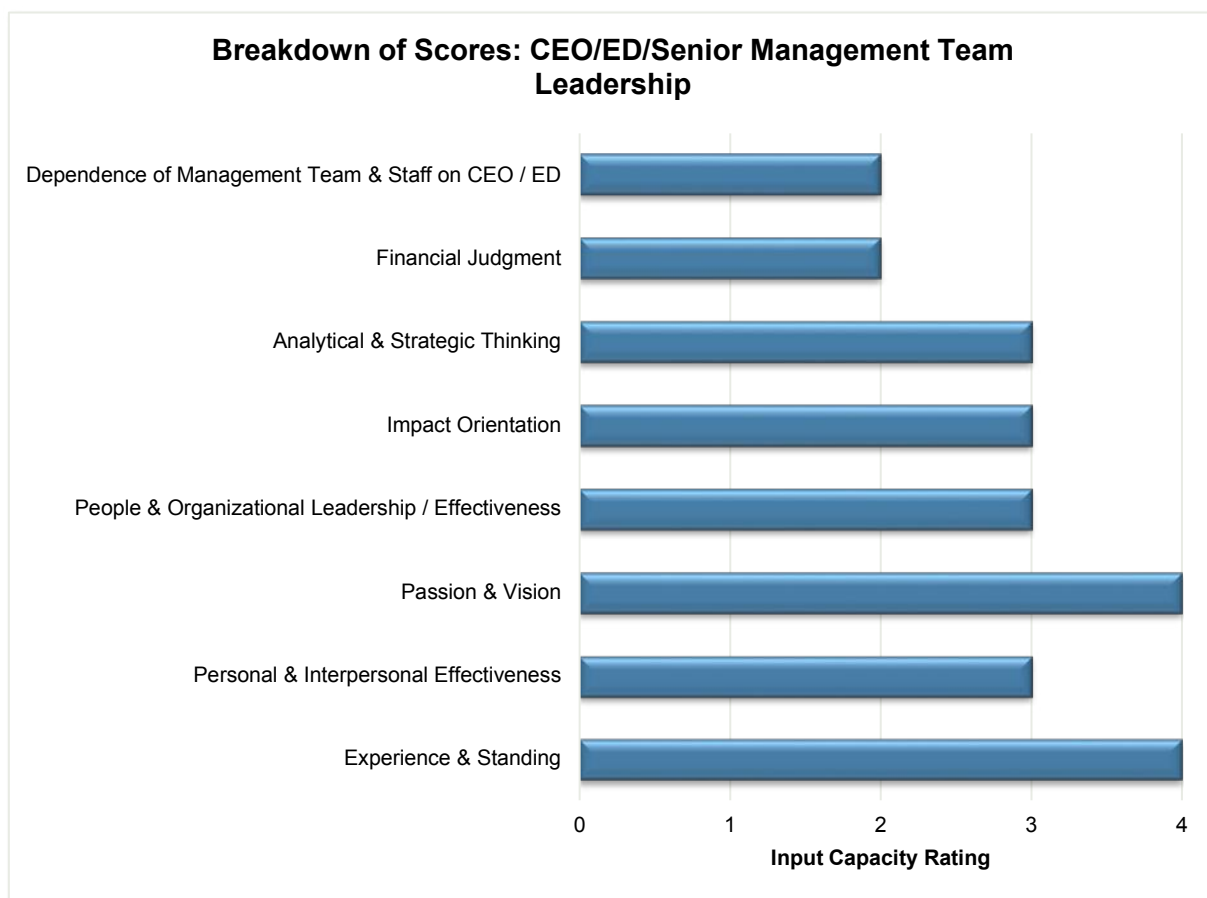


Capacity Element	Comment by the Expert - RE	Comment by the Expert - RE without UFS support	Comment by the Expert - GW
Recruitment, Development & Retention of Management	HR and recruitment policy is outstanding. Dependent on outsourced services for recruitment of staff. It is a small team and making use of outsourced professional support services is the preferred choice. Senior staff have a clear understanding of the skills needed and have the capacity to draft skills required.	HR and recruitment policy is outstanding. Dependent on outsourced services for recruitment of staff. It is a small team and making use of outsourced professional support services is the preferred choice. Senior staff have a clear understanding of the skills needed and have the capacity to draft skills required.	Recruitment is in place and high-level people were recruited to fill the roles (3 consultants). Job descriptions are good and define roles in detail, and annual performance reviews are conducted (last was January 2020). Retention is a risk since a retention plan is not in place and contracts will run to an end now June 2021 (due to extension of WB project). With pending deadline to contracts of December 2020, retention strategy and plan not in place. The team is small which is a risk, especially with only one groundwater expert.

Capacity Element	Comment by the Expert - RE	Comment by the Expert - RE without UFS support	Comment by the Expert - GW
Recruitment, Development & Retention of General Staff	HR and recruitment policy is outstanding. Dependent on outsourced services for recruitment of staff as well as industrial relations support. A clear HR policy around development will assist senior management to develop staff and grow build capacity. It is a small team and making use of outsourced professional support services is the preferred choice. Senior staff might lack the in depth understanding of the skills and experience needed by non-technical staff such as administrators and finance staff. Continue to consult with qualified professionals and experienced board members is advisable	HR and recruitment policy is outstanding. Dependent on outsourced services for recruitment of staff as well as industrial relations support. A clear HR policy around development will assist senior management to develop staff and grow build capacity. It is a small team and making use of outsourced professional support services is the preferred choice. Senior staff might lack the in depth understanding of the skills and experience needed by non-technical staff such as administrators and finance staff. Continue to consult with qualified professionals and experienced board members is advisable	The team is small with a core team of 5 and 3 consultants. The management team is strong with clear job descriptions. No retention strategy in place for any staff, and everyone on short-term contract, including the Director, is a high risk to the organization.
HR Planning	A small staff compliment with limited opportunity for additional employment or internal growth. Management has shown the capacity to develop staff over the past 24 months. It will be advisable to start more structured HR policies and planning	A small staff compliment with limited opportunity for additional employment or internal growth. Management has shown the capacity to develop staff over the past 24 months. Without the support of UFS staff - specific development and capacity building plans for financial and administrative staff needed to fill the gaps. Needs development of attention to detail and SA regulatory and statutory requirements. It will be advisable to start more structured HR policies and planning	The Human Resource planning was done based on the new Strategic Business Plan (2019/23), and job specs were developed based on the strategic targets. Strong awareness of the strength of the current team of 8 and individual members and the Director would like to retain the team. Other HR functions are being strengthened, i.e. performance appraisals, policies and procedures, guidelines, equipment and data management, payment structures, etc. The 12 MOUs signed with partners demonstrate the organizational structure is sound - with small core team and select group of partners.
Incentives	Competitive market related salaries but no formal incentive scheme noted. Incentives, bonus payments and salary increase are subject to board approval and corporate governance processes are in place and adhered to. Limited opportunity for growth and entrepreneurial opportunities within the organisation due to the nature of the organisation and industry and management has limited control or influence over such matters.	Competitive market related salaries but no formal incentive scheme noted. Incentives, bonus payments and salary increase are subject to board approval and corporate governance processes are in place and adhered to. Limited opportunity for growth and entrepreneurial opportunities within the organisation due to the nature of the organisation and industry and management has limited control or influence over such matters.	Other than salaries, there are no evidence of other incentives. Career advancement or professional training options are not in place. The organization is young.

Capacity Element	Comment by the Expert - RE	Comment by the Expert - RE without UFS support	Comment by the Expert - GW
Organisational Design	Management has identified challenges in the current balance between headquarters and work done by contractors working remotely and is taking active steps to consider alternative and address challenges	Management has identified challenges in the current balance between headquarters and work done by contractors working remotely and is taking active steps to consider alternative and address challenges	The organizational design is clear, with staff job descriptions very clear. The use of partners and associates is a planned strategy to complement the staff and MOUs are in place. The regional focal points also serve to ensure projects are delivered.
Staffing Levels	Stable and well-balanced team of permanent and contract staff as well as board members. Some financial and administrative functions are outsourced to experienced and skilled individuals at creditable institutions. Should that change - provision for additional skilled staff and capacity building will be needed.	Stable and well-balanced team of permanent and contract staff as well as board members. Some financial and administrative functions are outsourced to experienced and skilled individuals at creditable institutions. Should that change - provision for additional skilled staff and capacity building will be needed.	No problems were identified during the interviews or in documents and all positions were filled, from Board level to staff.
Senior Management Team	Senior management team is well known and respected for their work in the industry and respected by peers and staff.	Senior staff needs additional capacity and support of a team member or consultant with experience in financial reporting and management as well as SA regulatory and statutory requirements	The team of 8 is very experienced and seem to work together as a collective. The team is small and highly energetic.
Staff	Staff members are a fair representation of all stakeholders and interested parties in the SADC region. Diverse backgrounds, areas of experience and skills levels contributes to a well-run organisation. In general staff are motivated, positive and work well as a team.	Staff members are a fair representation of all stakeholders and interested parties in the SADC region. Lack of financial management and performance reporting as well as SA regulations and statutory requirements is a challenge and add unnecessary pressure on Executive management. In general staff are motivated, positive and work well as a team.	The 3 consultants were selected based on strong job descriptions, requiring a solid track record and specific skills and qualifications for their jobs. These were based on identified skills gaps in the management team. Improvement and innovation will become stronger as the organization grows but should form part of the targets.

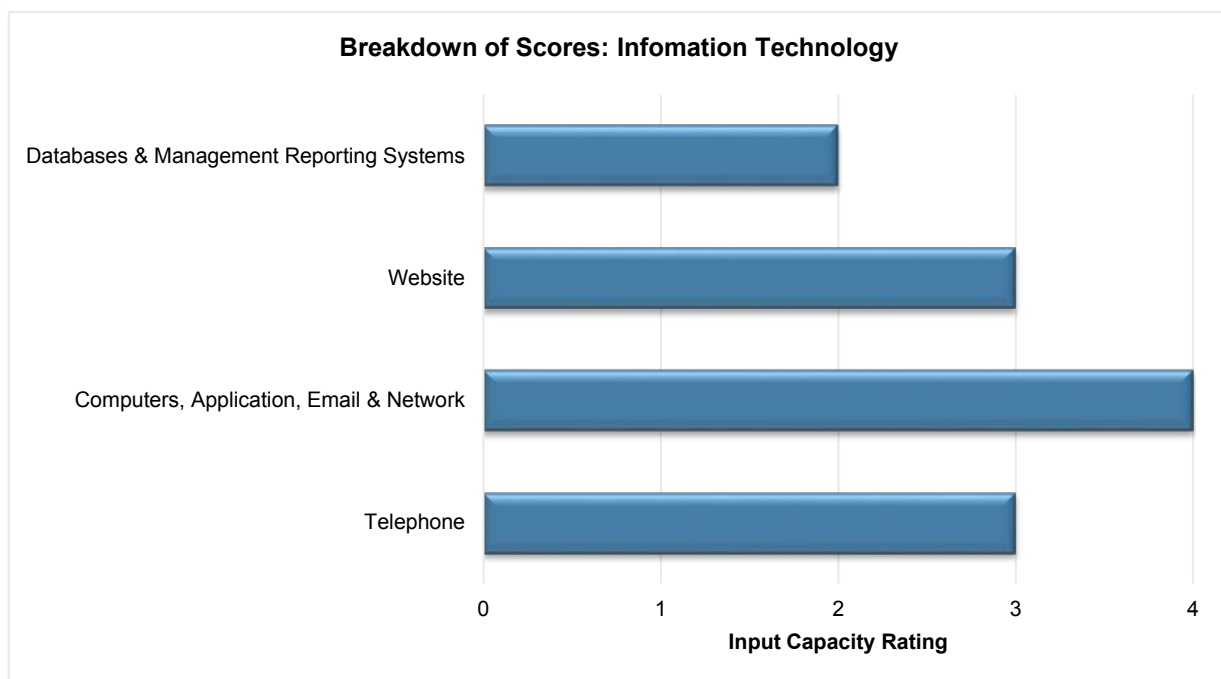
4. CEO/ED/Senior Management Team Leadership – GW



Capacity Element	Comment by the Expert
Experience & Standing	James (Director) has the right mix of academic (civil engineer and MBA) and SADC exposure for the position. He has lived and worked in all 16 member states and delivered donor funded projects in infrastructure and institutional building. Experienced in training, capacity and knowledge building, and worked with multi-disciplinary teams. As climate advisor for COWI (civil engineering) he has the technical knowledge for the position and passion for social change. He has worked for GIZ Zimbabwe and therefore understand the donor position, and issues of water and sanitation in SADC. He has held numerous senior positions and should therefore be recognized as a leader/shaper. Brighton Munyai as senior hydrogeologist has qualifications and experience for his job and sound technical expert with 10 years' experience in regional groundwater projects.
Personal & Interpersonal Effectiveness	James demonstrated good leadership capability during the interview - called on team to respond, supported their answers when required. He acknowledged that senior team lacked skills and had therefore employed 3 consultants. Keen for the organization to obtain new learning and support.
Passion & Vision	James demonstrated passion for the work, the organization's vision and the team. He articulates the path of the organization, understands their gaps and challenges, and seem to have to respect and support of his team.
People & Organizational Leadership / Effectiveness	James has the trust of his team, during the interview they easily requested his input when required, but equally responded when he called on them. Each team member has a well-defined job with performance targets and expected to deliver. New ideas are accepted in the organization. Development of team members has to be built into the performance reviews and retention strategy (this is lacking at present).

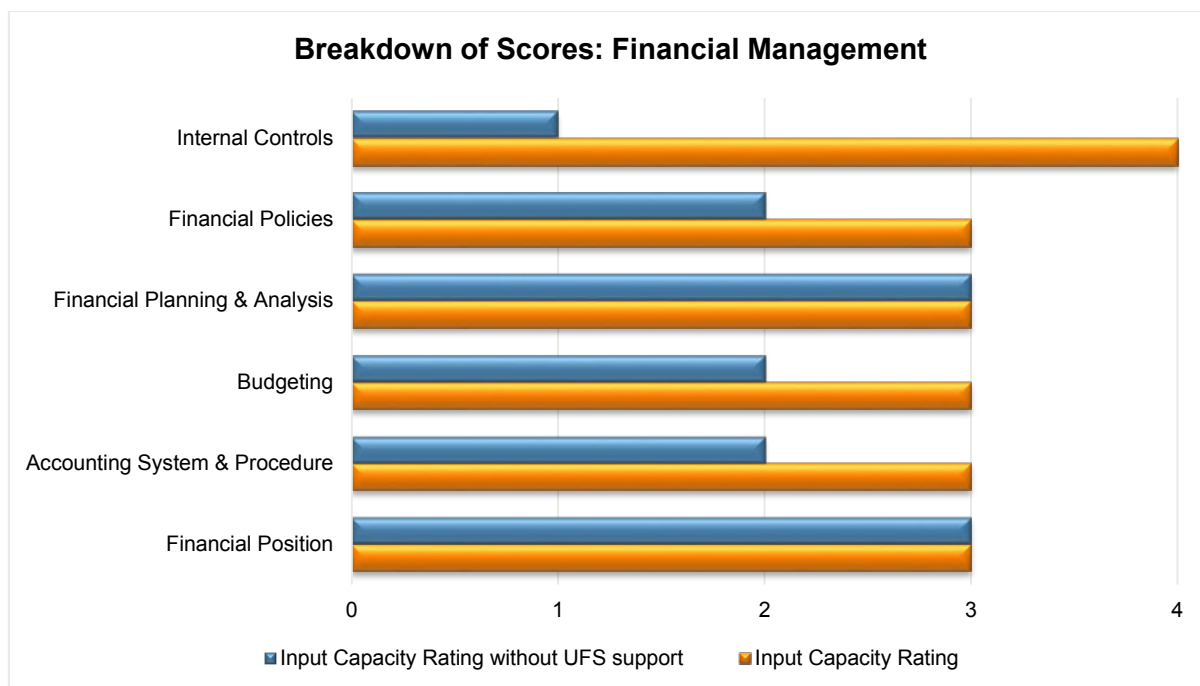
Capacity Element	Comment by the Expert
Impact Orientation	There is a focus on impact as a desire for projects to add value and achieve objectives, but social impact indicators are unclear. The appointment of a M&E specialists does indicate a focus on impact and the guideline for sub-grantees to measure impact is another example that the organization takes this seriously. Processes for measurement of impact across areas of social, economic, environmental should be in place, not just for programs but for the organization as well. Decision-making informed by impact data unclear.
Analytical & Strategic Thinking	The senior management and James, as director, specifically are analytical and strategic thinkers. The organizational structure, with key partners, agreements formalized and in place, with strategic plans, monitoring of performance, etc. all indicate this level of thinking. Programmatic planning demonstrates analytical thinking. Adaptations of programs to leverage benefits through partners also shows strategic and analytical thinking ability. The organization however seem to be very focused on the WB project which consumes most other plans. Leveraging the partnership with the University through post grad students conducting research for GMI, seem not taken up. other low hanging fruit may be apparent.
Financial Judgment	Financial admin and budgeting seem on track with support from the UFS. Project expenses seem in line with the strategic goals and planned projects. Although budget for WB project seems out of planned allocations (i.e. institutionalizing of SADC-GMI took higher budget allocation than planned). Sub-grantee projects delayed will result in cost over-run, and timelines seems too short. Budgeting linked to sound project planning seems to call for improvements.
Dependence of Management Team & Staff on CEO / ED	There is high dependence on the CEO with other staff members qualified and experienced in their respective roles but with insufficient experience in a leadership/CEO role. Succession planning will be difficult due to this but also because it is a young organization with all staff on contract. Senior staff members like Brighton Munyai has appropriate skills/qualifications as hydrogeologist as necessary in the role, but no experience at a CEO level. Thokozani Dlamini is equally qualified and experienced for his role in communications and held roles at International Water Management Institute, Standard Bank, etc, but no experience in leadership positions (CEO). The same is true for Mampho Ntsekhe. Fundraising was given at Board level with Michael Marler given business development role.

5. Information Technology – GW



Capacity Element	Comment by the Expert
Telephone	All staff have office equipment, land lines and mobile phones - asset policy specifies the use of company equipment, etc. Work seems to be done effectively. Challenges with physical space if they want to expand as an organization.
Computers, Application, Email & Network	All staff have adequate hardware and software to suits the job. Shared servers and data storage facilities. The SADC-GMI has a new Information, Communication and Technology Policy. It includes a Computer, Network and Internet Acceptable Usage Policy and an Asset Management Policy. The policies are adequate in their content coverage and provide sufficient guidance to its staff/users. There is a data security policy, creating awareness about data protection, potential accidental data loss scenarios and provision for data storage. Staff has access to a 'SADC-GMI network via Office 365 services' for storage of confidential data and information. There appears to be no gaps in this area
Website	The website is well set out. It describes the organization's purpose, vision and mission. It contains relevant information about the product offering and work completed, as well as new projects are advertised on the website. Access to the GIP on website. The website is maintained and user-friendly. They record the hits received and track visitors and therefore understand what clients want on the website. It can be improved from a knowledge sharing perspective, as well as provide up-to-date data.
Databases & Management Reporting Systems	Management reporting systems for tracking of work performance and targets should be implemented. This is done on Excel and integration and accumulation of data will be problematic if scale of projects increases. Programmatic Offering: At this level the organization is doing better. SADC-GMI improved regional data & information sharing by establishing the SADC Groundwater Information Portal (SADC-GIP) and the online SADC Grey Literature Archive (SADC-GLA). Projects which involved an internship ensured capacity for young people at member states. Work in this area of "IT - data collection, management and use for policy and research purposes" remains an important output and focus for the organization.

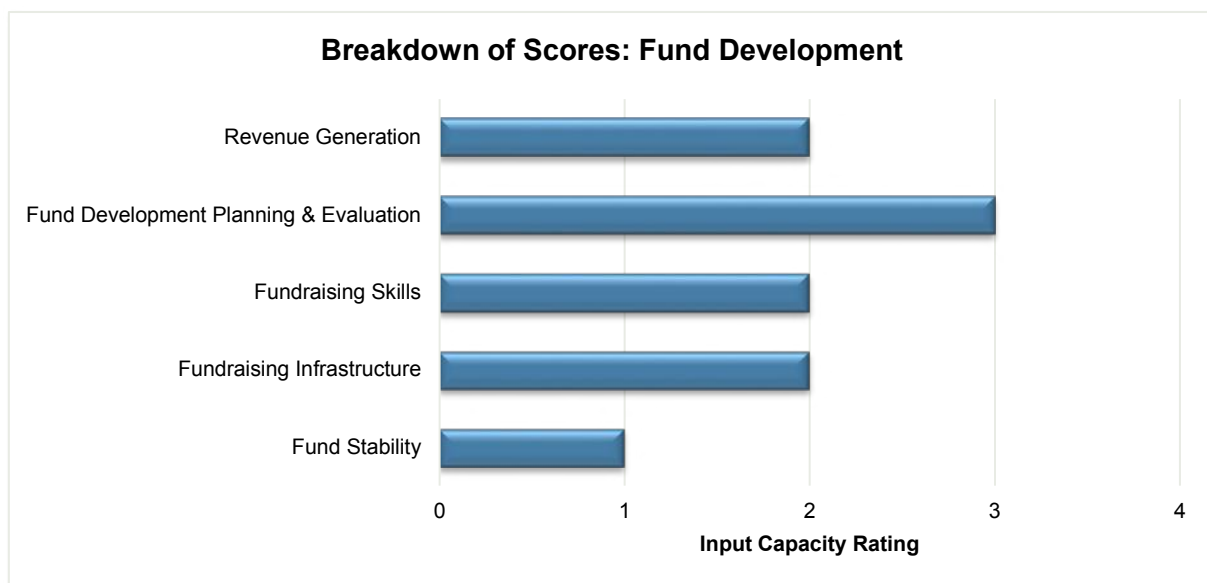
6. Financial Management – RE



Capacity Element	Comment by the Expert	Comment by the Expert without UFS support
Financial Position	For the immediate term the financial position is stable and sufficient to honour all commitments and execute committed projects. The sustainability of funding as well as sources of funding has been identified as a high-risk area, threatening sustainability and management is actively addressing the issues. Strict access and controls are in place. The organisation has not yet been able to establish an operating reserve. Board members are actively involved in financial decisions and control.	For the immediate term the financial position is stable and sufficient to honour all commitments and execute committed projects. The sustainability of funding as well as sources of funding has been identified as a high-risk area, threatening sustainability and management is actively addressing the issues. Strict access and controls are in place. The organisation has not yet been able to establish an operating reserve. Board members are actively involved in financial decisions and control.
Accounting System & Procedure	Sound financial system and processes are in place. Lack of capacity in certain areas i.e. regulatory submissions and calculations, payroll managements, internal auditing, engagements with external auditors and dependent on input from sub contracted specialist - public officer. SADC GMI developed and implemented organisational specific policies and procedures presently and robustness and effectiveness still needs to be tested.	Sound financial system and processes dependent on input and management from UFS team. Lack of capacity in certain areas i.e. regulatory submissions and calculations, payroll managements, internal auditing, engagements with external auditors as well as lack of attention to detail is a high-risk item and will need to be addressed to fill the gaps. Appointment of new specialist consultants with the necessary experience and credibility as well as the appointment of a new public officer will be a priority. SADC GMI developed and implemented organisational specific policies and procedures presently and robustness and effectiveness still needs to be tested.

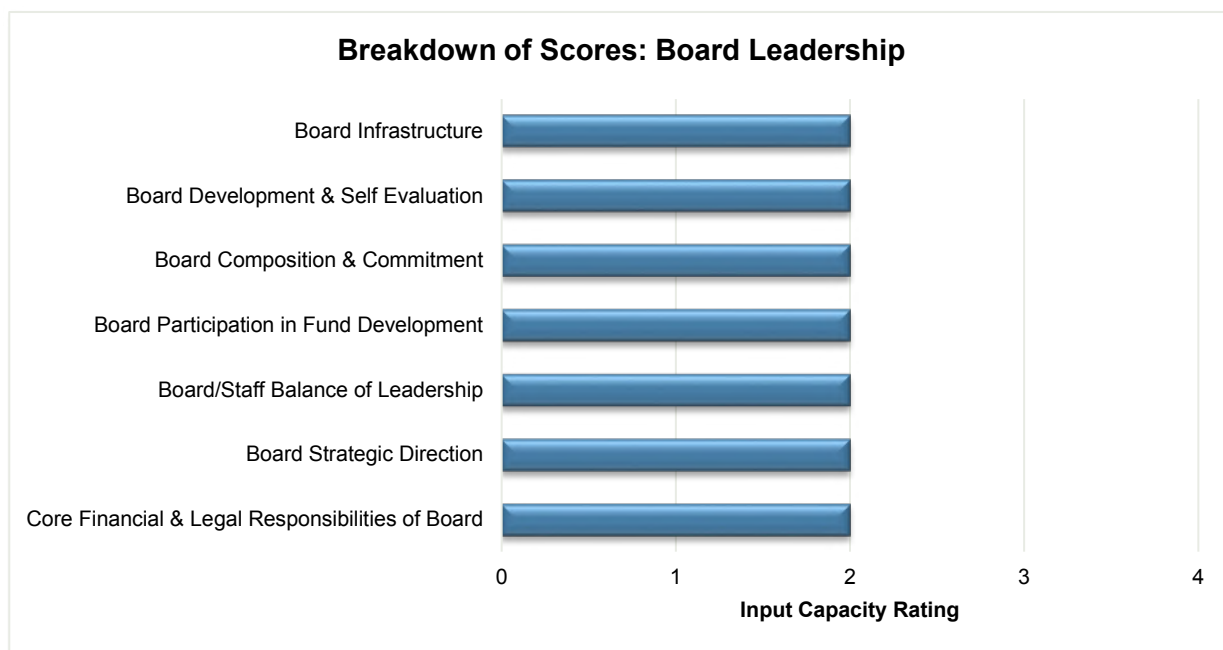
Capacity Element	Comment by the Expert	Comment by the Expert without UFS support
Budgeting	As a new organisation, SADC GMI only recently had the historic data available to do effective and realistic budgeting. Budgets are set according to contractual agreements/ applicable TOR and monitored diligently. Updating of budget should be done more frequently to allow for pro-active mitigations. Budgets are set according to TOR requirements and additional budgets is advisable for management and decision-making purposes i.e. cost and income for a specific training/conference event. Scenario planning is done effectively, and budgets are set according to the set parameters.	As a new organisation, SADC GMI only recently had the historic data available to do effective and realistic budgeting. Budgets are set according to contractual agreements/ applicable TOR and monitored diligently. Updating of budget should be done more frequently to allow for pro-active mitigations. Budgets are set according to TOR requirements and additional budgets is advisable for management and decision-making purposes i.e. cost and income for a specific training/conference event. Scenario planning is done effectively, and budgets are set according to the set parameters. Building of performance-based budgeting and reporting is needed.
Financial Planning & Analysis	Financial plans are in place and regularly review by management and the board. Expenses are traced diligently and the board is actively aware and involved in developments. Financial reporting and tracing are done based on contractual performance, budget vs actual as well as measured against contractual spending and performance timeframes. Limited financial analysis is done to review the true financial performance and sustainability of the organisation. Additional management and reporting tools are needed. Additional capacity building for administrative financial staff is recommended for instance, South African regulatory calculations and submissions as well as payroll calculations and management training.	Financial plans are in place and regularly review by management and the board. Expenses are traced diligently and the board is actively aware and involved in developments. Financial reporting and tracing are done based on contractual performance, budget vs actual as well as measured against contractual spending and performance timeframes. Limited financial analysis is done to review the true financial performance and sustainability of the organisation. Additional management and reporting tools are needed. Additional capacity building for administrative financial staff is recommended for instance, South African regulatory calculations and submissions as well as payroll calculations and management training. Data analysis and corrective planning and action is needed.
Financial Policies	Organisational policies and procedures have been adapted, approved and implemented very recently and it needs to be tested and adjusted before comprehensiveness and effectiveness can be confirmed. In the recent past, the organisation was following host organisation's processes and policies and it was successfully followed and adhered to over a 24-month period. The board was actively involved, and the necessary protocols and lines of authority followed.	Organisational policies and procedures have been adapted, approved and implemented very recently and it needs to be tested and adjusted before comprehensiveness and effectiveness can be confirmed. In the recent past, the organisation was following host organisation's processes and policies and it was successfully followed and adhered to over a 24-month period. The board was actively involved, and the necessary protocols and lines of authority followed.
Internal Controls	Written controls and procedures as set by host institution as well as SADC GMI are followed diligently. The organisation received a clean audit report for the last three (3) years and all accounting standards are of a high standard.	Transactional and process discipline, diligence and control is dependent on interference and review of all transaction by UFS. Internal control, processes and audits will need a strategic interference or support from senior management and the board as well as an experienced contractor/host to maintain clean audit reports, procurement process approvals and build the institution's credibility.

7. Fund Development - TH



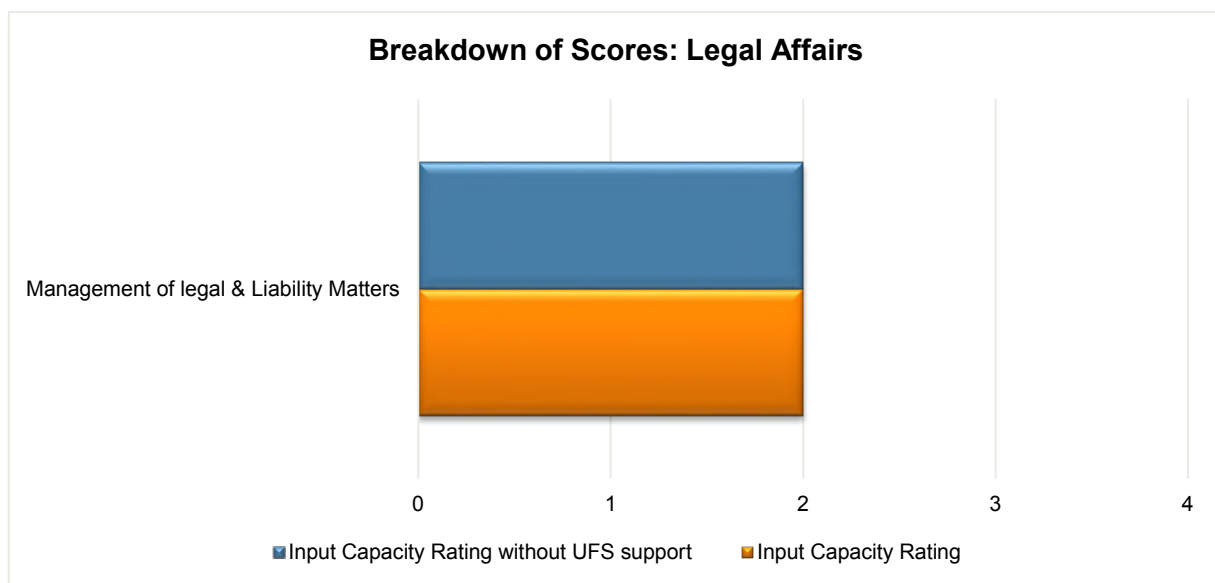
Capacity Element	Comment by the Expert
Fund Stability	At present, GMI depends on a single source of funding. This is recognised as a serious risk, and purposeful funder identification, funding motivation and fund diversification initiatives are underway (sources: interviews, document review)
Fundraising Infrastructure	Purposeful and structured donor identification, profiling and evaluation initiatives are underway, and interaction with selected potential donors is taking place. Discussions with current funders regarding ongoing funding are well advanced. The funding diversification imperative is relatively recent, and a fully structured and integrated donor management system is not yet in place (sources: interviews, document review)
Fundraising Skills	Rating set at two, but trending to three. There is no dedicated fundraising function or position, but shared skills ensure sound attention to fundraising. External expertise used (for example CRDIF advising access to climate change funding). The Board plays a limited role in fundraising in its current format (sources: interviews, document review)
Fund Development Planning & Evaluation	Planning for revenue diversification evident in the SBP - linked to long-term goals and informed by budget scenarios. Focus remains on donor funding options and opportunities at present, with currently limited attention to other possibilities (sources; interviews, document review)
Revenue Generation	Level two trending to three. Some internal revenue generation through conferences and fees but limited in the context of overall funding requirements. No evidence of undue distraction of senior staff

8. Board Leadership – TH



Capacity Element	Comment by the Expert
Core Financial & Legal Responsibilities of Board	Evidence shows that the Board functions adequately in terms of core responsibilities, and that it reviews and approves key documents and reports. There is limited or no involvement in financial planning or co-defining CEO targets (sources: interviews, document review). The recently established audit committee, might contribute to a higher emerging score.
Board Strategic Direction	Board broadly aligned with the vision, mission and strategy of GMI, but no evidence that these guide discussions, or are frequently referenced in board discussions (sources: interviews, document review)
Board/Staff Balance of Leadership	Apart from discussing and approving routine functions and programmes, the board appears to offer limited direction to leadership and staff. Due to member state representation on the board a degree of regional credibility may reside with the board, but the board is not active as an advocate for GMI (sources: interviews, document review)
Board Participation in Fund Development	The fundraising imperative facing GMI is probably well recognised by the board, and supported. There is little evidence, however, of active participation by board members in fund development (sources: interviews, document review) The recently established business development committee, might contribute to a higher emerging score.
Board Composition & Commitment	The board has limited skills diversity at present but includes some representation from SADC member states. The need for a broader range of skills and experience is well recognised by GMI management (sources: interviews, document review)
Board Development & Self Evaluation	Attention has been given to board composition, but a need for review and reform is recognised. Some training and orientation has taken place. No structured evaluation or self-evaluation processes are in place (sources: interviews, document review)
Board Infrastructure	Board process and infrastructure appear to be generally adequate. No evidence of board member job descriptions at present. The calendar is established, agendas are planned and set, and meetings are held regularly. Attendance seem to be generally good. Two subcommittees were recently formed – audit and business development and should contribute to more direct strategic involvement from the Board. (sources: interviews)

9. Legal Affairs – RE



Capacity Element	Comment by the Expert	Comment by the Expert without UFS support
Management of legal & Liability Matters	The organisation ensures that contractual, terms of references and services level agreements are adhered to. Historic challenges were addressed, and corrective steps taken. Possible time delays in implementation dates and the contractual as well as financial implication are recognised and addressed through a consultative, mitigation process. It is clear that the intent of the original hosting agreement and the practical daily execution are not aligned but both parties are aware of the challenges and comfortable with the status quo. A lesson learned around negotiation and implementation of future associations and hosting arrangements will be noted and implemented.	The organisation ensures that contractual, terms of references and services level agreements are adhered to. Historic challenges were addressed, and corrective steps taken. Possible time delays in implementation dates and the contractual as well as financial implication are recognised and addressed through a consultative, mitigation process. It is clear that the intent of the original hosting agreement and the practical daily execution are not aligned but both parties are aware of the challenges and comfortable with the status quo. A lesson learned around negotiation and implementation of future associations and hosting arrangements will be noted and implemented.

Appendix D: Stakeholder database

List of stakeholder groups - overview:

- SADC Secretariat
 - Steering Committee on Hydrogeology
- SADC-GMI
 - Board
 - Permanent Staff
- Regional partners
- International partners
- Academic partners
- Sub-grantees
- River basin organization
- Donors/financial institutions
- Non-affiliate research organisations

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
SADC SECRETARIAT					
SADC Secretariat	Deputy Executive Secretary: Regional Integration	Dr Thembinkosi Mhlongo	Governing body responsible for SADC-GMI	Skype/ phone call	Interview schedule
Food, Agriculture and Natural Resources (FANR)	Director of FANR	Mr Domingos Gove	Directorate is tasked with the coordination and harmonisation of agricultural policies and programmes in the SADC region	Skype/ phone call	Interview schedule
SADC STEERING COMMITTEE ON HYDROGEOLOGY					
INRH-MINEA	Angola Steering Committee Representative	Mr Manuel Quintino	Support and be the focal point for SADC-GMI activities Angola	Skype/ phone call	Interview schedule
Ministry of Land Management, Water and Sanitation Services	Botswana Steering Committee Representative	Mr Keodumetsw Keetile	Support and be the focal point for SADC-GMI activities Botswana	Skype/ phone call	Interview schedule
Directrice de l'eau et de l'assainissement ministere de l'energie de l'agriculture de la peche et de l'environnement	Comoros Steering Committee Representative	Mr Chadhouliati Abdou Chakour	Support and be the focal point for SADC-GMI activities Comoros	Skype/ phone call	Interview schedule
	DRC Steering Committee Representative	Mr Cyrille Masamba	Support and be the focal point for SADC-GMI activities DRC	Skype/ phone call	Interview schedule
Department of Water Affairs	Lesotho Steering Committee Representative	Mrs Christinah Makoe	Support and be the focal point for SADC-GMI activities Lesotho	Skype/ phone call	Interview schedule
DGT/Min of WASH	Madagascar Steering Committee Representative	Mr Luciano Andriavelojaona	Support and be the focal point for SADC-GMI activities Madagascar	Skype/ phone call	Interview schedule
DWR	Malawi Steering Committee Representative	Mr Zion Uka	Support and be the focal point for SADC-GMI activities Malawi	Skype/ phone call	Interview schedule

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
Ministry of Energy and Public Utilities Water Resources Unit	Mauritius Steering Committee Representative	Mr Pokhun Rajeshwar	Support and be the focal point for SADC-GMI activities Mauritius	Skype/ phone call	Interview schedule
DNGRH	Mozambique Steering Committee Representative	Ms Ana Isabel Fotine	Support and be the focal point for SADC-GMI activities Mozambique	Skype/ phone call	Interview schedule
MAWF	Namibia Steering Committee Representative	Ms Maria Amakali	Support and be the focal point for SADC-GMI activities Namibia	Skype/ phone call	Interview schedule
Principal Engineer (Water Resources) Water and Sewerage Division Public Utilities Corp (Water Utilities)	Seychelles Steering Committee Representative	Mr Frankie Jose Dupres	Support and be the focal point for SADC-GMI activities Seychelles	Skype/ phone call	Interview schedule
Department of Water Services	South Africa Steering Committee Representative	Mr Zacharia Maswuma	Support and be the focal point for SADC-GMI activities Tanzania	Skype/ phone call	Interview schedule
	Tanzania Steering Committee Representative	Mr Mwanamkuu Mwanyika	Support and be the focal point for SADC-GMI activities Tanzania	Skype/ phone call	Interview schedule
Department Water Affairs	Eswatini Steering Committee Representative	Mr Trevor Shongwe	Support and be the focal point for SADC-GMI activities Eswatini	Skype/ phone call	Interview schedule
Ministry of Water Development, Sanitation and Environmental Protection	Zambia, Steering Committee Representative	Frank Ngoma	Support and be the focal point for SADC-GMI activities Zambia	Skype/ phone call	Interview schedule
Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement	Zimbabwe, Steering Committee Representative	Robert Mutepfa	Support and be the focal point for SADC-GMI activities Zimbabwe	Skype/ phone call	Interview schedule
SADC-GMI					
SADC-GMI BOARD					
SADC-GMI	SADC-GMI Executive Director	Mr James Sauramba	Institutional knowledge of all processes within SADC GMI	Skype/ phone call	Interview schedule

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STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
SADC-GMI	Board member, Department of Water Affairs – Kingdom of Eswatini	Mr Trevor M. Shongwe	Board member	Skype/ phone call	Interview schedule
SADC-GMI	Board member, Director of the Institute for Groundwater Studies at the University of the Free State and the host for the SADC GMI	Mr Eelco Lukas	Thorough understanding of the research practices within the SADC GMI and whether these are in line with best practice.	Skype/ phone call	Interview schedule
SADC-GMI	Board member, Ministry of Agriculture, Water and Forestry – Namibia	Mrs Maria Amakali	Extensive experience in issues related to transboundary water management, integrated water resources management and water supply security issues in Namibia and SADC	Skype/ phone call	Interview schedule
SADC-GMI	Board member, Ministry of Water – Tanzania	Dr George V. Lugomela	Understanding of the research practices within the SADC GMI and whether these are in line with best practice.	Skype/ phone call	Interview schedule
SADC-GMI	Board member, Senior Programme Officer-Water at Southern African Development Community (SADC) Secretariat	Dr Patrice Kandolo Kabeya	Link between Water at SADC Secretariat and SADC-GMI	Skype/ phone call	Interview schedule
SADC-GMI	Board member, Independent Non-Executive Director - Finance	Ms Zandile Kabini	Thorough understanding of financial related processes within SADC-GMI	Skype/ phone call	Organizational assessment tool
SADC-GMI	Independent Non-Executive Director - Business Development	Mr Michael Marler	Wide ranging experience in the Water Sector, Municipal Infrastructure and Asset Management,	Skype/ phone call	Organizational assessment tool

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STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
			Waste Management and Renewable Energy		
SADC-GMI PERMANENT STAFF					
SADC-GMI	Grants and Procurement officer	Ms Mampho Ntsekhe	Intimate knowledge of business processes within SADC-GMI	Skype/ phone call	Organizational assessment tool
SADC-GMI	Communications and Knowledge Management Specialist	Mr Thokozani Dlamini	Good understanding of all communication activities that are conducted by the institute	Skype/ phone call	Organizational assessment tool
SADC-GMI	Senior Groundwater Specialist	Mr Brighton Munyai	Understanding of all SADC-GMI processes relating to groundwater resources development, mine hydrogeology, water use licensing and environmental hydrogeology	Skype/ phone call	Organizational assessment tool
SADC-GMI	Governance & Institutional Consultant	Mr Micah Majiwa	Thorough knowledge of governance within the SADC institute, understanding the organisation's motivation and stability and what is its institutional purpose	Skype/ phone call	Organizational assessment tool
SADC-GMI	Infrastructure Consultant	Mr Kasonde Mulenga	His knowledge of the implementation of the pilot groundwater infrastructure projects under the sub-grant scheme	Skype/ phone call	Organizational assessment tool

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STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
SADC-GMI	Monitoring & Evaluation Consultant	Mr James Manda	Intimate knowledge of all monitoring and evaluation processes and systems that SADC-GMI is using for the implementation of its projects.	Skype/ phone call	Organizational assessment tool
SADC-GMI REGIONAL PARTNERS					
International Groundwater Resources Assessment Centre	Researcher	Neno Kukuric	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
WaterNet	Researcher	Krasposy Kanganga Kujinga	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
Africa Groundwater Network	Researcher	Richard Owen	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
South African Water Research Commission	Researcher	Shafick Adam	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
Global Water Partnership for Southern Africa	Researcher	Alex Simalabwi	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
Resilient Waters Programme	Researcher	Nkobi Moleele	Implementing partner	Skype/ phone call	Interview schedule

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STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
International Water Management Institute	Researcher	Jonathan Lautze	Understanding their partnership with SADC GMI and what type of projects/ research they have worked on together	Online survey	Partner questionnaire
SADC_GMI INTERNATIONAL PARTNERS					
British Geological Survey (BGS)	Academic Head	Prof Alan MacDonald	Implementing partner	Online survey	Partner Questionnaire
Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)	Researcher	Brentführer Ramon/ Ralf Klingbeil	Implementing partner	Online survey	Partner Questionnaire
International Association of Hydrogeologists (IAH)	Researcher	Julian Conrad	Professional Affiliation	Online survey	Partner Questionnaire
UNESCO – IHP	Researcher	Verbist Koen	Implementing partner	Online survey	Partner Questionnaire
International Groundwater Resources Assessment Centre (IGRAC) - Netherlands	Researcher	Neno Kukuric	Implementing partner	Online survey	Partner Questionnaire
ACADEMIC PARTNERS					
University of the Free State	Water Department Head	Eelco Lukas	SADC-GMI host organization	Skype/ phone call	Interview schedule
Strathclyde University	Researcher	Robert Katlin	Implementing partner	Skype/ phone call	Partner Questionnaire
SADC-GMI SUB-GRANTEES					
Botswana subgrantee	Project manager	Thato Morule	Recipient of a grant in previous project - Rehabilitation pilot project to supply water to communities in Gobojango and Tsetsebjane Villages by exploring alternative water sources.	Online survey	Subgrantee questionnaire

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
Zimbabwe, Beitbridge subgrantee	Project manager	Albert Ndanga	Recipient of a grant in previous project - Rehabilitation of Pilot Projects to Supply Water to Communities and Institutions in Whunga and Dite Areas of Beitbridge	Online survey	Subgrantee Questionnaire
Eswatini subgrantee	Project manager	Thobile Phungwayo	Recipient of a grant in previous project - Groundwater monitoring and installation of solar powered pumps at selected localities in the Kingdom of eSwatini.	Online survey	Subgrantee Questionnaire
Zimbabwe, Harare subgrantee	Project manager	Alfred Misi	Recipient of a grant in previous project - Greater Harare Groundwater Monitoring Network Development	Online survey	Subgrantee Questionnaire
Malawi subgrantee	Project manager	Nixon Sinyiza	Recipient of a grant in previous project - Exploring a deeper groundwater source for Chimbiya Trading Centre to provide safe water.	Online survey	Subgrantee Questionnaire
Mozambique subgrantee	Project manager	Renato Solomone	Recipient of a grant in previous project - Construction of Muchocolote Water Supply System, Matutuine District, Maputo Province	Online survey	Subgrantee Questionnaire

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
Tanzania subgrantee	Project manager	Miriam Esanju	Recipient of a grant in previous project - Groundwater Management in the Kimbiji Aquifer System (KAS).	Online survey	Subgrantee Questionnaire
RIVER BASIN ORGANISATIONS					
The Limpopo Watercourse Commission - LIMCOM	Executive Secretary for Botswana, South Africa & Zimbabwe	Sergio Siteo	Have an MoU with SADC-GMI, chair LIMCOM Groundwater Committee	Skype/ phone call	Interview schedule
The Orange-Senqu Commision - ORASECOM	Executive Secretary	Lenka Thamae	Working relationship but not yet been formalized with MoU	Skype/ phone call	Interview schedule
The Zambezi Watercourse Commission - ZAMCOM	Executive Secretary	Michael Mutale	No Memorandum of Understanding but we do collaborate in ed-hoc basis	Online survey	Partner Questionnaire
The Permanent Okavango River Basin Commission - OKACOM	Executive Secretary	Phera Ramoeli	Have an MoU with SADC-GMI	Skype/ phone call	Interview schedule
KUVECOM	Executive Secretary	Silvanus Uunona	No Memorandum of Understanding but we do collaborate in ed-hoc basis	Online survey	Partner Questionnaire
DONORS/FINANCIAL INSTITUTION (TO BE EXPANDED BASED ON DONOR LANDSCAPE ANALYSIS)					
The Global Environment Facility (GEF)	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
Cooperation in International Waters in Africa (CIWA)	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
Green Climate Fund	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
Adaptation Fund	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
World Bank	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
BlackRock Energy and Resources Trust's (BGR)	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
United States Agency for International Development	Fund Manager	Graham Paul	Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
Deutsche Gesellschaft Für Internationale Zusammenarbeit	Fund Manager		Thorough understanding of the requirements needed for successful grant funding	Online survey	Questionnaire
NON-AFFILIATE RESEARCH ORGANISATIONS					
International Water Management Institute (IWMI)	Southern Africa Branch Manager	Dr Inga Jacobs-Mata	Research interest overlap with those of the SADC-GMI, focusing on improving how water and land resources are managed, with the aim of underpinning food security and reducing poverty while safeguarding vital environmental processes.	Online survey	Partner Questionnaire

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
Joint Research Centre (JCR)			The Joint Research Centre is the Commission's science and knowledge service. The JRC employs scientists to carry out research in order to provide independent scientific advice.	Online survey	Partner Questionnaire
African Ministers' Council on Water (AMCOW)			Strategic interests overlap with those of the SADC-GMI, primarily to promote cooperation, security, social and economic development and poverty eradication among member states through the effective management of the continent's water resources and provision of water supply	Online survey	Partner Questionnaire
AU/NEPAD Southern African Network for Water Centres of Excellence (SANWATCE)			Research interest overlap with those of the SADC-GMI. The AU/NEPAD Southern African Network of Water Centres of Excellence (AU/NEPAD SANWATCE) is a network of higher education and research institutions conducting high-end scientific research and capacity development in water and related sectors, in order to achieve impact in societies.	Online survey	Partner questionnaire

Appendix D: Stakeholder Database

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	TYPE OF ENGAGEMENT	ENGAGEMENT GUIDANCE
University of Pretoria - Department of Engineering Geology and Hydrogeology	Department associate	Prof Matthys A Dippenaar		Online survey	Partner questionnaire
University of Johannesburg - Water and Health Research Centre	Director	Dr TG Barnard	The research done by the centre deals with the relationship between water and human health	Online survey	Partner questionnaire
Wits - Centre for Water Sciences and Management	Director	Prof. Ingrid Dennis		Online survey	Partner questionnaire
Department of water and sanitation	Deputy Director General: Water Sector Regulation	Mr Anil Singh		Online survey	Partner questionnaire
Water institute of Southern Africa	Chief Executive Officer	Dr Lester Goldman		Online survey	Partner questionnaire

Appendix E: Interview schedules

Appendix E1: Interview schedule for partners

Partner interview schedule

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	Expert	PROPOSED INTERVIEW DATE
SADC SECRETARIAT					
SADC Secretariat	Deputy Executive Secretary: Regional Integration	Dr Patrice Kandolo Kabeya	Governing body responsible for SADC-GMI Interview in his capacity as the head of the SADC Water Program as well	GW, TH and RE	11 May 2020
SADC-GMI BOARD					
SADC-GMI	Board member, Director of the Institute for Groundwater Studies at the University of the Free State and the host for the SADC GMI	Mr Eelco Lukas	Thorough understanding of the research practices within the SADC GMI and whether these are in line with best practice	GW and TH	28 April 2020
SADC-GMI	Board member, Independent Non- Executive Director - Finance	Ms Zandile Kabini	Thorough understanding of financial related processes within SADC-GMI, and is Board Member responsible for risk and Audit	RE	11 May 2020
ACADEMIC PARTNERS					
University of the Free State	Finance	Ms Perle Du Plessis	Perle should be interviewed as the host institution and not from an Academic Perspective-Can shed more light on RSA TAX Compliance capacities, Audit Opinions, etc Multiple meetings to clarify data provided	RE	30 April 2020 1 May 2020 7 May 2020
	Dean-Natural Resources	Prof. D. Vermeulen	Founding Director of SADC-GMI, former Director of IGS, Has the entire history of SADC-GMI from inception and where it stands now.	TH, RE	19 May 2020
HOST PARTNERS					
University of Pretoria	Associate Professor: Engineering Geology and Hydrogeology	Prof. Matthys Dippenaar	SADC GMI is investigation options to move to Pretoria or Gauteng and they would like to engage with potential host institutions to understand the different hosting arrangements.	RE	7 May 2020
	Hydrogeology and Geochemistry, Department of Geology, University of Pretoria	Dr Roger Diamond			

Appendix E1: Interview schedule for partners

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	Expert	PROPOSED INTERVIEW DATE
International Water Management Institute (IWMI)	Group Leader	Jonathan Lautze	SADC GMI is investigation options to move to Pretoria or Gauteng and they would like to engage with potential host institutions to understand the different hosting arrangements.	RE	7 May 2020
	Country Representative – South Africa	Dr Inga Jacobs	SADC GMI is investigation options to move to Pretoria or Gauteng and they would like to engage with potential host institutions to understand the different hosting arrangements.	RE	20 May 2020
Council for Scientific and Industrial Research (CSIR)	Water Center, Smart Places Integrated Water Analytics & Solutions	Maronel Steyn	SADC GMI is investigation options to move to Pretoria or Gauteng and they would like to engage with potential host institutions to understand the different hosting arrangements.	RE	7 May 2020

Appendix E2: Interview schedule for staff

SADC-GMI Staff Interview Schedule

STAKEHOLDER GROUP	STAKEHOLDER POSITION	NAME	REASON FOR INTERACTION	Expert	PROPOSED INTERVIEW DATE
SADC STAFF					
SADC-GMI	SADC-GMI Executive Director	Mr James Sauramba	Institutional knowledge of all processes within SADC GMI	GW, TH, RE and GN	1 May 2020
SADC-GMI	Grants and Procurement officer	Ms Mampho Ntsekhe	Intimate knowledge of business processes within SADC-GMI	GW, TH, RE and GN	1 May 2020
SADC-GMI	Communications and Knowledge Management Specialist	Mr Thokozani Dlamini	Good understanding of all communication activities that are conducted by the institute	GW and TH	1 May 2020
SADC-GMI	Senior Groundwater Specialist	Mr Brighton Munyai	Understanding of all SADC-GMI processes relating to groundwater resources development, mine hydrogeology, water use licensing and environmental hydrogeology	GW, TH, RE and GN	1 May 2020
SADC-GMI	Governance & Institutional Consultant	Mr Micah Majiwa	Thorough knowledge of governance within the SADC institute, understanding the organisation's motivation and stability and what is its institutional purpose	GW and TH	1 May 2020
SADC-GMI	Infrastructure Consultant	Mr Kasonde Mulenga	His knowledge of the implementation of the pilot groundwater infrastructure projects under the sub-grant scheme	GW and TH	1 May 2020
SADC-GMI	Monitoring & Evaluation Consultant	Mr James Manda	Intimate knowledge of all monitoring and evaluation processes and systems that SADC-GMI is using for the implementation of its projects.	GW and TH	1 May 2020
SADC-GMI	Admin and Finance	Miss Sharon Mofokeng	Understanding of SADC-GMI financial process. To provide financial data for the Cost Benefit Analysis. Also, to understand the financial process that is used by SAD-GMI	RE	1 May 2020 4 May 2020 7 May 2020

Appendix F: Partner Questionnaire

Appendix F1: Questionnaire for partners

SADC-GMI Lessons Learned Questionnaire – Partners

Thank you for taking time to fill in the SADC-GMI lessons learned questionnaire. SADC-GMI is committed to provide visionary and effective leadership in groundwater management in the SADC region and is in the process of developing a plan for the next ten years. We aim to consult with different stakeholder groups during this preparatory phase to ensure that we develop a plan which will be supported by our donors, sub-grantees and our governance structure. Please answer the following questions as honestly and succinctly as possible. We will ensure that the data from your answers will be processed anonymously. French and Portuguese versions of these questionnaires are available on request. Please distribute the questionnaire to the person in your team who had most interaction with SADC-GMI during the time of your collaboration.

Questions followed by * are deemed to be mandatory.

Section 1: Demographic Information

Please tell us a bit more about yourself and your interest in SADC-GMI:

1. Your name and surname *
2. Name of organisation *
3. What is your designation in the organisation? Briefly explain your roles and responsibilities*
4. In which country are you based? *
5. Has your organisation collaborated with SADC-GMI on groundwater management in the region?
 - Yes
 - No
 - Not sure
6. If yes, please provide a short description of what the collaboration entailed

Section 2: New developments in groundwater management

We are continually seeking to be relevant to the groundwater management specialists in our member states. We want to know what you observe as groundwater management trends in your area of expertise. This information will help us inform our developing 5 to 10-year plan. Please tell us more about emerging trends in groundwater management

Please tell us more about emerging trends in groundwater management

7. Which of the following emerging trends in groundwater management have you observed in your region over the last five years? (Dropdown)*
 - a. *Impact of climate change on groundwater availability*
 - b. *Increased demand from different stakeholder groups for the same water resources*
 - c. *Increased extreme weather events like droughts and flooding*
 - d. *Increased importance of community-based monitoring activities*
 - e. *Increased integration into transboundary water management*
 - f. *Increased data accuracy and integration of data from different sources*
 - g. *Other, please specify*

8. Please evaluate the following statement: SADC-GMI can respond and provide guidance to the emerging issues in your region.
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
9. Which groundwater issues do you anticipate becoming more challenging over the next five years in your area/ region of operation (Dropdown)*
- a. *Lack of decision support systems to facilitate sustainable conjunctive access, management and utilisation of groundwater resources*
 - b. *Insufficiently developed governance structures for national and transboundary development and management of groundwater resources*
 - c. *Under-utilisation of groundwater resources to build communities' resilience to the impacts of climate through enhancing water and food security*
 - d. *Lack of energy efficient infrastructure for the sustainable abstraction of groundwater from shallow and deep aquifer systems to support rural and urban communities' socio-economic activities*
 - e. *Limited knowledge and application by the small holder farmers on energy efficient groundwater dependent Agro-business solutions*
 - f. *Increasing water demand in urban areas for domestic, industrial and small-scale agriculture which is escalating the dependency on groundwater by emerging mega-cities*
 - g. *Lack of entrepreneurial skills by small-holder farmers to support their livelihoods*
 - h. *Limited knowledge of urban hydrogeology in emerging merger cities*
 - i. *Depletion of surface water resources due to climate change impacts (droughts) is increasing dependency on groundwater and in turn increasing the risks of pollution*
 - j. *Increased/over-abstraction causing salt-water intrusion in coastal aquifers and small-island states*
 - k. *Inconsistent terminology, characterisation and knowledge of deep and shallow national and transboundary aquifers in SADC*
 - l. *Groundwater potential generally unknown in terms of quality and quantity*
 - m. *Other, please specify*

Section 3: SADC-GMI's contribution to groundwater management

Please provide your view of the contribution SADC-GMI made to groundwater management in your area, by evaluating the following statements:

10. SADC-GMI played a positive role in groundwater management in your area over the last five years
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
11. SADC-GMI is strategically positioned to influence water policy in the SADC region:
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

12. SADC-GMI operates as a 'network/member agency' and has the capability to provide this function in the SADC region:

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

13. Which five issues (for reference refer to Q9) would you prioritise for developing the new SADC-GMI program based on your experience and observed regional trends?

Section 4: SADC-GMI Assessment

We value the input of our partners, please rate the following questions/statements regarding your past and current collaboration or interaction with SADC-GMI.

14. SADC-GMI ACCESSIBILITY AND COMMUNICATION

- a. *Please indicate if you were able to access the SADC-GMI website to gain technical and network information? **
 - *Yes*
 - *No*
- b. *If yes, which information proved especially helpful to you?*
 - *Hydrogeological maps*
 - *Regional hydrogeological database*
 - *Useful hydrogeological links*
 - *Driller's directory*
 - *Groundwater info portal*
 - *Monitoring and Evaluation – project centre*
 - *Community of practice*
 - *Ramotswa IMS*
 - *Other, please elaborate?*
- c. *It is very easy to interact with SADC-GMI staff*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
 - *Not applicable*
- d. *The level of engagement between SADC-GMI and its partners is sufficient*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

15. SADC-GMI ORGANIZATION AND CAPACITY

Please describe your experience with SADC-GMI during the period of collaboration or interaction by evaluating the following statements:

- a. *SADC-GMI is well-resourced to always address any issues and queries in a timely manner*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
 - *Not applicable*

- b. *SADC-GMI provided adequate and knowledgeable technical support during the period of collaboration*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
 - Not applicable
- c. *SADC-GMI's approach to projects and partnerships is aligned with its vision, values and objectives*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- d. *SADC-GMI provided partners with a network to collaborate, share knowledge and solve challenges*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- e. *The partnership goals, roles and outcomes were clearly articulated, managed and monitored during the duration of the partnership*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- f. *SADC-GMI's organizational structure is conducive to support collaboration and -interaction*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- g. *In my view, SADC-GMI's established partnerships align to their strategy and mandate*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- h. *SADC-GMI is able to provide a leadership role in groundwater management in SADC region and I would support them in this role*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree
- i. *SADC-GMI is proactive in building capability through collaboration and partnerships*
 - Strongly disagree
 - Somewhat disagree
 - Somewhat agree
 - Agree in most part
 - Fully agree

16. Please provide any recommendations or suggestions for SADC-GMI to improve its service delivery?

Appendix F1: Partner Questionnaire

Thank you for your participation in completing the questionnaire, it is greatly appreciated!

Thank you very much for your participation. If you have any questions, please contact Natasha Anamuthoo at NAnamuthoo@srk.co.za

Appendix F2: Results from partner questionnaire

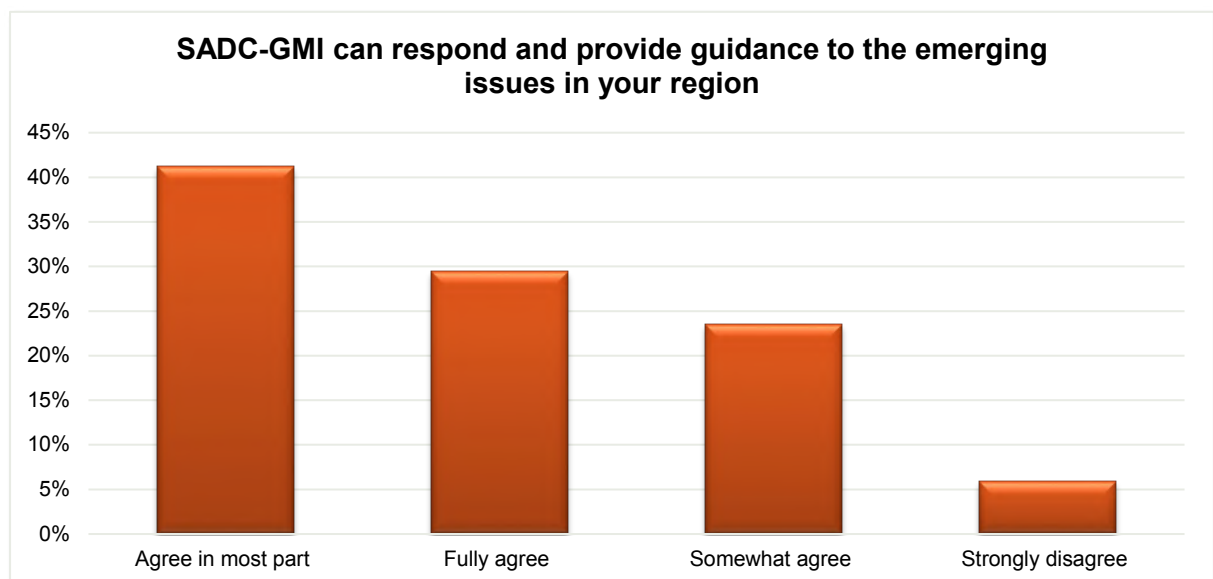
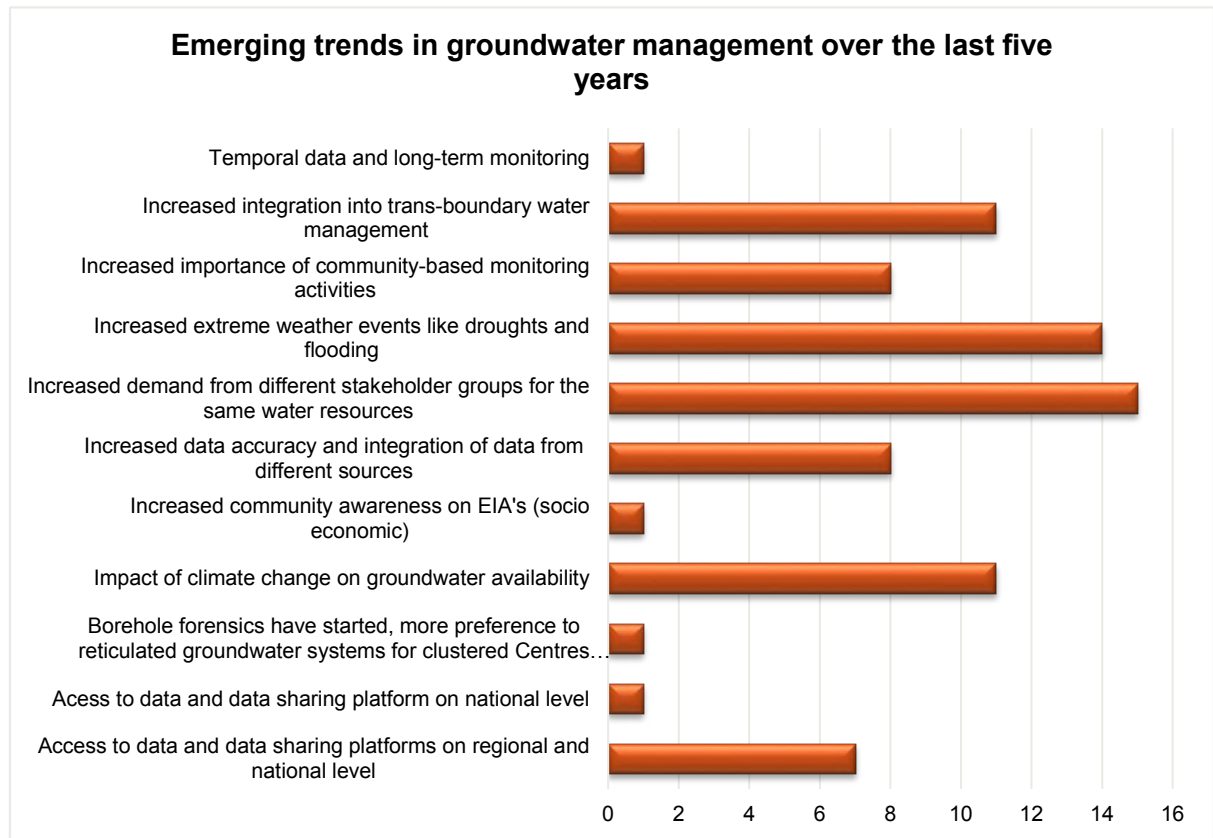
Partner Questionnaire Results: Summary

Number of questionnaires sent out: 29

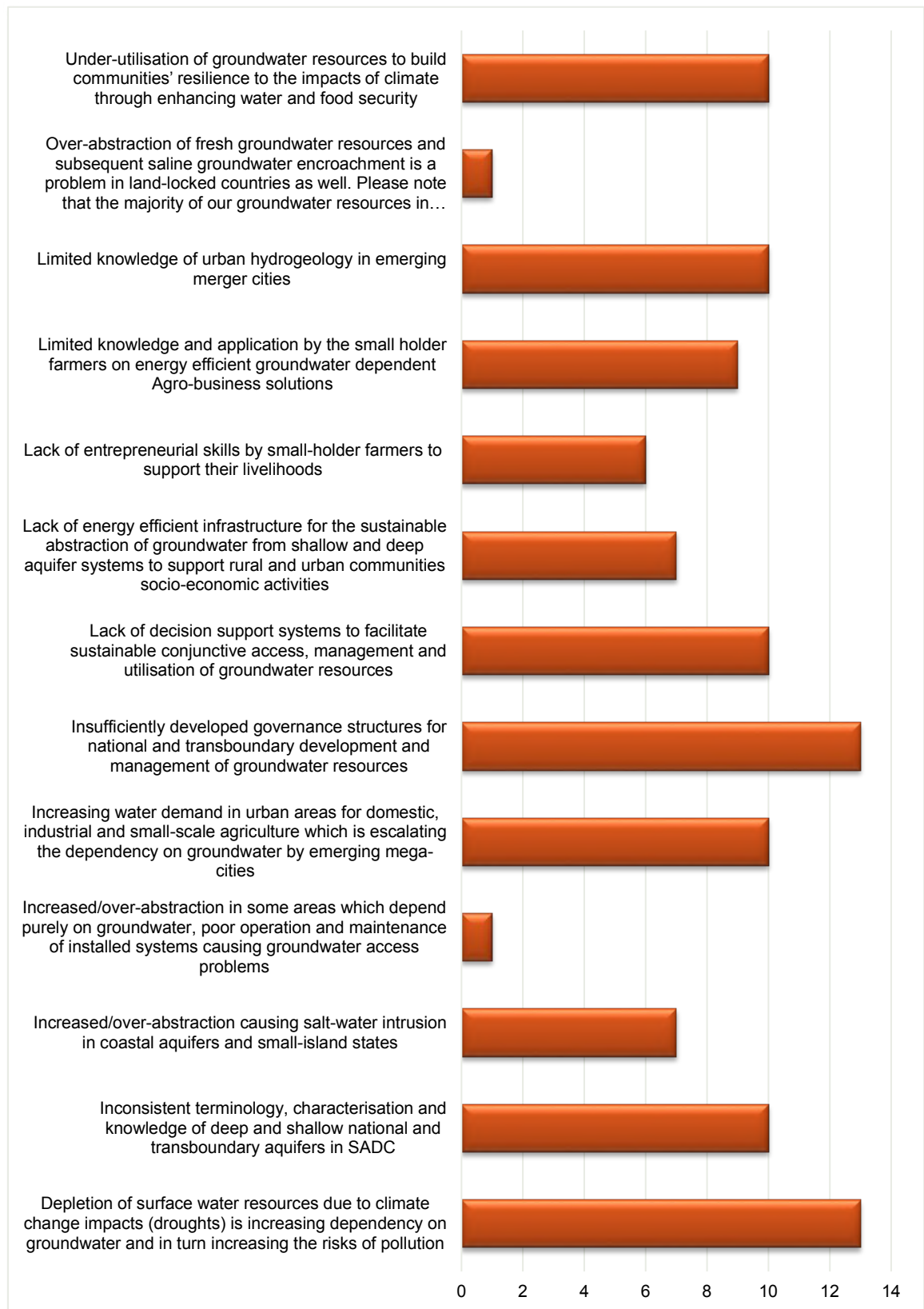
Number of responses received: 18 (62% respondent rate)

Open responses from partners was left unedited except for major spelling or grammatical errors to keep the original intent/meaning from the respondents in-tact.

1. Emerging trends in groundwater management observed by partners in their region over the last five years.

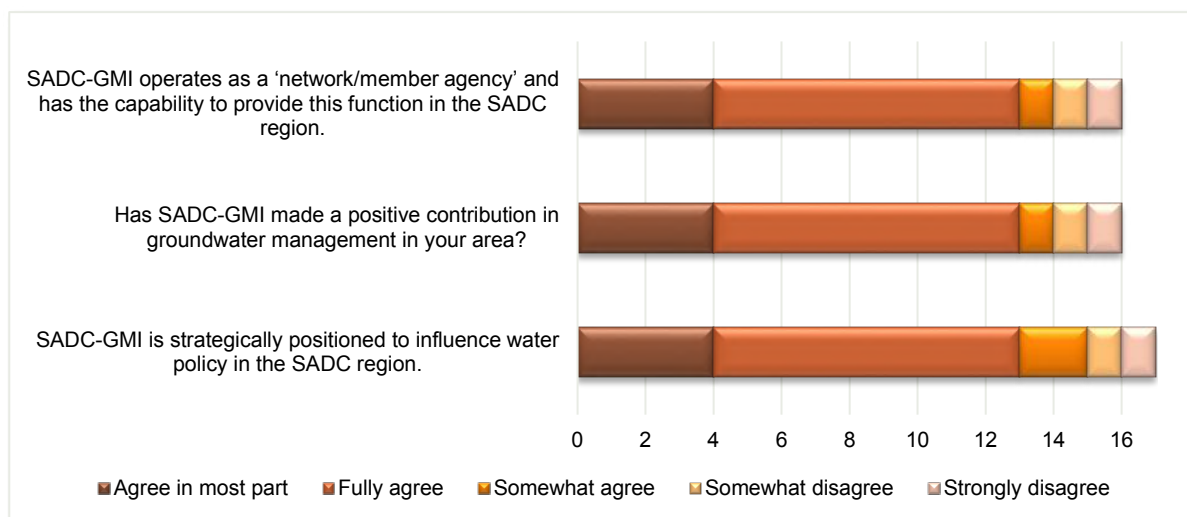


2. Which groundwater issues do partners anticipate becoming more challenging over the next five years in their area/ region of operation?



Appendix F2: Results from Partner Questionnaire

3. Partner view of the contribution SADC-GMI made to groundwater management in their area.



Additional responses from the partners to expand on their responses:

SADC-GMI it is already recognised as a focal point for groundwater data, information and knowledge sharing and capacity building in the region and it is setting an example for the whole Africa;

The SADC GMI has been creating a network for sharing information and experiences among professionals from member countries, which facilitates the management of cross-border aquifers, as well as awakening governments to take strategic actions and define policies for the development of groundwater;

Groundwater in SA is very well represented by IAH and GWD, as well as efforts such as SADC-GMI and ChinAfrica. Collaboration between these entities are completely absent, and as such there is a lot of repetition with 2-3 groundwater conferences in the area annually.

Raises the potential and importance for a sustainable groundwater use and management in the SADC member states.

SADC GMI contributed to groundwater management in Namibia in the past but not specifically in the Cuvelai Basin. However, many staff in the Member State department of water were trained.

So far, SADC-GMI has done very little for Angola. I do believe with time opportunities will come and Angola will benefit more than it does currently.

SADC-GMI work hard with the **country's** members on groundwater management and governance, still working on capacity building and training to all members states.

Short-term training courses on groundwater related matters

SADC-GMI has been involved in Trans-boundary groundwater resources assessment and/or TDA's. These are critical for the riparian states' joint utilization and management of the resources with the sole objective to ensure sustainable groundwater resources utilization and minimize opportunities for cross-border conflicts emanating from use and access to the resources. SADC-GMI has participated in the Tuli-Karoo, Eastern Kalahari, Ramotswa etc. The presence of SADC-GMI in these projects gives guidance helps elaborate the objectives of these projects.

SADC GMI is still in its infancy stages hence for now it is still trying to establish itself, maybe in the future it will be much better equipped both in terms of human and financial resources.

I have elaborated already on the contributions made to Malawi: trainings eg. in WISH, young professionals; the Subgrant project provided a model on supply of water from deeper aquifers, it also enhanced collaboration on groundwater management through the National Focal Group (networking/ collaboration) though it's in a coma now; enhanced knowledge and initiated transboundary collaboration and plans on shire aquifer/ river system with Mozambique, we are able to talk to other member states guys because we know them better now (networking); provided technical manuals on groundwater management (though we need hard copies due to poor internet connectivity), helped to enlighten us on the shortcomings of our policy and legal instruments in outlining groundwater specific points etc. SADC GMI is strategically positioned. People/ organizations respect SADC. As Focal point it has been easy in some ways to work here in some areas because the moment, I mention SADC people want to assist, hence buy in of policy may be easier since it is an umbrella body for the Region. As 'network/ member agency' I do not really understand what you want me to say but it has indeed helped to network Malawi with other Member states and even within Malawi it already

Appendix F2: Results from Partner Questionnaire

started networking the Ministry with other groundwater organizations. The capability is there as they are also hosting big events like conferences, they are connecting govts, etc.

A positive contribution has been made through institutional strengthening and capacity-building e.g. Young Professionals; Existing water-related legislation is being reviewed and this will be influenced by some of SADC-GMI's project recommendations; SADC-GMI has participated in transboundary river organisations where decisions are made at that level

4. Which five issues would partners prioritise for developing the new SADC-GMI program based on their experience and observed regional trends?

To continue assisting countries in improving monitoring, assessment, informed management and governance of groundwater resources by further capacity building on data and information processing, management and sharing through trainings, common cross-boundary projects, scientific events, advocacy and awareness, together with RBOs.

To assist member states with scientific and technical advice on groundwater management, improve cooperation and information sharing between countries, as well as promotion of capacity building.

Data sharing; long-term data; intergovernmental cooperation.

Urban Groundwater Management, Conjunctive Management, Seawater Intrusion, lack of knowledge of deep aquifer Systems, Climate adaptation

1) Clear definition of the boundaries of the Transboundary Aquifers; 2) Help Member States to design a sound Strategy towards the utilisation of Groundwater; 3) Develop Advocacy so that National Government give more importance to Groundwater; 4) Involvement of the Private Sector in the exploration/utilisation of Groundwater; 5) Training of Local Young Professionals.

SADC-GMI real time monitoring centre of data sharing and impact of climate change on groundwater

Promote small water supply projects, Promote case studies in different countries in the region, Groundwater training

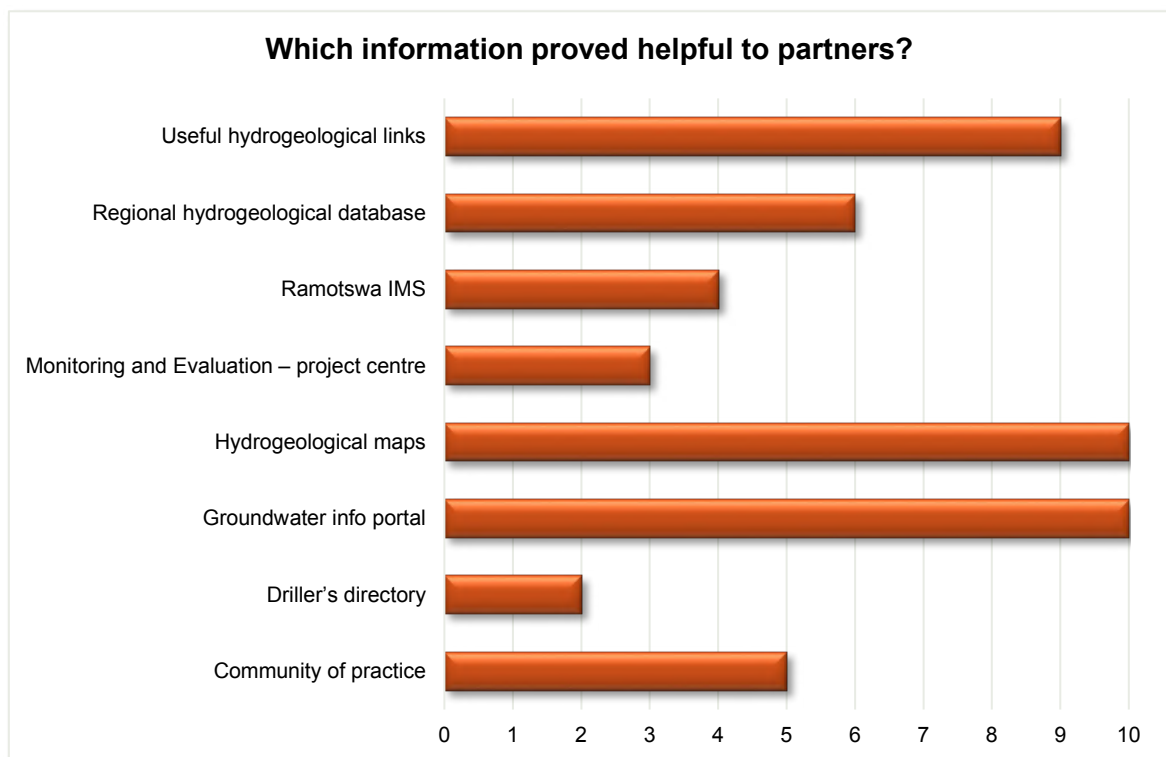
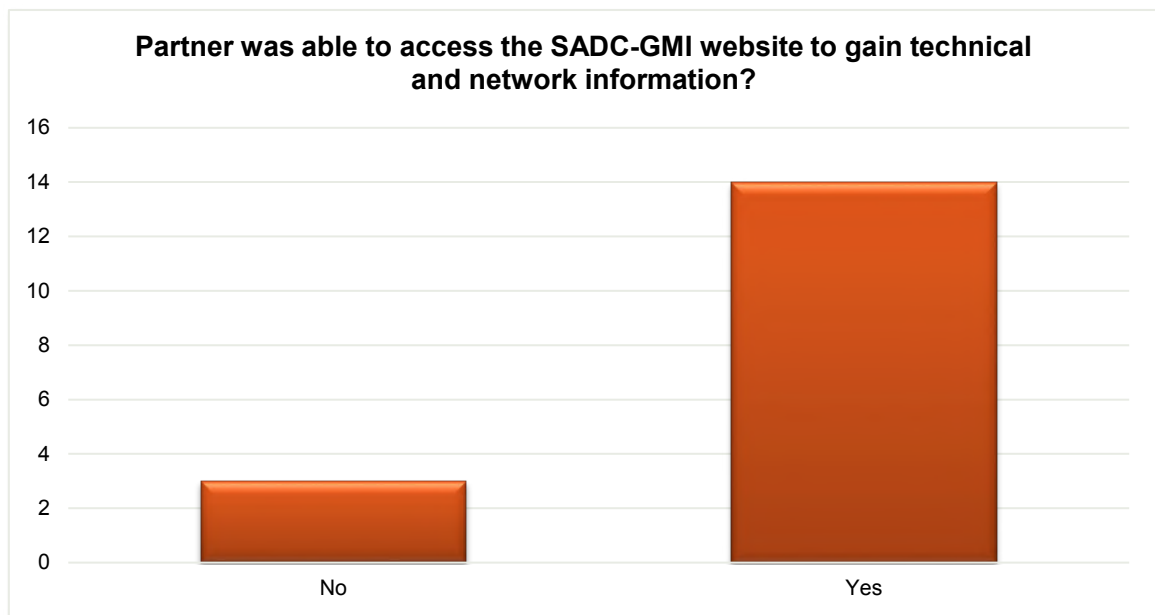
Our experience in Botswana is that we have more saline groundwater resources that fresh groundwater hence saline groundwater encroachment that is induced by over-abstraction is a problem in the country.

(1) Transboundary groundwater management -follow up activities for Shire Conwat Project such as Assisting in establishing Joint Shire River Basin Committee for the Basin and its shared aquifers and development of data sharing portal in consultation with ZAMWIS (refer to the SAP from the Conwat Project), establish a SADC groundwater monitoring network to encourage regular monitoring of transboundary aquifers (2) Replicate in other countries what has been done successfully in one country if applicable. Like in the Sub-grant project in there were groundwater supply projects and data systems projects. (3) Elaborate trainings (not for 2 days please)- eg in climate change and groundwater modelling, conjunctive water management: surface water- groundwater interactions, elaborate train in all drilling aspects, GMI could also source funding to sponsor some people in postgraduate level in expert Groundwater universities. (4) Increase funding for subgrant projects, as they set the pace (5) Have aquifer recharge projects in member states. Countries can have study visits or the expert countries can visit other countries that need this to share much knowledge and experience (6) (very important too!) Projects on Groundwater mapping at finite level as pilots in groundwater vulnerable areas

Expanding institutional human capacity; Political will and funding by Members States; Prioritisation of projects by member states; Monitoring, Evaluation and Learning

Improve the governance structures developed for the development and national and transboundary management of groundwater resources and Improve the underutilization of groundwater resources to increase communities' resilience to climate impacts by improving water and food security

5. Website access



What type of information would partners like to see being added in the future?

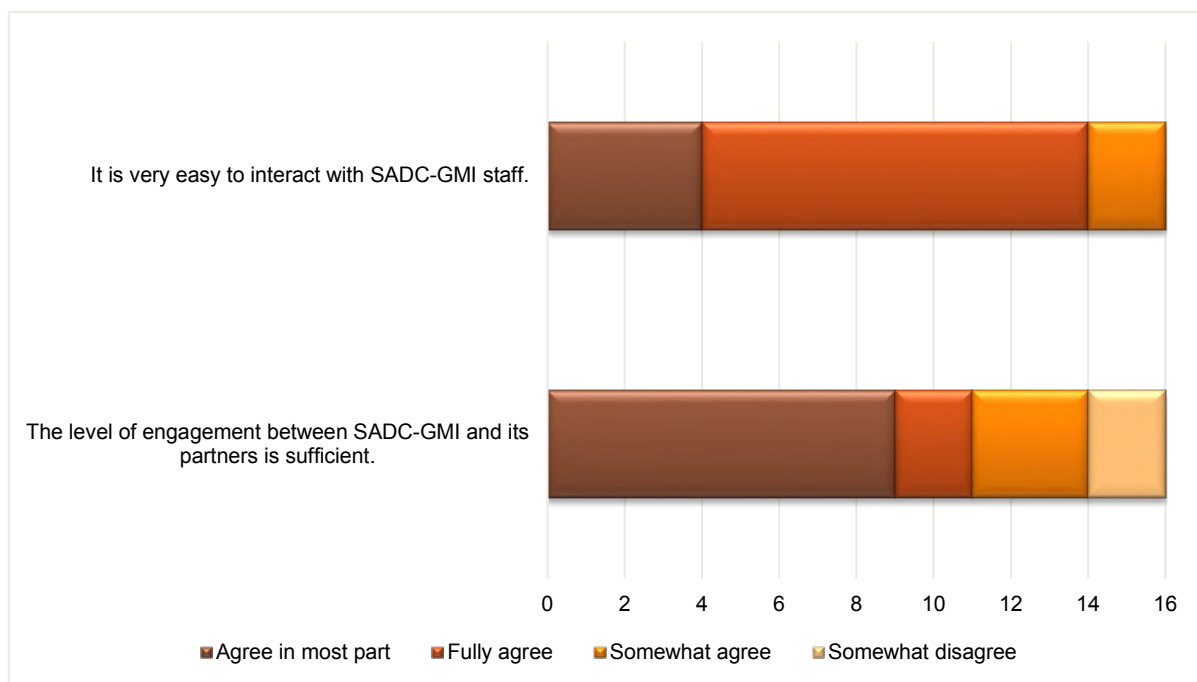
Visualisation and processing of time-variable data (in combination with spatially variable data)
More examples of data & information processing: towards customised products and services for various users

Inventory of water resources in the SADC Region, contact Information to national ministries and institutions for groundwater Management and governance

I found the information I needed. However, the update is very important

Groundwater Grey Literature

6. SADC-GMI accessibility and communication

**Further comments regarding the accessibility and communication of SADC-GMI.**

I might be biased in 17 but we talk with all SADC countries and the experience is not always perfect (expectation management) but certainly positive

The staff at SADC GMI are highly helpful which makes communication and interaction easy.

Again, ChinAfrica, BGS Africa Groundwater Atlas, Ground Water Division, International Association of Hydrogeologists - all these are in competition, so a lot of work is redundant and repetitive, resulting more in competition between bodies rather than collaboration. Also, it is SA-centric and should consider having conferences and networking events in other member states.

Direct response within a few hours, helpful information on skilled consultancies, good connection to the ministries of the member countries to organize trainings on groundwater management in international basins.

I should say SADC GMI have an open-door policy. It hardly to send them a communication without them responding

There is enough information on Groundwater available in SADC-GMI Portal. As a General Manager of my institution (INRH), I have many more portfolios to deal with. SDAC-GMI is only one of them. So, time doesn't allow me to have a big "space" regularly Information/Communication provided (produced) by SADC-GMI.

We communicate with SADC-GMI through existing platforms. (eg skype, WhatsApp and email)

SADC-GMI experts are always responsive to our main mode of communication which is emails. The SADC-GMI Secretariat (Thokozani Dlamini) is doing a wonderful job relaying all key correspondences.

(From Portuguese) Communication between SADC Member States and the SADC-GMI Directorate is very good and easy.

Easy to contact them by Email, Telephone and other platforms

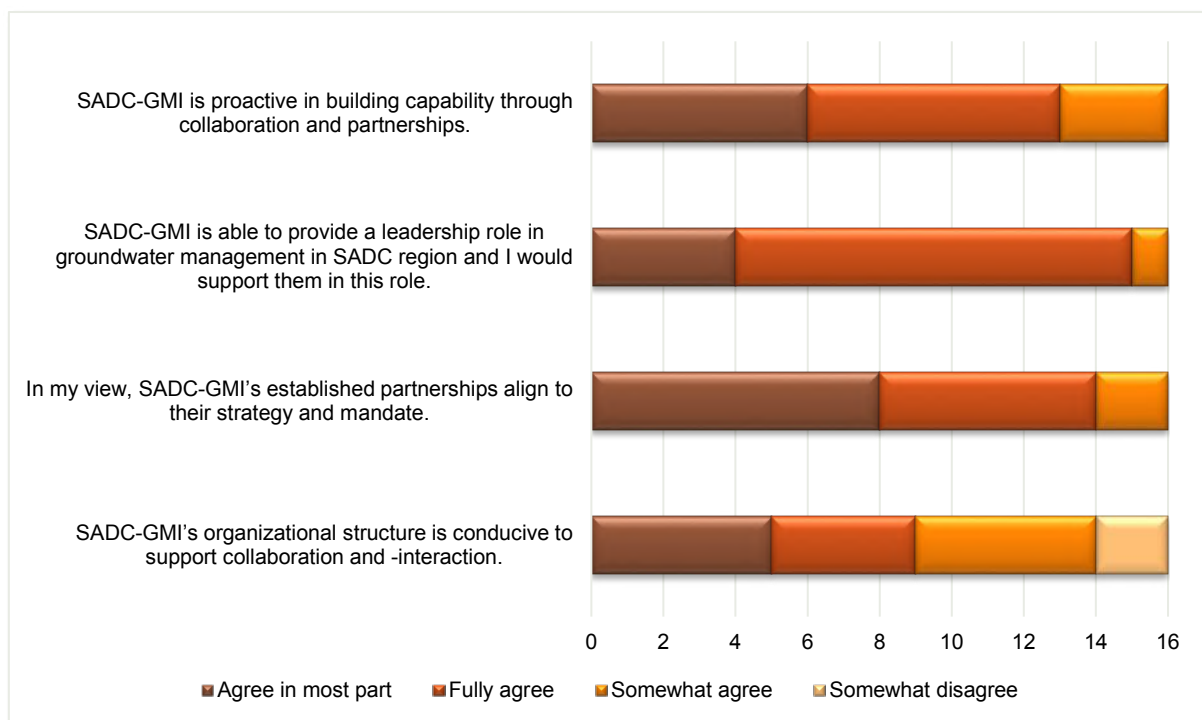
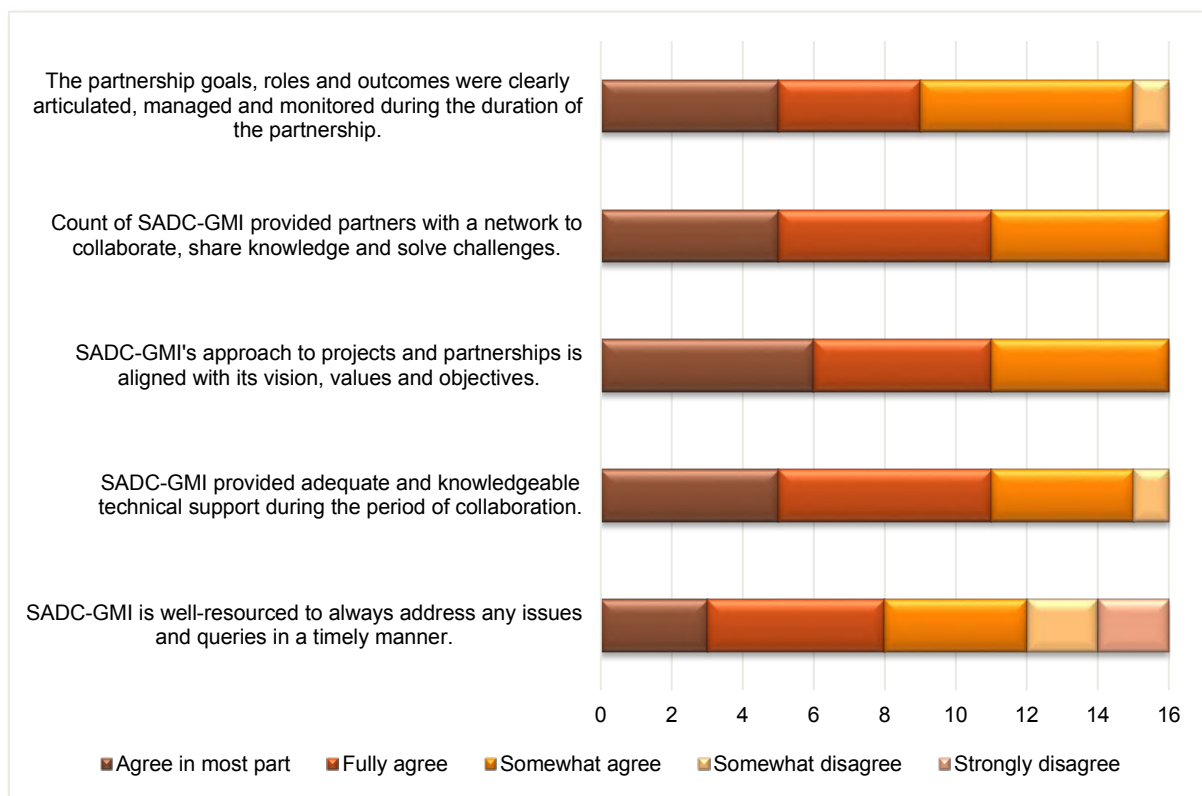
1. Most of the staff are welcoming. We don't fear to approach them. We engage by email, phone, WhatsApp easily and they respond alright. They are able to collaborate with us at all levels. We don't really have issues in this area, as long as they continue to give info in good time and don't change colours in the second phase (this evaluation should regularly be done)

We have a very positive interaction with the SADC-GMI staff as they are very approachable. I have very limited experience when it comes to SADC-GMI and its partners.

As for the SADC GMI communication, it is effective, because it always communicates in advance, using various digital platforms

7. SADC-GMI organisation and capacity

Appendix F2: Results from Partner Questionnaire



Further comments regarding the partners experience with SADC-GMI during the period of collaboration or interaction.

In general, the interaction with the SADC-GMI was very constructive, as it enabled an easy interaction and an environment to exchange experiences.

I've never had to engage with them, which in part is the answer because they should be the first-stop in SADC groundwater matters.

high engagement to run training workshops in different languages,
good organisation of annual conferences

Appendix F2: Results from Partner Questionnaire

moderating role of groundwater management between the member countries and bringing groundwater Management into the national water Policy Agenda.
Exchange of experience on groundwater management and groundwater studs in the SADC Region,
SADC-GMI needs more Hydrogeologists. These include specialist Hydrogeologists such as Hydro-chemist, groundwater modelers etc.
It was good but need to be more interactive
Highly professional
<p>1. It's not possible for an organisation to be we resourced to address all issues and in timely manner. For example, the training which was cancelled this year we would have loved if it was sponsored by them and our Govt staff would have gone but we were told it was to be self-sponsored.</p> <p>They can provide answers but in many cases, they also need information from us so that they know our local situations first before they assist. For queries, in one case they would not respond to us- maybe they feared to disappoint us, but it disappointed our partner</p> <p>The technical support was okay. They have Consultants on projects anyway apart from them. But the final reports of some of the work I haven't seen, like on Shire Conwat, Technical manuals.</p> <p>-Proactive yes they are.</p> <p>'Leadership role- yes -they are SADC</p>
SADC-GMI has limited resources; Too dependence on outsourcing (consultants) and donor funding.
During my period of collaboration or interaction with SADC-GMI. The experience was good, because SADC-GMI has always communicated effectively, the training / capacity-building sections in which I participated achieved the objectives set.

Further recommendations or suggestions by the partners for SADC-GMI to improve as an organisation?
Try to come up with more customised products and services that could be replicated by member states
There is a need to further disseminate the SADC GMI within member countries to increase its visibility, and thus positively influence decision makers on groundwater management in an integrated manner.
I believe they are invaluable, competent, and highly necessary. Improvement for me would be in (1) government-level linking (as the scientists and engineers are already engaged) through ministerial partnerships and data programmes, and (2) promotion of professional matters through engaging with existing professional bodies in groundwater and water science.
Needs more core Funding to fund Projects in a cooperation with other actors, stronger interaction with other relevant sectors as agriculture, urban development and Energy, develop a linkage on groundwater finance and investments in infrastructure and capacities
SADC-GMI should expand its Vision and Improve its Strategy.
As suggestion, SADC-GMI should continue to disseminate groundwater information at the region level and encourage the countries to cooperate in the area of exchange information and management of transboundary aquifers.
Recruit more hydrogeologists and this will make the organization more visible in the member states
It was good but need to be more interactive
<p>1. Please produce at least one or two hard copies of project products for member states. (2) Having 3 members of staff from Zimbabwe makes it a bit Zimbabwean. But I have no issue with none of them anyway, but let them always be impartial with all countries as they do (3) Organise some trainings in country to take in more people eg. 10 per country to train, than only one or 2 people travelling to South Africa or elsewhere. Bring in the experts and we could also look for local experts in addition. (4) In 10 years all transboundary aquifers in SADC should be jointly monitored with Coordination Units (10 years is a long time, let's try) (5) Always follow up in member states on how trainings or manuals are being utilised. That's the best way to assess impact (I think). (6) There is good collaboration in GMI and with us partners I think because of the leader also. He somehow fits in many places. Take note of this when you are looking at leadership issues in the GMI (7) We had problems with supervision of the Subgrant project because we did not have a budget for that. It was successful but as Government we missed out on monitoring role in a number of areas. I don't know how they can assist on provision of resources in other projects in future because I understand it's not allowed by World Bank? But assess the implications thoroughly. (8) Keep up the good work SADC GMI</p>
SADC-GMI should appeal to the mother body (SADC) to encourage members to contribute towards its funding.

Appendix G: Sub-grantee Questionnaire

Appendix G1: Questionnaire for sub-grantees

SADC-GMI Lessons Learned Questionnaire – Sub-grantees

Thank you for taking time to fill in the SADC-GMI lessons learned questionnaire. SADC-GMI is committed to provide visionary and effective leadership in groundwater management in the SADC region and is in the process of developing a groundwater management programme for the next ten years. We aim to consult with different stakeholder groups during this preparatory phase to ensure that we develop a plan which will be supported by our donors, sub-grantees and our governance structure. Please answer the following questions as honestly and succinctly as possible. We will ensure that the data from your answers will be processed anonymously. French and Portuguese versions of these questionnaires are available on request. Please complete one questionnaire as a team led by the project manager to ensure that all relevant information is captured.

Questions followed by an * are deemed to be mandatory.

Section 1: Demographic Information

Please tell us a bit more about yourself and your interest in SADC-GMI. This will help us to understand your interaction with SADC-GMI:

1. Your name and surname *
2. Name of organisation *
3. What is your designation in the organisation? Briefly explain your roles and responsibilities*
4. In which country are you based? *
5. Please provide a short description of your interaction with SADC-GMI?

Section 2: Subgrantee project technical information

We aim to continually improve the technical excellence of our groundwater programs. As your subgrantee project is slowly coming to an end, we are keen to understand any technical challenges you might have experienced and any technical support you received that was of value to you.

Please assist us by answering the following questions:

6. Please indicate if you were able to access the SADC-GMI website to gain technical information and guidance on the type of project you implemented? *
 - Yes
 - No
 - Maybe

If yes, which information proved especially helpful to you?

- *Hydrogeological maps*
- *Regional hydrogeological database*
- *Useful hydrogeological links*
- *Driller's directory*
- *Groundwater info portal*
- *Monitoring and Evaluation – project centre*
- *Community of practice*
- *Ramotswa IMS*
- *Other, please elaborate?*

Appendix G1: Sub-grantee Questionnaire

7. Please indicate which type of technical field activities you implemented during your subgrantee project on the left. * (Dropdown)

- *Drilling monitoring boreholes (if yes, go to question 7, then 8) (If no, go to question 9)*
- *Drilling production boreholes for community use (if yes, go to question 7, then 8) (If no, go to question 9)*

8. Please indicate which of the following processes were conducted during your drilling operations and after the completion of your project? (Dropdown)

- *Geophysical drilling target selection;*
- *Installation of water level and flow rate monitoring equipment;*
- *Capturing all data collected during the project into a national groundwater database.*

9. Please indicate the tasks the following team members conducted if relevant:

- *Hydrogeologist and/or water specialist (Dropdown):*
 - *Drilling site selection*
 - *Pump selection*
 - *Interpretation of monitoring data*
 - *Operation and management of the production boreholes*
- *Drilling contractor*
 - *Drilling site selection*
 - *Pump selection*
 - *Interpretation of monitoring data*
 - *Operation and management of the production boreholes*
- *Water authority*
 - *Drilling site selection*
 - *Pump selection*
 - *Interpretation of monitoring data*
 - *Operation and management of the production boreholes*

10. Please indicate which type of desktop technical activities you implemented during your subgrantee project*(Dropdown)

- *Collecting monitoring data*
- *Improving ground water monitoring databases*
- *Exploring aquifers*
- *Improving water supply*
- *Other, please explain*

11. Please indicate who is responsible for the ongoing management and maintenance of the groundwater management project you are involved in:* (Text)

12. Please explain the main objectives of your groundwater monitoring subgrantee project*:

13. Please indicate the status of these objectives:

- *We did not reach our objectives at all*
- *We reached a few of our objectives*
- *We reached half of our objectives*
- *We reached almost all our objectives (if this selected go to question 14)*
- *We were able to reach all of our objectives (if selected this, go to question 14)*

14. SADC-GMI aims to support scalable small grant projects that can be scaled up to provide more recipients with the same type of support. Based on your experience in implementing this project, please select one of the following statements:

- *Our project cannot be scaled up and/or duplicated at all*
- *Some aspects of our project can be scaled up and/or duplicated*
- *Almost half of the aspects in our project can be scaled up and/or duplicated*
- *Almost all aspects in our project can be scaled up and/or duplicated*
- *Our project can be scaled up and / or duplicated with no modifications*

Section 3: Subgrantee project impact

The donors and funders are very interested to know how your project impacted on local communities. As your subgrantee project is slowly coming to an end, please tell us more about the impact of subgrantee projects on local communities. If your project did not have any impact on local communities, please skip the section.

15. Did your groundwater management sub-grantee project have a positive economic impact, for example, water provided to under-serviced small businesses or new agricultural projects?

- *No positive socio-economic impact*
- *Low positive socio-economic impact*
- *Some positive socio-economic impact*
- *Moderate positive socio-economic impact*
- *Highly positive socio-economic impact*

16. If your project had a positive impact, please describe the positive economic impact of your project. Quantify impacts as far as possible - for example, 5 smallholder farmers were able to irrigate fields thereby increasing crop production.

17. Did your groundwater management sub-grantee project have a positive social impact, for example, provided increased access to water or improved living conditions for communities?

- *No positive social impact*
- *Low positive social impact*
- *Some positive social impact*
- *Moderate positive social impact*
- *Highly positive social impact*

18. If yes, please describe the positive social impact of your project. Quantify impacts as far as possible - for example, 300 households obtained access to water within a 500-metre radius of their home.

19. If your project focused on access to water and water provision, after the implementation of your groundwater management sub-grantee project, were you able to increase the quantity of water available to communities and businesses?

- *No positive water access impact*
- *Low positive water access impact*
- *Some positive water access impact*
- *Moderate water access impact*
- *Highly positive water access impact*

20. After the implementation of your groundwater management sub-grantee project, were the insights/ knowledge gained useful in groundwater resource planning in your area?

- *The project had no effect on our ability to plan*
- *The project had almost no effect on our ability to plan*
- *The project had a small effect on our ability to plan*
- *The project had a moderate effect on our ability to plan*
- *The project had a large effect on our ability to plan*

21. If yes, please provide a short summary of the improvements in planning and resource allocation you were able to make

22. What is the realistic lifespan of your project? Please keep in mind maintenance and upkeep of equipment, people migration and existing knowledge bases.

- *0-5 Years*
- *5-10 Years*
- *10-15 Years*
- *15-20 Years*
- *Not quantifiable as it built on an existing knowledge base*

Section 4: New developments in groundwater management

We are continually seeking to be relevant to the groundwater management specialists in our member states. We want to know what you observe as groundwater management trends in your area of expertise. This information will help us inform our developing 5 to 10-year plan. Please tell us more about emerging trends in groundwater management

23. Which of the following emerging trends in groundwater management have you observed in your region over the last five years? (Dropdown)*

- *Impact of climate change on groundwater availability*
- *Increased demand from different stakeholder groups for the same water resources*
- *Increased extreme weather events like droughts and flooding*
- *Increased importance of community-based monitoring activities*
- *Increased integration into transboundary water management*
- *Increased data accuracy and integration of data from different sources*
- *Other, please specify*

24. Which groundwater issues do you anticipate becoming more challenging over the next five years in your area/ region of operation (Dropdown)*

- *Lack of decision support systems to facilitate sustainable conjunctive access, management and utilisation of groundwater resources*
- *Insufficiently developed governance structures for national and transboundary development and management of groundwater resources*
- *Under-utilisation of groundwater resources to build communities' resilience to the impacts of climate through enhancing water and food security*
- *Lack of energy efficient infrastructure for the sustainable abstraction of groundwater from shallow and deep aquifer systems to support rural and urban communities' socio-economic activities*
- *Limited knowledge and application by the small holder farmers on energy efficient groundwater dependent Agro-business solutions*
- *Increasing water demand in urban areas for domestic, industrial and small-scale agriculture which is escalating the dependency on groundwater by emerging mega-cities*
- *Lack of entrepreneurial skills by small-holder farmers to support their livelihoods*
- *Limited knowledge of urban hydrogeology in emerging merger cities*

Appendix G1: Sub-grantee Questionnaire

- *Depletion of surface water resources due to climate change impacts (droughts) is increasing dependency on groundwater and in turn increasing the risks of pollution*
- *Increased/over-abstraction causing salt-water intrusion in coastal aquifers and small-island states*
- *Inconsistent terminology, characterisation and knowledge of deep and shallow national and transboundary aquifers in SADC*
- *Groundwater potential generally unknown in terms of quality and quantity*
- *Other, please specify*

25. Our organization can definitely respond to these emerging trends in our region.*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

26. What would you require in order to be an active player/ organization during the next 5 to 10 years?*

- *Capacity building*
- *Knowledge sharing*
- *Training*
- *Increased information and telecommunications infrastructure and tools*
- *Better equipment*
- *Increased staff contingent*
- *Grants and funding*
- *Better transboundary cooperation*
- *Other, please explain*

27. Do you think SADC-GMI can respond to/ provide solutions to emerging trends in your region and to you as a sub-grantee?

- *Yes*
- *No*
- *Maybe*

Section 5: SADC-GMI's contribution to groundwater management

Please provide your view of the contribution SADC-GMI made to groundwater management in your area, by evaluating the following statements:

28. SADC-GMI played a positive role in groundwater management in your area over the last five years

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

29. What is the most valuable contribution SADC-GMI made to date to groundwater management in your region?

30. SADC-GMI is strategically positioned to influence water policy in the SADC region:

- *Strongly disagree*
- *Somewhat disagree*

Appendix G1: Sub-grantee Questionnaire

- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

31. SADC-GMI operates as a 'network/member agency' and has the capability to provide this function in the SADC region:

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

32. Which five issues would you prioritise for developing the new SADC-GMI program based on your experience and regional trends?

Section 6: SADC-GMI Assessment

Please rate the following statements regarding your collaboration with SADC-GMI as a sub-grantees:

33. SADC-GMI accessibility and project communication

- a. *It is very easy to interact with SADC-GMI staff*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- b. *The level of engagement between SADC-GMI and its sub-grantees is sufficient*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- c. *SADC-GMI was able to solve my technical issues sufficiently*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- d. *SADC-GMI provided sufficient information about environmental and social safeguards during the implementation of our subgrantee project*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- e. *All the contractual and reporting requirements of being a SADC-GMI sub-grantee were clearly communicated and explained to me*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

34. SADC-GMI project management, planning and change management

Please describe your experience with SADC-GMI during the period of collaboration by evaluating the following statements:

- a. *SADC-GMI's project management was adequate for the duration of your sub-grantee project.*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- b. *SADC-GMI's project planning was well-informed and timely during the planning phase of our sub-grantee project*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- c. *SADC-GMI staff members handled unexpected changes to the collaboration and associated projects efficiently*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agreed*
- d. *SADC-GMI provided sufficient support to our project team when changes in the sub-grantee program occurred*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

35. SADC-GMI organization and capacity

Please consider the following statements about SADC-GMI organizational capacity and evaluate it based on your experience:

- a. *SADC-GMI is well-resourced to always address any issues and queries in a timely manner*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- b. *SADC-GMI provided adequate and knowledgeable technical support during the implementation of the sub-grantee project.*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- c. *SADC-GMI provided adequate information about social and environmental safeguards during the implementation of the sub-grantee project.*
 - *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

Appendix G1: Sub-grantee Questionnaire

- d. *SADC-GMI's approach was aligned with its vision, values and objectives*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- e. *SADC-GMI provided its sub-grantee projects with a network to collaborate, share knowledge and solve challenges*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

36. Project costs and timelines

Please consider the budgets and timelines of your sub-grantee project and evaluate the following statements:

- a. *The amount of time allocated for project implementation was sufficient for me to make a significant difference in groundwater management in your region.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- b. *The prescribed timelines of our sub-grantee project were adequate to implement the project in our region*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- c. *SADC-GMI's procurement policies were appropriate for the type of projects implemented.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- d. *The procurement systems were user-friendly and effective for the type of projects implemented*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- e. *We did not experience any challenges during the procurement of products and services to fulfil project obligations*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- f. *Our preferred supplier or other local suppliers met the procurement requirements set by the funders/ SADC-GMI.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- g. *Our organization have a Procurement Framework/Plan for project implementation.*
- *Strongly disagree (please explain)*

Appendix G1: Sub-grantee Questionnaire

- *Somewhat disagree (please explain)*
 - *Somewhat agree (please explain)*
 - *Agree in most part (please explain)*
 - *Fully agree (please explain)*
- h. *We were able to deliver the project within the budget plan provided to SADC-GMI.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- Please explain your response (provide space for them to explain)*
- i. *Did some products and services cost more than original estimates and budgets?*
- *Yes*
 - *No*
- j. *If yes:*
- *Which products or services?*
 - *Value in US dollar?*
- k. *Did you import any products or services during the implementation/execution of this project?*
- *Yes*
 - *No*
- l. *If yes,*
- *Which product or service?*
 - *Value in US dollar?*
- m. *Were some products or services difficult/impossible to procure as they would have contributed to significant project delays or failures?*
- *Yes*
 - *No*
- n. *If yes,*
- *Which products or services?*
 - *Value in US dollar?*
- o. *Did you experience any project delays or other implementation challenges due to procurement challenges? If so, please explain.*

37. Project training and use of technology

Please consider the training you received and the use of technology during the implementation of your sub-grantee project and evaluate the following statements:

- a. *The amount of training and capacity building during the sub-grantee project was sufficient.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- b. *The content of the training and capacity building we received at the workshop was adequate, relevant and correctly pitched.*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*
- c. *SADC-GMI's use of technology to improve groundwater management in the region is exemplary*
- *Strongly disagree*
 - *Somewhat disagree*
 - *Somewhat agree*
 - *Agree in most part*
 - *Fully agree*

Appendix G1: Sub-grantee Questionnaire

d. *SADC-GMI's use of technology during the implementation of the project was sufficient.*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

38. Project monitoring, evaluation and close-out

Please consider the project monitoring, evaluation and close-out procedures used during the implementation of the sub-grantee project and evaluate the following statements:

a. *SADC-GMI monitored our sub-grantee project efficiently and we were informed about the Monitoring & Evaluation framework?*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

b. *We had an opportunity to evaluate our project implementation during the project lifecycle*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

c. *We had an opportunity to evaluate SADC-GMI's project management when nearing the end of the project*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

d. *SADC-GMI clearly communicated close-out procedures such as asset transfer*

- *Strongly disagree*
- *Somewhat disagree*
- *Somewhat agree*
- *Agree in most part*
- *Fully agree*

39. Do you have any recommendations or suggestions for SADC-GMI to improve its service delivery?

Thank you for your participation in completing the questionnaire, it is greatly appreciated!

Thank you very much for your participation. If you have any questions, please contact Natasha Anamuthoo at nanamuthoo@srk.co.za

Appendix G2: Results from sub-grantee questionnaire

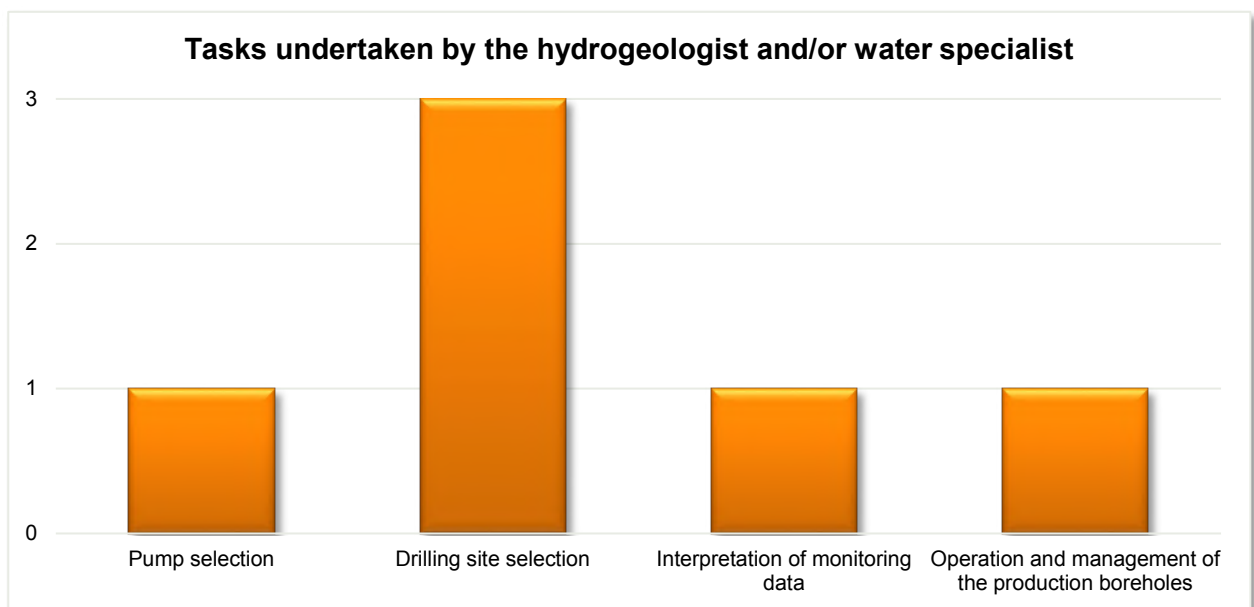
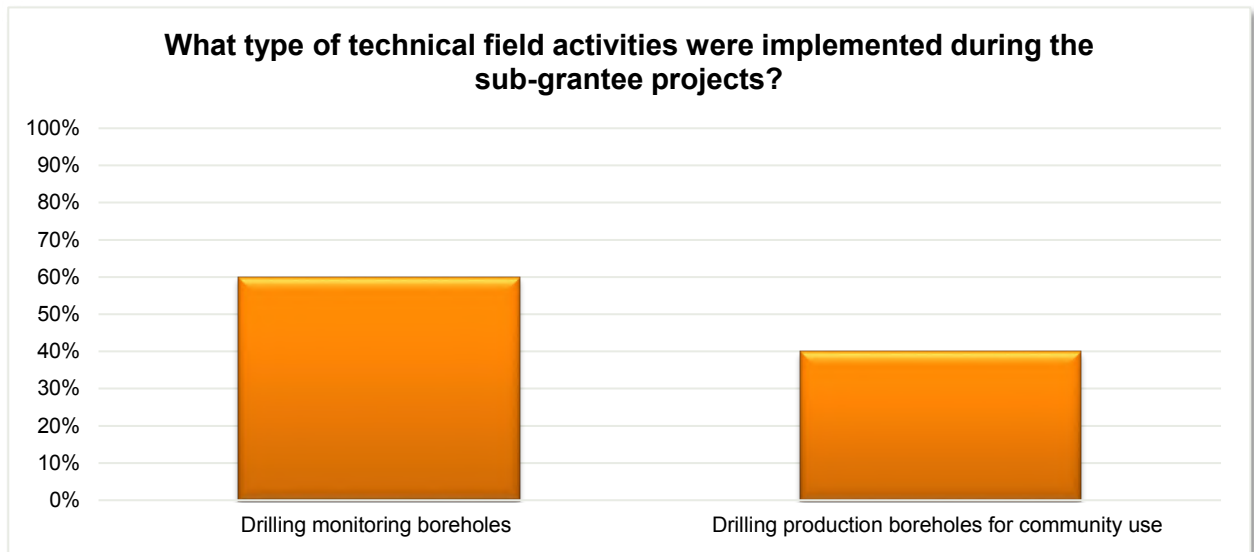
Sub-grantee Questionnaire Results: Summary

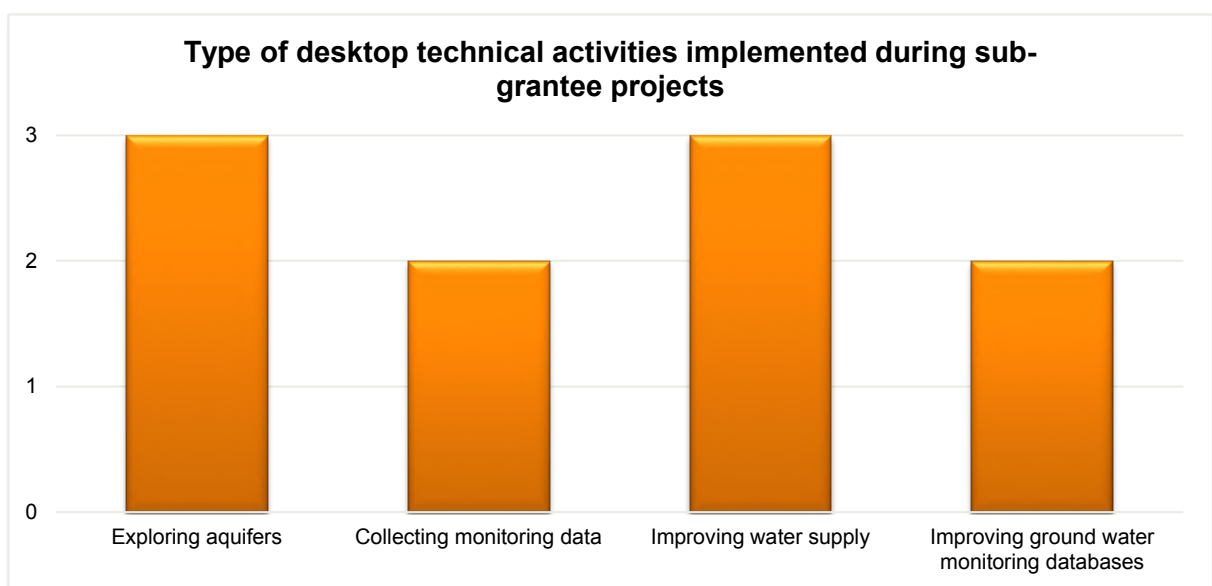
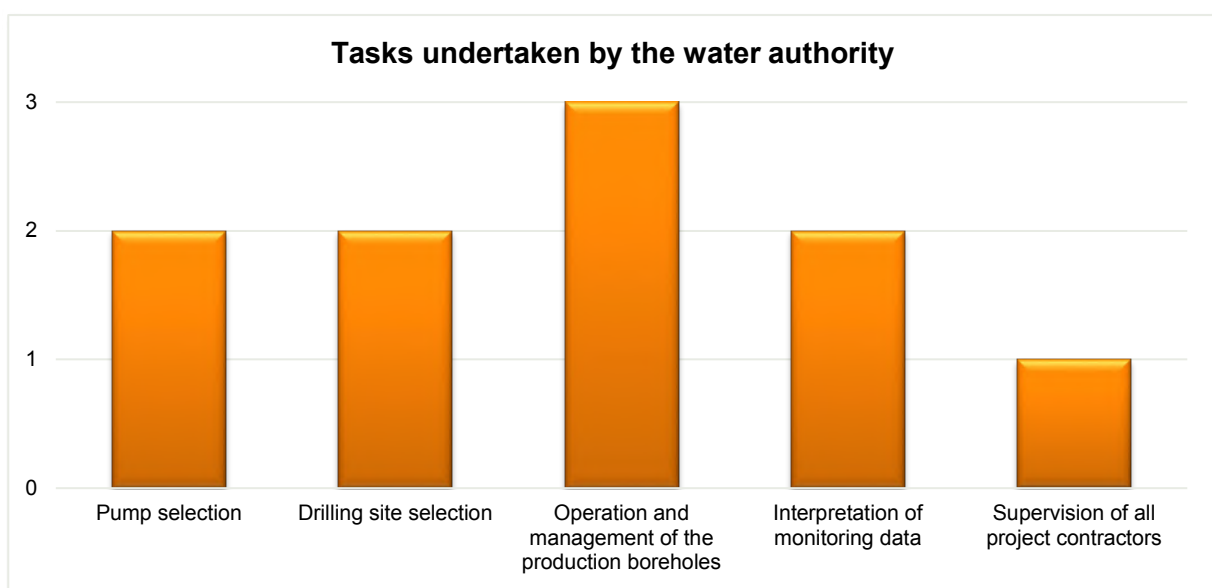
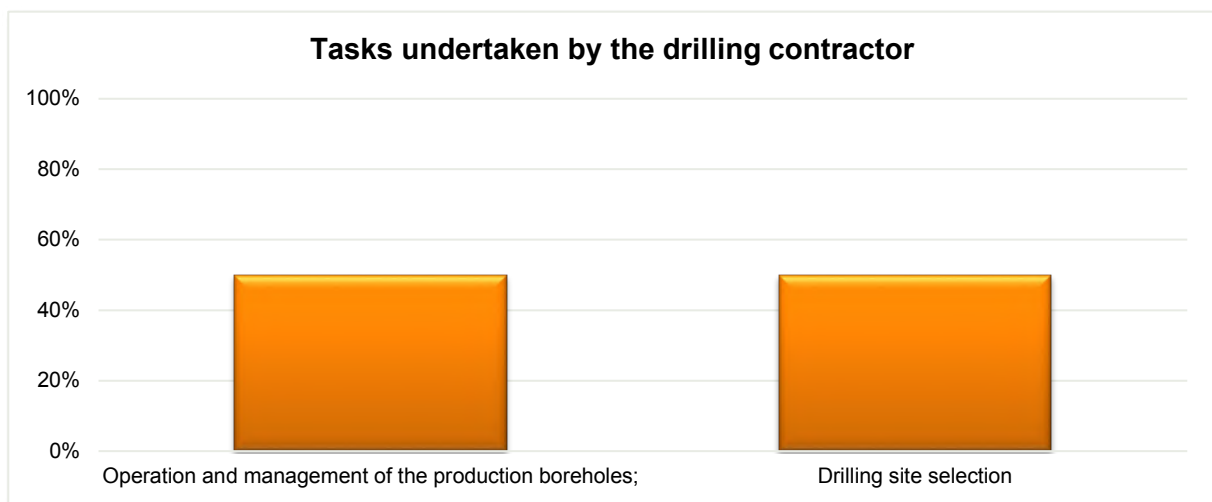
Number of questionnaires sent out: 7

Number of responses received: 8 (in two cases, the survey questionnaires were completed by two individuals with varying roles in each sub-grantee group). The questionnaire was completed by 6 of the 7 sub-grantees' (87% respondent rate).

Open responses from partners were left unedited except for major spelling or grammatical errors to keep the original intent/meaning from the respondents in-tact.

1. Subgrantee project technical information





Which aspects of the subgrantee project did you find most challenging and needed more assistance on?

Exploring aquifers, operation and maintenance

SADC reporting templates should be made available on their website to ensure consistence and formality on the reporting process.

Water level monitoring and exploration of aquifers

Environmental and Social Safeguards component, it's the soft component but was not clear on the what is expected from the sub-grantees, which delays some of the activities, when clarity was provided,

Drilling standards and the borehole profiling process

2. Sub-grantee program impact

The main objectives of your groundwater monitoring sub-grantee project:

The project objective is to contribute for improvement of water supply services in the rural village of Muchocolote through construction of a small water supply system from and existing productive borehole with capacity to serve approximately 2,000 people currently served by handpump. The project seeks to install a submersible pump powered by a solar panel, installation of elevated water tank with capacity of 20,000 litres, distribution network and water troughs.

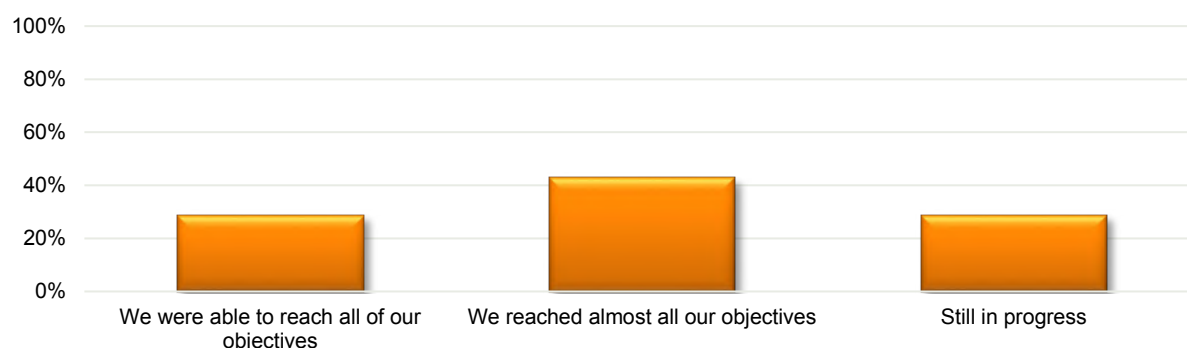
>The main objective of our subgrantee project was to establish groundwater monitoring stations with the main aim of monitoring groundwater levels and water quality
> The other aim of this project is to promote the use of renewable energy through the use of solar powered pumps.

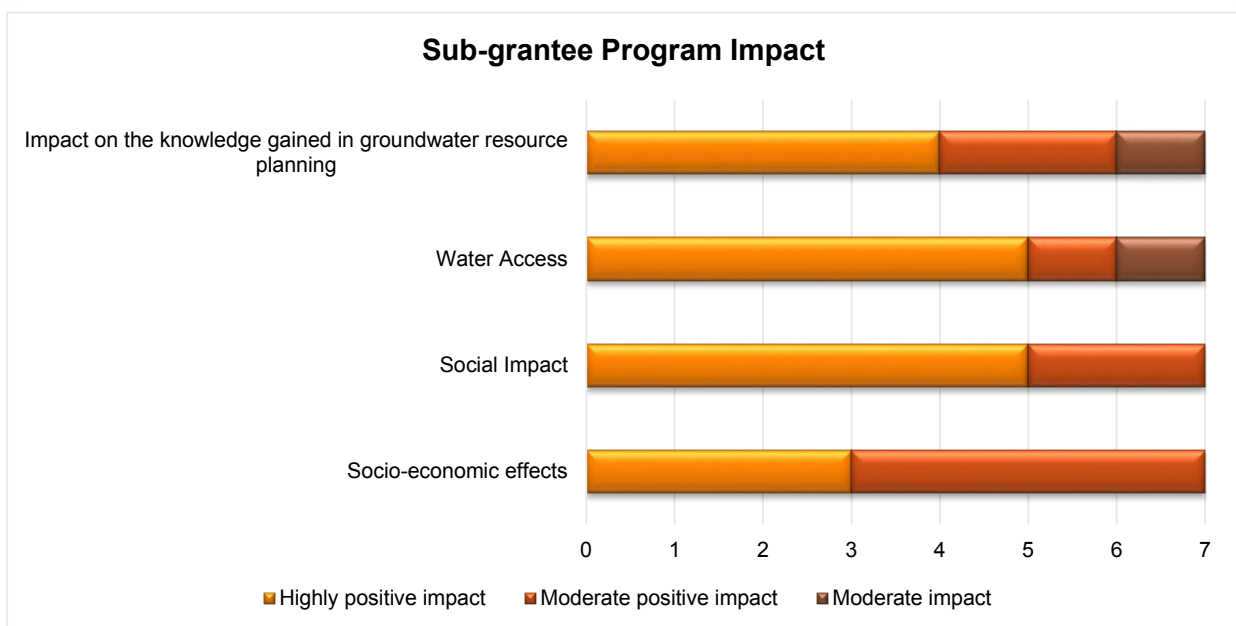
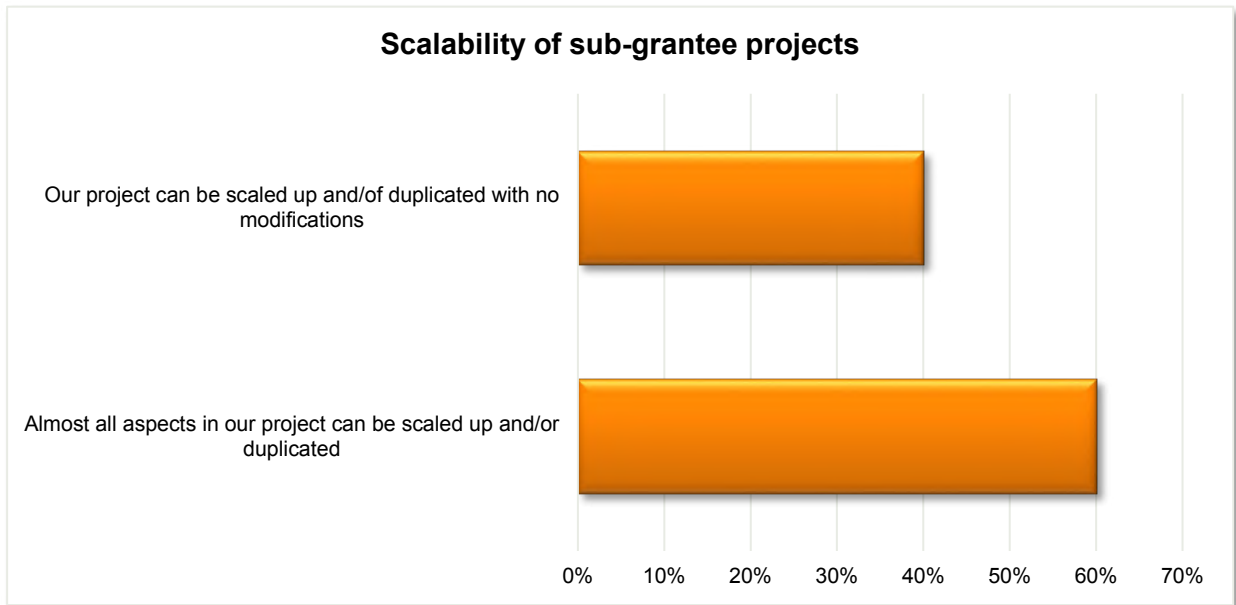
To ensure controlled abstraction and reliability of the aquifer against consumption

a) Installation of a groundwater monitoring network on ten (10) selected sites.
This is the installation of loggers in all 10 boreholes to monitor the performance of the aquifer to inform DWA leadership decisions on the management, utilization, and preservation of the groundwater resource.

b) Installation and promotion of renewable energy applications on groundwater abstraction on four (4) sites.
This component is added to generate relevant learning for the Ministry on using renewable energy on groundwater in relation to its performance. This will provide learning also to further inform the decisions on WASH programming on what options better suit the groundwater resource.

To characterize the Greater Harare aquifer system
To setup an optimal groundwater monitoring network for Greater Harare
To setup a near-real time water quality and water level data collection system
To estimate groundwater quantity
To identify and delineate groundwater recharge and discharge zones
To identify and delineate the actual and potential sources of groundwater contamination
To develop Greater Harare groundwater maps

Status of sub-grantee objectives




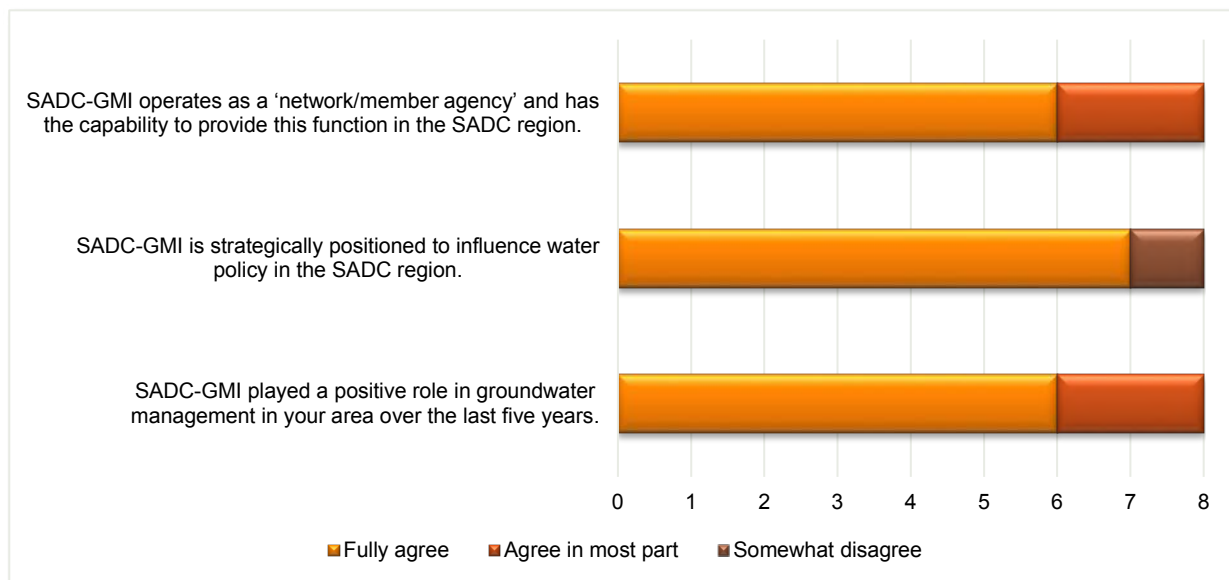
Descriptions of the positive economic impact of the sub-grantee projects.
At least 50 households will be able to increase their incomes since they will get water at near place having more time for farming and increasing crop production
The institutions that benefited from the solar powered systems will be able to cut down costs of electricity, and this money will be diverted to other use.
The project has provided small employment of about 20 men and women as tap and system operators; Over 15000 people can now save time by walking short distance and no queuing time in fetching water but use the saved time on other economic activities in the area
Schools making saving on electricity bills for water pumping.
Improved hygiene and sanitation reduced incidences of absenteeism by students thus realising savings on medicals bills.
Students now have more time to spend productively on their studies rather than on fetching water from nearby streams for teacher and themselves.
Not sure - as still in progress of implementation
Each of the two irrigation projects supplied water from the piped water schemes and have formed groups of 30 people that are irrigating their food gardens. The water is also benefiting local communities, schools and business centres with drinking water.
The support the project brought to institutions had an economic impact in the sense that; schools pay fees to access water whether from community schemes or from corporations. This project benefitted these institutions by making reasonable savings on the costs of accessing water since the project connected to the production wells. The schools re-directed this budget to further meet the needs of the schools.
Water Supply. Vulnerable communities with approx. 600 households benefited to clean water availability

Descriptions of the positive social impact of the sub-grantee projects.
At least 50 households obtained access to water within a 600 metre radius of home including cattle
Two schools, a total number of 610 pupils have access to clean and safe water, and 26 government workers have access to clean water at a radius of 100 meters. The last beneficiary institution still needs to approve.
15000+ people reached with treated water, 10 resident teachers now access safe water from a close range there by making their lives easier, Due to reduced waiting time at the Boreholes, women have time to take care of their families and husband are happy now as marital trust is no longer broken unnecessarily
Students and teachers can now access clean and safe water right on the school premises.
Still in progress
About 250 people are receiving water at each of the sites in Dite and Whunga within 500m. Communities' capacity to manage their own water systems was also built with 14 members participating in the training at both sites. Sixty members at both sites were also given health and hygiene education.
The institutions that were targeted were exposed to high risk because of using the unsafe water sources before the project implementation. This project has contributed to the children not walking to look for water and reduced the risk children were exposed to. The safety of the water also brings the dignity to the school leadership.
Improved Access to affordable clean water. Over 600 families benefited
Further short summaries of the improvements in planning and resource allocation the sub-grantee projects were able to make
The community will be able to quantify the production expected in terms number hectares of crops and cattle.
Some activities were initially underbudgeted due to inflation rates
The need for doing detailed geophysical survey bore fruits as without it, the project could have been a failed. Many implementers had tried to supply water in the township but could not achieve the level of intensity with respect to the surveys like we did and ended up with unreliable wells. Water Mission did it because of trusting the theoretical need of the surveys which most often get ignored by most drillers or implementers
Given the arid nature of Beitbridge district, the community was not able to have irrigated gardens because of lack of water but with this project it has been proved that it is possible to irrigate one-hectare plots from borehole water.

The pilot project has provided learning for the country, on the type of equipment, service providers for the different milestones, timelines allocated to the milestones also counts, the level of detail required on ESS and the expectation on other project milestones, the amounts allocated to the different milestones was a learning which will - inform better planning on budgets, work plan and procurement plans.

The yields assessment done inform sustainable groundwater allocation as opposed to abstract figures that Sub catchment Council was using for allocations. The availability of a near real time groundwater database improves planning and management

3. SADC-GMI's contribution to groundwater management



What is the most valuable contribution SADC-GMI made to date to groundwater management in the sub-grantee region?

The investment SADC GMI has contributed to the region will grow the capacity of different governments in responding, understanding groundwater. The investment in generating evidence for DWA to better engage and influence at a higher level of decision making. When providing substantial evidence, it becomes easy to develop advocacy paper to better influence Cabinet on endorsing some of the policy documents countries need.

Training of young professionals

Provision of guidelines in project development and management but also provision of the funding to have the project implemented.

Up scaled knowledge sharing and technical skills enhancement on relevant personnel in the field.

The provided resources but also had technical oversight over the project thereby building our capacity.

Setting up the real-life groundwater monitoring system which will generate the evidence to better engage and influence policy at the national level.

Introducing a pilot groundwater monitoring project, especially for Greater Harare where groundwater is under serious threat

Which five issues would the sub-grantees would prioritise for developing the new SADC-GMI program based on their experience and regional trends?

1. Address the issue of lack / poor enforcement of groundwater policies
2. Working on the issue of national groundwater database and the sharing of data within others in the SADC region
3. The management of transboundary aquifers

1. Provision of clear guidelines in the proposal development
2. Putting in place well-articulated operational procedures especially to do with finance
3. Increase financing levels so that more people would benefit from the projects
4. Increase capacity building of implementing partners in terms of training and knowledge promotion

5. The refund of finances should not take too long as was the case in the just completed arrangement but if chances can allow by policy, consideration should be made for upfront financing

1. Groundwater governance.
2. Groundwater information and data sharing exchange.
3. Groundwater drilling good practice and aquifer testing.
4. Research and institutional capacitation.
5. Up-scale conjunctive use and management of water resources under the climate change era.

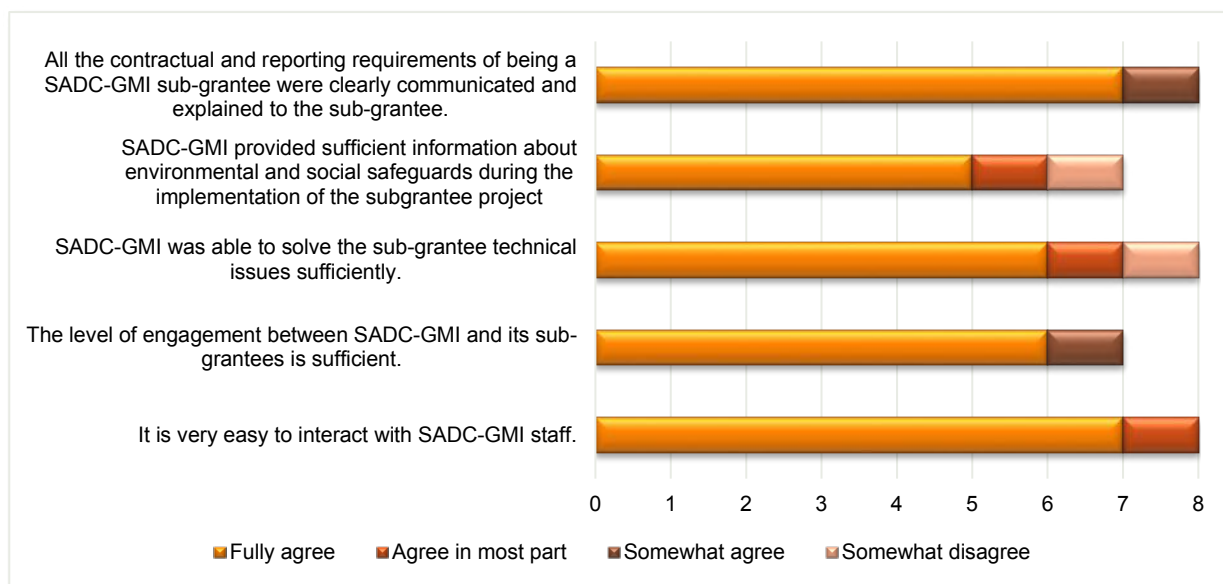
- Simpler reporting possess
- Clear Up-Front criteria - we have learnt a lot of how the SADC-GMI unit works, but this has come at a high cost in money and time
 - Allow the implementing body (usually an NGO) to do what they are best at - implementing and not be over restrictive and dictatorial on how they must implement, not written, but imposed
 - In short term projects - allow simpler and more reactive planning and implementation

1. More resources towards development of groundwater resources.
2. New innovations that help to access more water.
3. Use of renewable energy in groundwater pumping
4. Linking groundwater use to livelihoods activities for communities.
5. Creating stronger partnerships with other stakeholders in the WASH sector.

1. Creation of an enabling environment through policy development for groundwater section
2. Increase database on monitoring stations
3. Improved efficiency of the department through access to high-quality innovative systems and equipment to better manage and understand the groundwater resources
4. Further, develop evidence of the renewable energy performance on groundwater to increase better management of the groundwater resource

1. Implementation of more groundwater monitoring programs
2. Training/Capacity building
3. Increasing groundwater supply to underprivileged communities
4. Research (geology and hydro-geology)
5. Decentralization of operations/function to member states

4. SADC-GMI accessibility and communication



Further comments regarding SADC-GMI's accessibility and project communication.

The SADC team was very responsive

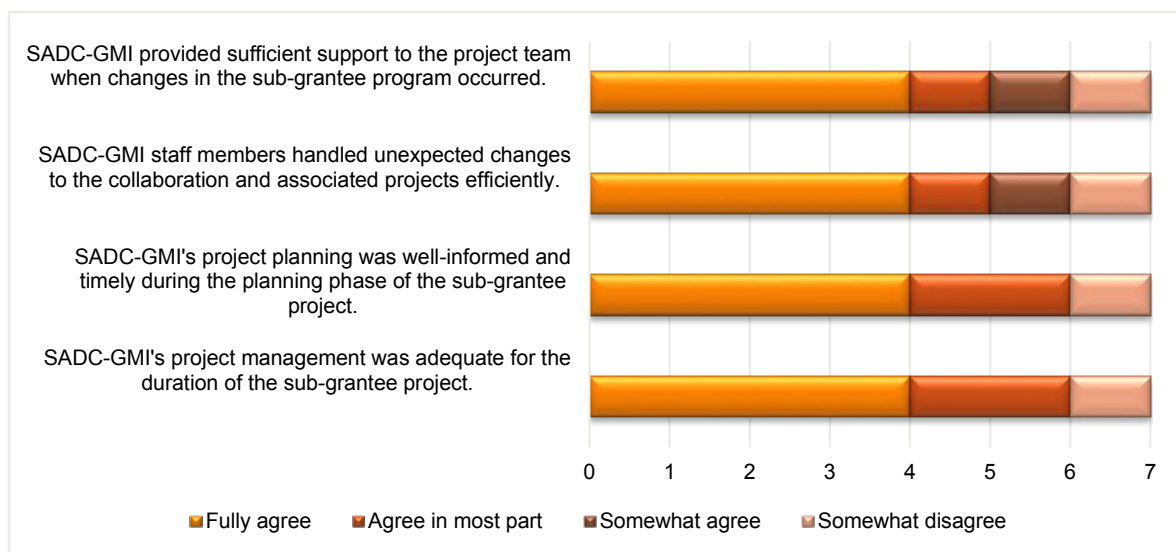
Our finance counterpart struggled to liaise with SADC GMI finance personnel. Hardly available for meetings.

Overpowering enforcement of retrospective operational criteria - wasting a lot of time and manpower

- Need to be fully UP-FRONT with what is expected and not when implementing

The ESS has already been flagged as the only challenge the project experienced.

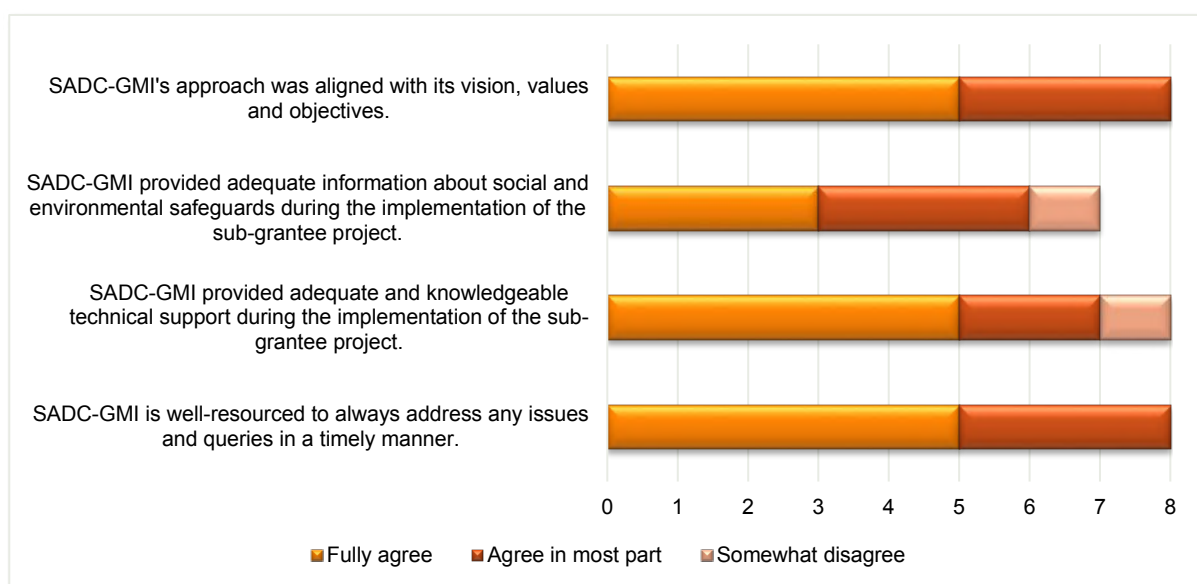
5. SADC-GMI project management, planning and change management

**Further comments regarding SADC-GMI's project management, planning and change management.**

The staff are too academic with limited "real world" experience

SADC GMI was responsive also providing follow-up on actions that subgrantees required support. Training to harmonize and increase the learning amongst the SADC counties were executed as planned.

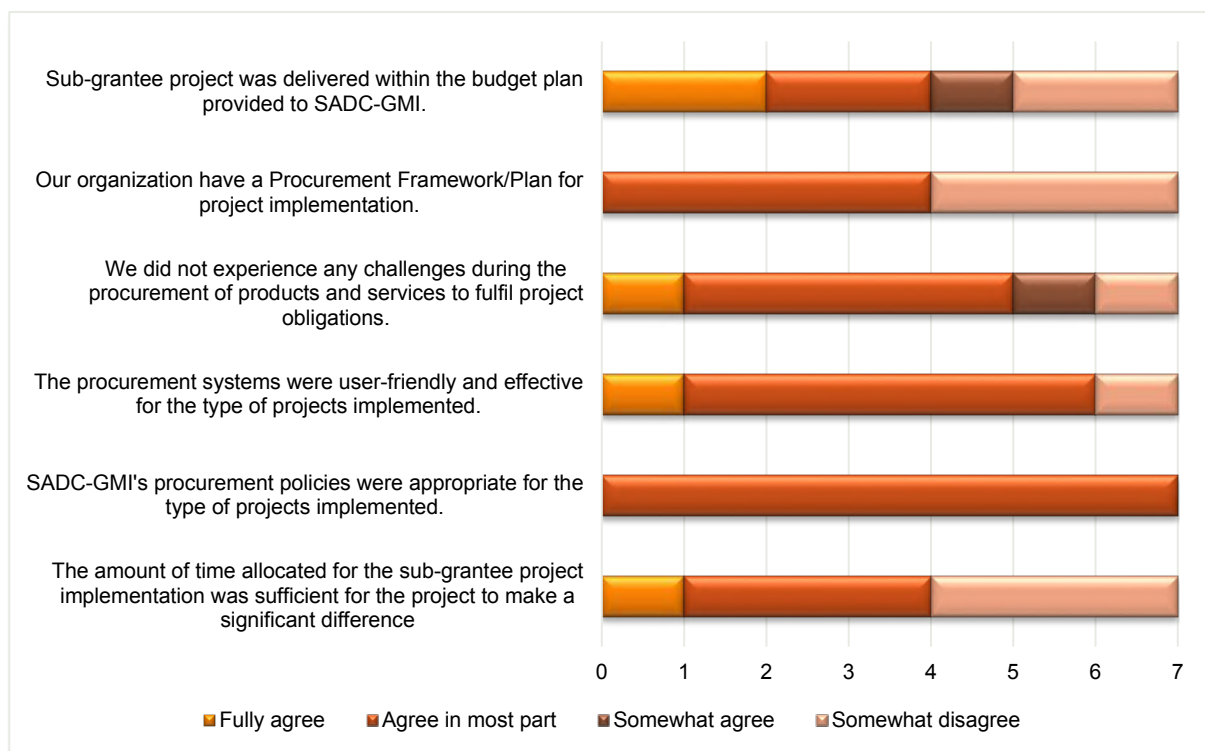
6. SADC-GMI organisation and capacity

**Further comments regarding SADC-GMI's organisation and capacity.**

Social safeguards differ from place to place hence some unique issues that emerged needed to be handled in a win-win manner for the sake of harmony.

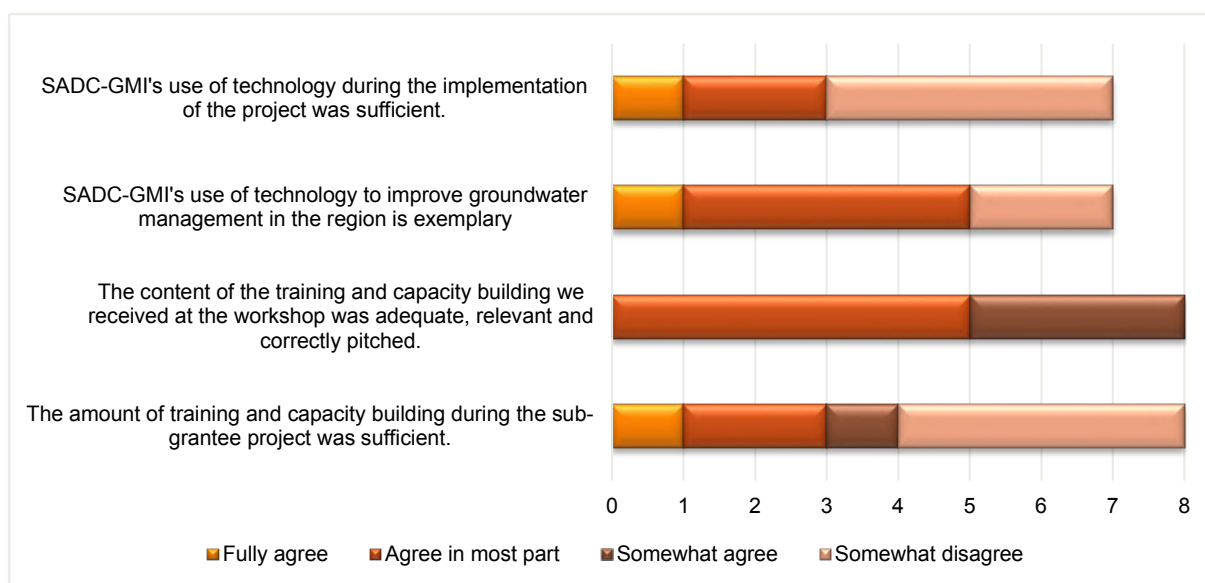
The SADC team managed the grant as per plan

7. Procurement, Planning and Timelines of Subgrantee Projects

**Further comments regarding SADC-GMI's budgets and timelines of the sub-grantee project.**

The equipment required for the project were not accessible in our local suppliers, sometimes not even in the South African market, only in the international market. International procurement brought in longer delivery dates from planned or anticipated delivery periods, which affected the time allocated to other milestones. The funds allocated to different procurement were estimated based on zero experience affected the budget allocated and the actual expense in most budget lines, especially the infrastructure component.

8. Project training and use of technology



Further comments with regard to the training you received and the use of technology during the implementation of the sub-grantee project.

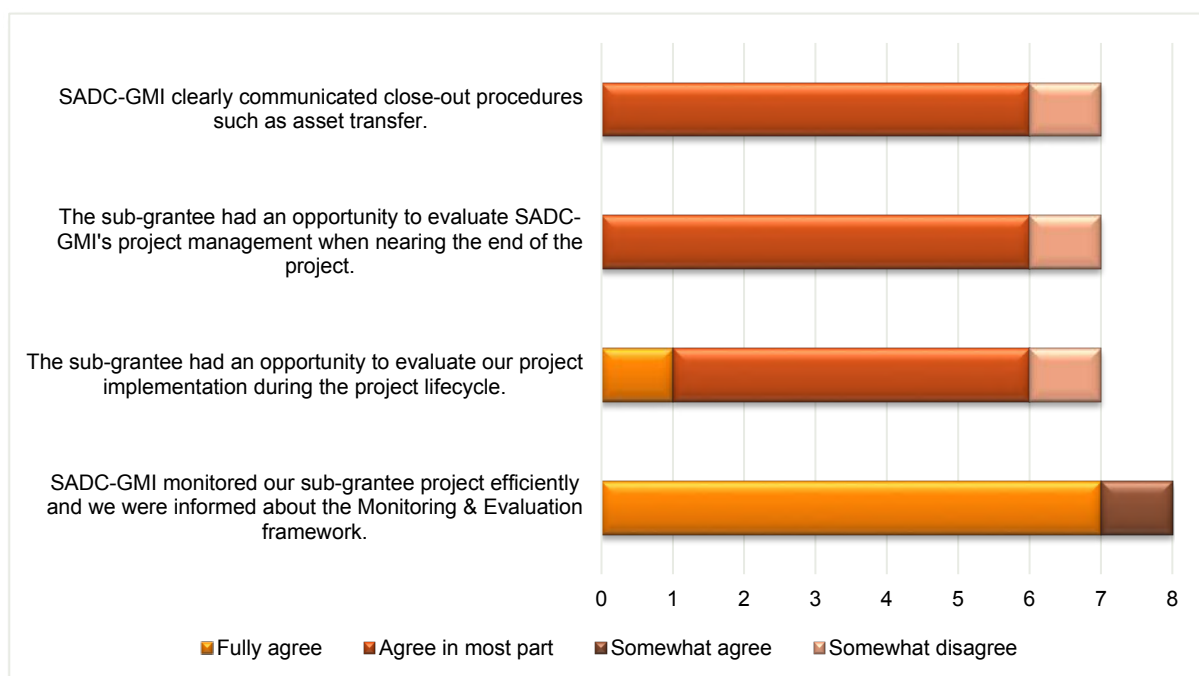
I personally did not receive any trainings, but my colleagues did which contributed greatly towards the project success and compliance

- Did not participate in any training both as an individual and the organization
- As above
- Mostly it was dependent on the implementing partner and not on SADC-GMI

The trainings were detailed, on the technical component provided support to the different countries. The training planned for learning from other countries on best practices and learnings to better inform project delivery in different countries. Due to sequencing some training like ESS would have been more effective if were scheduled in the project inception meeting.

1. There was no training done

2. On technology, there is room for improvement e.g. use of isotopes, Remote sensing (can project, in the long-term) to launch its own satellite mission specifically for SADC apart from the GRACE Satellite which is of very coarse resolution)

9. Project monitoring, evaluation and close-out

10. Final recommendations
Recommendations or suggestions for SADC-GMI to improve as an organisation

The financing and payment procedure should be taken more seriously at the onset so that both SADC GMI and Water Mission moves together right from the onset

SADC GMI staff compliment is too thin to cover adequately all areas of projects.

Better responsiveness on the finance and procurement leads

Decentralization is key

Appendix H: Technical assessment summary

Summary of technical review of SADC-GMI performance against Worlds Bank Appraisal I Document Annex 6

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
A: Operationalising SADC	Inception Report (2020): Establishment of National Focal Groups in the SADC Region	<p>Context</p> <ul style="list-style-type: none"> The establishment and capacitation of National Focal Groups and support these groups. Among other things NFGs may lead pilot project implementation, and may participate in GW advocacy and capacity building <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Project in inception phase, lessons emerging Likely lessons are that the mix and balance of decision makers, practitioners and researchers will determine the character and success of NFGs, and that appropriate hosting arrangements will ensure sustainability 	Ongoing
A: Operationalising SADC	Terms of Reference and 2017 Sub-Grant Manual	<p>Context</p> <ul style="list-style-type: none"> The Manual facilitates the implementation of the SADC-GMI sub-grants scheme <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Sub-Grants have enabled capacity building, training, research, infrastructure development and GW dialogue in Member States 	Good
A: Operationalising SADC	Strategic Business Plan 2018 – 2023 (2018)	<p>Context</p> <ul style="list-style-type: none"> A comprehensive Strategic Business Plan (SBP) has been developed to guide SADC-GMI priorities and activities up to 2023 <p>Elements and Lessons Learned</p> <ul style="list-style-type: none"> The SBP articulates and consolidates the SADC-GMI vision, mission and goals. These guide strategic objectives and the activities associated with them. A structured programme to implement the SBP is underway The SBP identifies risks facing SADC-GMI, including those associated with single-source funding. Diversification options are described and assessed Strategic planning is a critical element of GMI governance and will take place at regular intervals 	Good
A: Operationalising SADC	Regional Strategic Action Plan Phase IV – 2016 to 2020	<p>Context</p> <ul style="list-style-type: none"> Regional Strategic Action Plans (RSAP) underpin the SADC-GMI mandate. RSAP is the fourth iteration of progressive RSAP updates <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> The SADC region is dynamic, as is the context in which water is managed and used. RSAP revisions respond to new regional circumstances and priorities whilst retaining core objectives. Emerging themes in RSAP IV are water research, gender, climate variability and the relationship between water resources and human wellbeing 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
A: Operationalising SADC	Financial Sustainability Report (2018)	<p>Context</p> <ul style="list-style-type: none"> The report addresses funding diversification options for SADC-GMI <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Financial sustainability is a priority for SADC-GMI, underpinning all future work. Grant funding remains the likely dominant source, but other income streams are potentially available 	Ongoing
B: Institutional Capacity	Toward a Framework for Conjunctive TBA Management (undated): Conjunctive Water Resources Management in the Shire TBA	<p>Context</p> <ul style="list-style-type: none"> Assessment of the requirement for and application of conjunctive management practices in the Shire river transboundary area <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Conjunctive use advocacy should take place where river basins and aquifers straddle common boundaries Sound data is required to plan and manage cross boundary conjunctive use Integrated transboundary planning is still based primarily on hydrological boundaries, but consideration of groundwater is becoming more common. Linking transboundary and conjunctive use planning is complex, requiring technical and institutional cooperation Transboundary RBOs provide a useful platform for institutionalising and sustaining cooperation. GW requires more attention in RBOs 	Ongoing
B: Institutional Capacity	Project and Workshop Report (2019): Shire Joint Knowledge Management	<p>Context</p> <ul style="list-style-type: none"> Project to enhance integrated surface and groundwater management, using the Shire river – aquifer system as a pilot <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Transboundary Diagnostic Analysis (TBA) is a useful tool to promote transboundary convergence and cooperation, and to inform strategic action planning. These tools have been used in the Shire pilot Transboundary and conjunctive use planning is a progressive and time-consuming enterprise. Information gaps may constrain understanding and cooperation around shared aquifers. It may be necessary to develop and implement monitoring systems early in transboundary projects 	Ongoing
B: Institutional Capacity	Strategic Action Plan for the Shire River Aquifer System (2019)	<p>Context</p> <ul style="list-style-type: none"> Development of a negotiated Strategic Action Plan (SAP) for the Shire River Basin Aquifer System <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Developing a SAP is a first and important step in the development of transboundary conjunctive management, and a trigger for further actions. The Shire pilot is a test for effectiveness of this tool 	Ongoing

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
B: Institutional Capacity	Final Report (2018): Capacity Needs Assessment	<p>Context</p> <ul style="list-style-type: none"> Investigation of groundwater management capacity in SADC and the role of SADC-GMI in capacity development <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Most Member States struggle to fulfil their GW management mandates due to policy limitations, limited human and funding resources and patchy and inconsistent data. Water ministries and utilities are mostly understaffed Knowledge of the state of groundwater resources is limited in many cases. Monitoring networks are generally in place, but possibly ineffective in many situations 	Good
B: Institutional Capacity	Gap Analysis Reports (2019): GMI-PLI Policy, Legal and Institutional Assessment of Groundwater Management in the SADC Member States (2019):	<p>Context</p> <ul style="list-style-type: none"> The gap analysis project provides a nationally based overview of gaps in GW policy, legislation and legal frameworks, and institutional arrangements 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Lesotho	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> Continued water insecurity due to inadequate legal and policy frameworks, limited resources and failing infrastructure Land and environmental degradation limit retention capacity and aquifer recharge 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Angola	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> Limited institutional capacity and cohesion National water plan not well implemented 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Botswana	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> Outdated legislative framework does not address issues of development sectors in Botswana Limited institutional capacity and groundwater leadership GW is the main resource for domestic use, but little attention to conservation 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Democratic Republic of Congo	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> No national water policy and no legislation relating to GW Insufficient institutional and human capacity, and limited commitment to GW strategy implementation 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Eswatini	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> Lack of a specific Groundwater management policy and support systems for GW management Groundwater leadership but needs to be strengthened. Poor funding for groundwater exploitation 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Madagascar	<p>Selected Findings and Lessons Learned</p> <ul style="list-style-type: none"> No groundwater policy in place Groundwater management roles unclear 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
B: Institutional Capacity	Gap Analysis and Action Plan for Malawi	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • No body for registration and control of hydrogeologists. • Inadequate enforcement of regulations • Inadequate human, financial and technical capacity 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Mauritius	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Cooperation between land and water-use ministries needs to be reinforced • Inadequate abstraction monitoring • Enforcement and compliance require reinforcement 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Mozambique	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Limited GW legislation • No specific groundwater institution or section in the national water directorate • Lack of professional capacity for GW management 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Namibia	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Limited and fragmented legislation and partial implementation • Low capacity to manage and monitor groundwater resources • Limited recording of groundwater data and licenses 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Seychelles	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Lack of a national groundwater management policy and strategy • Insufficient guidelines and standards • Insufficient human capacity in government to implement provisions for groundwater management 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for South Africa	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • National water policy, but no groundwater management policy. • Policy not fully implemented • Weak intersectoral integration and collaboration • Slow devolution of water management functions and weak local GW management and monitoring • Limited compliance monitoring 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Tanzania	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Inadequate policy guidance on aspects of groundwater management, including institutional arrangements, public awareness of pollution sources, private sector role in groundwater management and development and data collection and monitoring 	Good
B: Institutional Capacity	Gap Analysis and Action Plan for Zambia	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Groundwater recognised as an important source of water supply, and as a driver for poverty alleviation, food security and economic development. • No specific policy approach for groundwater development in rural areas • No nationally managed groundwater programme and relatively uncoordinated GW management implementation • Inadequate financing for and investment in water resource development 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
B: Institutional Capacity	Gap Analysis and Action Plan for Zimbabwe	<i>Selected Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Lack of explicit groundwater policy and legislation, including transboundary aquifers • Weak and under capacitated institutions and weak institutional linkages • Lack of surface / groundwater integration • Lack of lower-level water management institutions 	Good
B: Institutional Capacity	Tanzania GW-PLI Roadmap (2019)	<i>Context</i> <ul style="list-style-type: none"> • Strategic responses to identified gaps in legislation, strategy, guidelines and institutional frameworks <i>Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Multi-faceted response required, including policy updates, harmonised GW legislation, strengthening regulations, establishment of appropriate institutions, private sector involvement and building technical, monitoring and information management capacity 	Good
B: Institutional Capacity	Regional Gap Analysis and Action Plan Report – Final (2019)	<i>Context</i> <ul style="list-style-type: none"> • Overview and integrative report for the regional gap analysis project <i>Findings and Lessons Learned</i> <ul style="list-style-type: none"> • The sector reforms indicated by the project are urgent and important, especially given high and increasing reliance on groundwater • The SADC region has an abundance of groundwater resources, but many factors constrain effective development and use • These include policy, legal and institutional shortcomings, resource constraints, limited skills and human resources, financial limitations and inadequate information management systems • Groundwater management in most Member States is therefore inadequate to support the sustainable management and development of groundwater resources • SADC legal instruments and policy / strategy tools, and SADC-GMI provide platforms for improved regional groundwater management and for the management of transboundary aquifers 	Good
B: Institutional Capacity	Guidance Documents (2019)	<i>Context</i> <ul style="list-style-type: none"> • A series of groundwater management documents based on the GMI-PLI project 	Good
B: Institutional Capacity	Report 3.1 – Development of a GW Policy, Legal and Institutional Roadmap	<i>Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Taking guidance from SADC-GMI PLI roadmap preparation, Member States can execute their own roadmaps • Specific roadmaps will need to be contextually grounded, considering national goals and agendas, and current policy, legal and institutional status. Roadmaps are not “one size fits all” 	Good
B: Institutional Capacity	Report 3.2 – Operation and Maintenance of Groundwater Schemes	<i>Findings and Lessons Learned</i> <ul style="list-style-type: none"> • Groundwater supply schemes often fail because of infrastructure failure, and lack of adequate operation and maintenance is a major contributor • Successful O&M has many facets, outlined in the guidance document. Member States can improve their own O&M guidelines and practices using this tool 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
B: Institutional Capacity	Report 3.3 – Building Groundwater Resilience	<p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Groundwater can play a key role in water resilience in a region prone to climate, environmental, political and social shocks Water and especially groundwater resilience can be purposefully enhanced and managed through a variety of measures listed in the guideline. Member States can advance resilience through application of this tool 	Good
B: Institutional Capacity	Report 3.4 – Institutionalisation of Groundwater Management	<p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Water management governance frameworks and institutional arrangements are still largely under development in SADC Member States. From a groundwater perspective there is still significant institutional development effort required at transboundary and national scales to secure sustainable GW development and management 	Good
B: Institutional Capacity	Report 3.5 – Strategic Approach to Financing Groundwater Management	<p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Whilst the importance of groundwater is well recognised, mechanisms to finance and receive revenue from groundwater are often very weak, or even non-existent. Groundwater development is cost effective compared to surface water, but securing revenue can be complex due the frequently small-scale and discrete nature of GW schemes, and the resulting fragmentation of revenue collection and enforcement 	Good
B: Institutional Capacity	Pan Africa Groundwater Programme. Concept Note (2019), Summary Report (2019)	<p>Context</p> <ul style="list-style-type: none"> The objective is to cooperate with the Pan-African Groundwater Programme <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> AMCOW and the Pan-African Groundwater Programme are important partners in the water management and development domain. GMI seeks to develop and enhance its relationship with AMCOW 	Good
C: Knowledge and Research	Situational Analysis (2020): Enhancement/Expansion of the SADC GIP	<p>Context</p> <ul style="list-style-type: none"> A follow up to the SADC GW DataCoM project which ended in 2019 <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Database development and use is variable across Member States. Only South Africa has a database accessible to external users at the moment It is difficult to develop and maintain databases for both spatial and time series data Organisations are open to sharing borehole data in SADC-GIP, but quality information is deemed sensitive by some Hydrogeological maps are outdated in most states. Converting to electronic format would enhance access Capacity building is needed to improve cooperation and data sharing in the SADC region 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
C: Knowledge and Research	Situational Analysis (2020): Updating the SADC Grey Literature Archive	<p>Context</p> <ul style="list-style-type: none"> The grey literature archive facilitates access to information not published in mainstream journals or in formal publications <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Project in inception phase, so no formal lessons at the moment General lessons: to make the system more accessible; monitor the website; the portal requires upgrading 	Ongoing
C: Knowledge and Research	Inception Report (2020): Assessment of Groundwater Priority Intervention	<p>Context</p> <ul style="list-style-type: none"> Study highlights use of GW during droughts, providing for planning and management of GW and surface water systems <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Project in inception phase, lessons emerging General lessons are: it is important to share project data sets; data availability and reliability may be study constraints 	Ongoing
C: Knowledge and Research	Inception Report (2020): Water Resources Management in the Eastern Kalahari Karroo TBA	<p>Context</p> <ul style="list-style-type: none"> Study of the Eastern Kalahari Karroo Aquifer shared between Botswana and Zimbabwe <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Project in inception phase, lessons emerging General lessons are: look at linkages with other SADC-GMI initiatives (for example the Tuli Karroo TBA study and the grey literature database) 	Ongoing
C: Knowledge and Research	Final Report (2019): State of Groundwater Data Collection and Data Management in SADC Member States – Capacity Building for Data Collection and Management	<p>Context</p> <ul style="list-style-type: none"> Comprehensive assessment of the state of groundwater data collection in SADC <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Groundwater data collection is largely patchy and inconsistent Systems and procedures to initiate and guide GW data collection are often absent, as are systems to store data and to assess data quality and reliability. Databases are often locally held, and not linked to national databases Abstraction is seldom systematically monitored Capacity for GW monitoring and data collection is often limited in water management institutions 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
C: Knowledge and Research	Ibid (2019): SADC Framework for Groundwater Data Collection and Management	<p>Context</p> <ul style="list-style-type: none"> The project seeks to provide organisational and planning structures for the collection and management of groundwater data <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Sound and systematically collected groundwater data is essential for the formulation of groundwater policy and for the development and management of resources Common methods and databases promote the sharing of groundwater information. This sharing is especially important in transboundary contexts Data may be collected largely by national organisations, but transboundary organisations such as RBOs and SADC-GMI are well positioned to lead and support transboundary data harmonisation 	Good
C: Knowledge and Research	Joint Stakeholder Session (2018): Conjunctive Water Management in the Transboundary Shire River Aquifer System	<p>Context</p> <ul style="list-style-type: none"> Workshop to introduce the Shire Project and to plan collaboration going forward <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Key constraints to collaboration in this context include lack of harmonising data, lack of political will, different national priorities, lack of data collection and monitoring practices and limited funding 	Good
C: Knowledge and Research	Research Paper (2018): Adapting to Climate Change in the SADC Region – a Focus on Groundwater	<p>Context</p> <ul style="list-style-type: none"> Research looking at groundwater perceptions and the way in which GW can enhance resilience to climate change <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Many SADC countries are vulnerable to drought A small proportion of available groundwater resources is used in many SADC countries. A significant potential for groundwater irrigation has been found. With the appropriate infrastructure and support GW irrigation could expand significantly 	Good
C: Knowledge and Research	Draft Report (2019): Collaboration Research in the Tuli Karoo TBA	<p>Context</p> <ul style="list-style-type: none"> Report on the Transboundary Diagnostic Analysis for the Tuli Karoo Aquifer and surface water system <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Climate variability risk in the Tuli Karoo system is clear, and is shared with many other areas in Africa A healthy ecosystem is key to the viability of this shared system, with water playing a major role. Mining and inadequate sanitation impact water quality The Limpopo Watercourse Commission is a tool to promote cooperation 	Good

Appendix H: Technical assessment summary

SADC-GMI Implementation Component	SADC-GMI Documents and / or Projects Addressing this Component	Overarching Findings and Lessons Learned	Assessed Comprehensiveness of Issue Coverage
D: Infrastructure Development	Follow up Impact Evaluation of the Pilot Projects	<p>Context</p> <ul style="list-style-type: none"> A follow up study of pilot interventions in the Limpopo River Basin <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Stakeholder engagement and community ownership, operation and management of groundwater projects is a critical element of sustainability. Capacity building is needed, and post project monitoring and support are important Renewable energy sources should be considered, especially in rural areas Insufficient yields and incomplete infrastructure in some cases might have been due to poor technical understanding and limited contractor management. Construction close-out assessment and reporting is required 	Good
D: Infrastructure Development	TOR and Technical Report (undated): Development of an Operation and Maintenance (O&M) Training Manual	<p>Context</p> <ul style="list-style-type: none"> The study objective is the development of a groundwater O&M manual and to guide appropriate training <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> Successful O&M requires broad participation and cooperation. O&M is facilitated if GW assets are viewed as part of a wider system Good O&M will promote infrastructure sustainability, whilst poor or weak O&M may underpin system failure. Typical causes of failure include limited community participation and ownership and system deterioration. The latter may prompt community dissatisfaction and further poor governance A sustainable approach to O&M may be to devolve system management to agencies or institutions, possibly using technical, financial and administrative guidelines from government O&M capacity building is required in many circumstances. This capacity building should be viewed as a process of continuous improvement 	Ongoing
D: Infrastructure Development	Technical Report (2020): Training Manual on the Preparation of Proposals to Access Funding for groundwater infrastructure	<p>Context</p> <ul style="list-style-type: none"> Project to facilitate Member State access to groundwater funding, through effective funding proposals <p>Findings and Lessons Learned</p> <ul style="list-style-type: none"> GW funding sources are substantially clustered in multi-lateral development funding mechanisms and in bi-lateral funds. Funding is typically channelled through national governments Grants focus mostly on groundwater governance, investment in grey and green infrastructure and investment in green management and conservation mechanisms Most funders look for country ownership, a climate resilience focus, pro poor emphasis, value for money and the mobilisation of private sector partners 	Good

Appendix I: Gaps and opportunities identified in the Regional Gap Analysis (2019)

Gaps and opportunities identified in the Regional Gap Analysis (2019)

Regional Water Framework Pillar	Policy/Strategy/Protocol/Plan	Gaps	Opportunities/Enablers to strengthen policy framework
Legal	The Revised Protocol on Shared Watercourses in 2000	The definition of 'shared watercourses' imposes limitations on the ways in which internationally shared aquifers and aquifer systems can be regulated	While no global instrument or set of customary norms exist to guide SADC in creating a legal framework for governing transboundary aquifer regulation, there is an emerging set of work by legal scholars, technical experts and practitioners that has taken the form of guidance and draft and model provisions, which can offer SADC an understanding of the core norms to consider as it moves forward.
		The Protocol restricts consideration to aquifers that are hydrologically connected to surface water (such as a river or lake)	
		There are additional and unique considerations that must guide the creation of any effective international legal regime governing shared aquifers and aquifer systems require specific regulatory interventions tailored to the context of groundwater that represent major gaps in current international, regional and basin-specific legislation governing shared watercourses.	
		There is no internationally agreed, global instrument or even set of customary norms that can be said to represent the rules governing States' conduct on shared aquifers	
Policy	The Regional Water Policy	Strongly focused on surface water, with considerable gaps pertaining to groundwater management and development	Ideally, the policy should be reviewed with a conscious focus on addressing its limitations in relation to groundwater management and development. More generally, the policy is dated in that it does not reflect the more recent developments in understanding of such issues as climate change, the importance of international development goals, the importance of groundwater in terms of socio-economic development, the role of groundwater in sustaining ecosystems and the importance of transboundary aquifers. The amendment of regional policy is understood to be longer-term process and as such should be a longer-term objective of the SADC-GMI, in conjunction with the SADC Water Division.
		Does not provide the more explicit policy guidance on the development or co-management of groundwater resources	
		Provides little direction in understanding of climate change and the importance of this in terms of socio-economic development	
		Limited reference to aquifer boundaries or the situation where aquifers boundaries cross basin boundaries	
		Makes no reference to the specific institutional arrangements for groundwater management	
		There is no recognition of the value of indigenous knowledge and the use of approaches to utilise this	

Appendix I: Regional gap analysis (2019)

Regional Water Framework Pillar	Policy/Strategy/Protocol/Plan	Gaps	Opportunities/Enablers to strengthen policy framework
Strategy	The Regional Water Strategy	Was developed before the role and importance of TBAs were fully understood	<p>There are many innovative mechanisms which have been implemented for conjunctive use which need to be considered going forward.</p> <p>There are groundwater networks and partnerships that have been established in the region to implement water strategy and there is an opportunity build coherent knowledge infrastructure through existing networks</p> <p>An updated Regional Water Strategy needs to consider groundwater resilience options and infrastructure to adapt to climate change water-related implications such as drought. Technological progress coupled with better understanding of aquifer systems make it conceivable to implement a raft of measures that allow sustainable utilisation of groundwater resources.</p>
		The groundwater governance and institutional frameworks to deal with TBAs are absent in SADC and require consideration	
		An updated Regional Water Strategy is required that take cognisance of the future role of TBAs	
		The Island States needs for groundwater resources are not explicitly incorporated	
		An updated strategy is required to deal with water supply in urban areas but also consider the unique aspects of coastal cities	
		Whilst the need for groundwater monitoring has been identified its practical implementation has not taken place	
		There is a need to incorporate groundwater monitoring infrastructure to manage both national and transboundary aquifers. Monitoring systems need to consider early warning and trigger thresholds	
		There is limited understanding of groundwater dependent ecosystems (GDEs) and its role in environmental functioning	
		The role of groundwater in drought alleviation has not been fully incorporated	
Planning	The RSAP IV	There is a need to improve upon the conjunctive water resource management regimes	<p>The regional review of the RSAP IV and development of the RSAP V will allow for a meaningful opportunity to strengthen the approach to conjunctive surface and ground water management and development, whilst developing programmes that strengthen the governance of groundwater resources.</p>
		Currently, surface and groundwater resources are still effectively managed as two separate resources and the development of more integrated approaches are not yet prevalent enough	

Appendix I: Regional gap analysis (2019)

Regional Water Framework Pillar	Policy/Strategy/Protocol/Plan	Gaps	Opportunities/Enablers to strengthen policy framework
Institutional	Various institutional relationships and partnerships	There are currently only nine River Basin Organisations (RBOs) and none established specifically for the management of a transboundary aquifers	The further involvement of SADC-GMI will be important in supporting a more coordinated approach to groundwater management across the region through the exchange of knowledge, the development of capacity and networks and the improvement of coordination.
		There are only limited groundwater specific programmes and studies that emerge from planning instruments and supporting technical studies, as a result, our understanding of transboundary aquifers is only limited (Pietersen et al., 2018).	
		The institutional framework for research across the region is not well established	
		There are no groundwater focused institutions (other than SADC-GMI which has a specific mandate) that look to the direct management and development of transboundary aquifers	
		The institutional framework provides only limited clarity as to the various reporting frameworks at regional and national levels, and between the various regional institutions. This results in a lack of clarity and coordination regarding ongoing programmes and projects	
		A lack in the exchange of data and information across institutions and between shared watercourse Member States	
		Engagement with stakeholders are often perceived to be poorly coordinated, insufficiently funded and with a lack of clarity as to the role that these important actors can play. There is limited guidance in this regard and this needs to be strengthened	
		There is no real institutional platform for the exchange of knowledge and technical experience across the region	

Appendix J: Good practice benchmark overview for NGO's

Good practice benchmark guidelines

Organisational capacity

A review of water utilities in Africa, found that “although institutional reform is a gradual process, considerable change can be effected in a matter of months, contingent on the right mixture of leadership and commitment to a common goal.” (Lesson from the Nairobi Water and Sewerage Utility, *Water Utilities in Africa: Case Studies of Transformation and Market Access*, 2007/revised 2009).

The case studies in this review points all to high functioning institutional structures and strong internal management processes to achieve performance improvements and the literature in Organization Development also covers this point extensively. A second lesson from these case studies, is the benefit derived from a ‘business-oriented approach’, indicating that organizations which operate with this mind-set, concentrate on staff empowerment, creativity and innovation.

Furthermore, the role of partnerships was found as a success factor in these case studies. Partnerships and relationships with research institutes, universities, and the private sector are often recognized as offering a conduit to the development of new ideas and solutions to problems.

Good practice in non-profit management

Non-Profit Companies (NPC) face numerous critical challenges in responding to the growing expectations of their stakeholders in an increasingly complex operating environment. An NPC must be well governed and report in such a way as to be seen to be well governed. This is of critical importance if they are to successfully meet the challenges created by:

- Reduced funding from traditional sources, such as governments, corporations and private donors;
- Competition from other NPCs facing similar funding difficulties;
- An increased demand for services, as result of downscaling or program cuts by governments;
- The need to manage more complex and sophisticated entities, as they grow in organisational size and complexity;
- Subtle shifts in funding requirements making it challenging to remain true to core objectives; and
- Heightened accountability and expectations on the part of an expanding number of stakeholders, who may have conflicting expectations for the NPC.

Types of non-profit organisations

Non-Profit Organisations (NPOs) are common worldwide. The defining characteristic of NPOs is that they do not seek to make a profit, thereby bypassing or limiting exposure to taxation. NPO-related tax legislation and regulations differ from country to country, as do NPO definitions. In the United Kingdom, for example, the UK tax system recognises three NPO types (SMP Fundamentals, 2012):

- Charities, which are largely exempt from tax;
- Community Amateur Sports Clubs, which have limited tax relief; and
- Other not-for-profit bodies (further divided into many categories), which in many cases are liable for tax.

In the United States, the Internal Revenue Code recognises around 30 types of tax-exempt organisations (Sherlock and Gravelle, 2009). These include charities, social welfare organisations, labour unions, trade associations, fraternal societies and political organisations.

South African law recognises three NPO types: voluntary associations, trusts and non-profit companies. The latter were previously termed Section 21 companies, but this title no longer exists (NGO Pulse, 2017).

A substantial international NPO body of literature contains multiple examples of advice and guidelines for NPOs. One of the most succinct (Murphy, 2016) lists the following governance and business practices NPOs “can’t afford to overlook”:

- **Governance and board oversight.** NPO boards must be absolutely clear on roles, responsibilities and authority. Board members should embody an appropriate range of skills, and purposeful capacity building should be undertaken where necessary;
- **Strategic planning.** Sound strategic plans are essential for NPOs. These should extend over two to five years, should be guided by overarching visions and missions, and should cover areas of both risk and opportunity. Clear objectives are important, preferably derived through consensus;
- **Financial and cash flow management.** NPOs must consider and manage finances, through budgets, forecasting and monitoring. Management of cash flow and reserves are important where funding sources are limited;
- **Donor and contribution management.** Fundraising is a critical area of NPO governance, requiring investment in people and processes. A long-term view is important since accessing and securing donor funding could take many months. Strategy should include building strategic partnerships;
- **Use of technology.** Information technology investment should be a component of strategic planning. Appropriate IT systems and applications will facilitate information capture, storage and dissemination;
- **Networking and benchmarking.** NPO managers can learn a great deal through sharing business practice experiences with peers. Similar organisations can be used to set sector benchmarks and to identify effective practices;
- **People development.** Human capital is a key resource for most NPOs, especially where mission delivery replaces profit delivery. Securing and developing the necessary skills are important, and succession planning should be in place for key people; and
- **Marketing.** Marketing helps to educate the public and to build the NPOs brand, and to generate funding. Expertise may have to be outsourced in some cases. Passive marketing (e.g. websites) should be accompanied by the promotion of proactive conversations.

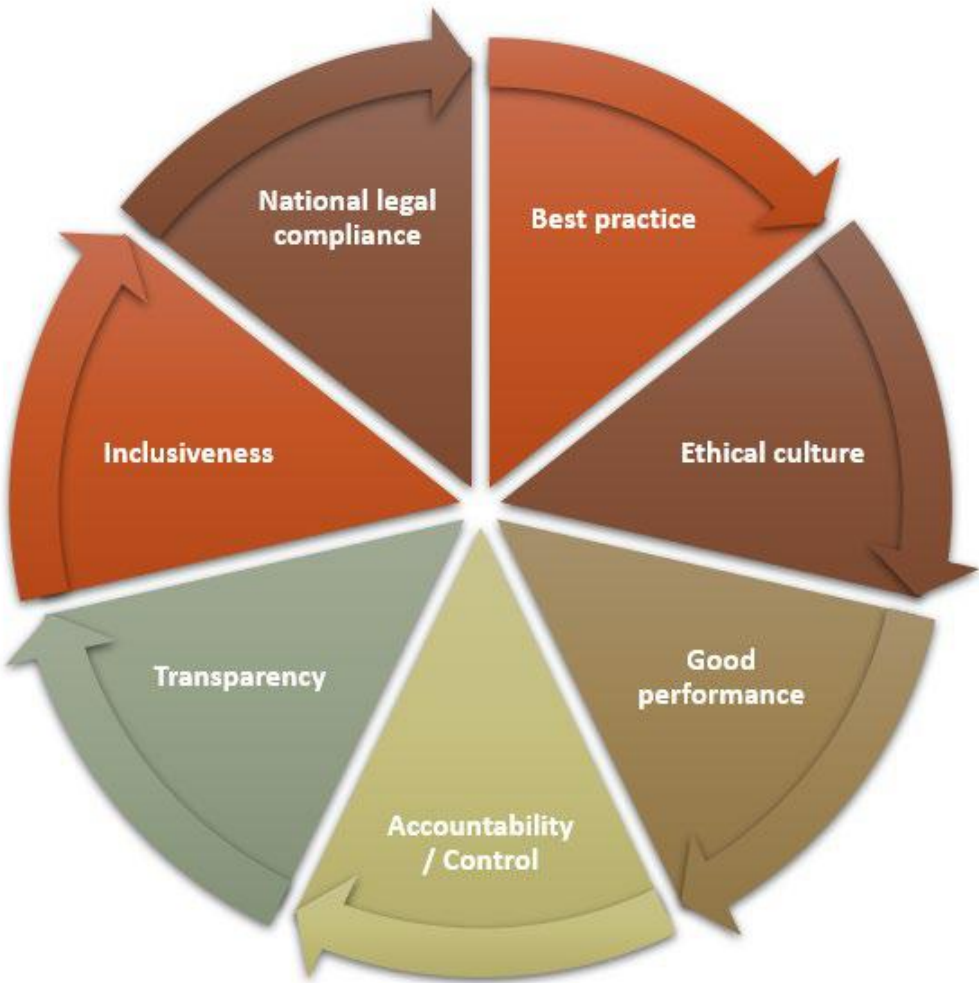
Governance and NPOs

Elements of the NPO literature make the point that whilst governance is important in all business and non-profit enterprises, it is especially so in the latter case where organisations work toward missions rather than clear-cut profit objectives. In this context, many NPOs fail to give governance the required emphasis. In the view of a South African NPO commentator, “governance can make or break your organisation”.

Governance deficiencies can damage an NPC's reputation, detract from its fundraising ability and hamper its ability to meet its objectives. Increasingly, governments and corporate and private funders are asking NPCs to provide information on their governance system in order to demonstrate that their donated monies are being well spent and used for the purposes they intended.

In summary, the objective of good governance is to ensure that the organisation achieves its objectives by being able to put forth its best efforts to implement its strategies and make the best use of its resources.

Good corporate governance is a complex concept with tangible, measurable and unmeasurable elements that shows the intent to “do the right thing”. The corporate governance assessment for SADC-GMI will be based on the following principles:



Appendix K: SADC-GMI Legal Contract Framework

SADC-GMI Legal Frameworks and Contract Agreements

Title	Role	Brief Outline
Regional		
SADC Revised Protocol on Shared Watercourses in the Southern African Development Community (2000)	The legal framework governing transboundary water in SADC. SADC Member States are signatories	The Protocol seeks to foster closer cooperation around the management of shared water courses in the SADC region. Among other things, the Protocol describes the SADC institutional mechanisms responsible for Protocol implementation. The SADC Water Division is responsible for coordinating regional initiatives under the guidance of the Protocol
SADC Regional Water Policy (2005)	The policy framework for management and development of water resources across SADC Member States	The Policy seeks to provide a framework for the sustainable, integrated, and coordinated management and development of national and transboundary water resources in the SADC region
SADC Regional Water Strategy (2006)	Strategy for achieving development and poverty reduction in SADC, through integrated planning, development and management of water	The Regional Water Strategy gives effect to the Policy. The Policy addresses the “what” on regional water issues, and the Strategy the “how”. The document addresses strategy for important regional issues (including for example water and poverty alleviation) and clarifies implementation processes
SADC Revised Regional Indicative Strategic Development Plan 2015-2020 (2015)	Plans to realise the potential for water to play a role as an engine and catalyst for socio-economic development	The revised RISDP updates the original plan of 2003. It seeks to deepen the integration agenda of SADC, with a view to accelerating poverty eradication and other development goals. Among other things, it presents strategies to resource the revised RISDP
SADC-GMI		
Memorandum of Incorporation for SADC-GMI (2011)	Official document setting out the requirements for SADC-GMI registration and operation under the Companies Act (2008)	South African company legislation was amended in 2011. Under the new legislation, NPOs formerly registered under Section 21 of the Companies Act became Non-Profit Companies (NPCs). Memoranda of Incorporation (MoI) replaced Articles of Association, but general requirements under the Articles remain unchanged. Among other things the SADC-GMI MoI includes rules for the board and the powers and duties of board members
Project Agreement between agent for GEF and CIWA and the University of the Orange Free State	Grant agreement between the World Bank (acting as agent for GEF and CIWA) and the University of the Free State	The grant agreement lays out the general articles underpinning the agreement, together with arrangements for the implementation of the SADC-GMI project. These arrangements include the role of the SADC Directorate for Infrastructure and Services (and by implication the SADC Water Division) and the establishment of a management unit to host SADC-GMI. The agreement also addresses anti-corruption, environmental and social safeguards, and project monitoring, reporting and evaluation
Service Level Agreement between SADC-GMI and University of the Free State	Agreement in terms of which the UFS provides hosting services to SADC-GMI	In terms of the agreement, UFS must provide services that align with Good Industry Practice, prioritise the sustainability and preservation of the environment (especially groundwater), and comply with GMI policies, procedures and practices. UFS must provide a sufficiently capacitated and skilled management team

Appendix L: Detailed governance and financial recommendations

Detailed governance and financial recommendations

Governance and financial performance areas	Measurable or immeasurable area	Description	
Ethical culture	Immeasurable	The board consist of well experienced, qualified members. Varied backgrounds and focus give comfort that ethical behavior and the intent to achieve the institutional goals will be a priority. Approved Financial management Guidelines place emphasis on ethical behavior for both staff, consultants and board members	
Participatory / inclusiveness	Immeasurable	Board Members are a fair representation of management, member states and host institution (UFS). Well balanced cultural and ethnical diversity	
	Measurable	Through interactions with board members and interviews, a clear active involvement of board members is evident and reassuring. Lack of access to board reports, minutes of meetings, attendance records and sharing of information and execution of Board Members fiduciary duties questions the effectiveness of the board and corporate governance oversight of the institution.	
Transparency	Immeasurable	Staff seem to be cooperative and willing to share information on request. Individual interviews and additional sharing of information will confirm transparency in the management and operations of SADC-GMI	
	Measurable	Reporting	Staff and management are actively developing processes and policies to support the management of SADC GMI. Staff are cooperative and support information and reports on request.
		Policy	
		Operations	
		Compliance	
		Planning	Strategy Documentation, scenario planning and budgeting is well done and shared. However, issues addressed in previous strategic documents are not actively improved.
Good performance	Measurable	Reporting	Lack of integrated reporting and policy makes it difficult to measure performance and adherence to funding requirements MOU and SLAs. Needs to be improved if SADC-GMI wants to operate on its own.
		Policy	
		Compliance	Basic compliance is met through: Project reporting Audited Statements Submission of fiduciary requirements
		Strategy and Risk	The risk associated with the changed funding environment and viability of SADC-GMI is recognised and addressed pro-actively Discrepancy exists between fund allocation and strategic objective components.
Accountability / control	Measurable	Internal policies, procedures and safeguards were approved and needs to be implemented to ensure accountability, measurement and control, as the function is currently fulfilled by UFS.	

Governance and financial performance areas	Measurable or immeasurable area		Description
Following the Rule of Law	Measurable	Auditing and Taxation	Minimum requirement met
		Board Reporting	Through discussions and interactions, it is conveyed that good practices and corporate governance in place. All documentation was not available to confirm.
Good practise	Immeasurable	Benchmarking and engaging with peers	Building a reputation and creating awareness for water management issues in SADC region
	Measurable	Policies, procedures, Corporate Governance	The function is currently fulfilled by UFS but SADC GMI is developing policies, processes and procedures to become autonomous

Appendix M: Cost-benefit Analysis

Cost benefit Analysis SADC GMI

The cost benefit analysis to determine the best location for SADC-GMI has been conducted by Mrs Retha Eastes with support from the SRK team. The following aspects of the cost benefit analysis were described in detail in the main report:

- Methodology
- Locations and hosting options considered
- Benefits of each location and hosting option

This appendix contains a detailed description of the following:

- Costs associated with SADC-GMI's organisational functioning
- The calculations for the different options in both USD and Rand
- The Net Present Value calculations
- Summary of findings
- Next steps

Costs:

Office space requirements:

Office size 1	Total Number	Total m ²
Office size 2	1	20
Office size 3	3	36
Board Room	1	16
Storeroom	1	24
Open plan shared office and reception	1	6
Kitchen	1	24
Shared Bathroom	1	8
Total (Approx.)		134 m ²
Parking spaces		10

Appendix M: Cost-benefit Analysis

Financial service requirements:

Financial/Professional Services and Support	
Service	Detail/Requirements
Financial oversight and reconciliations	Ave of 370 financial transactions per month – General ledger Count
Estimate: monthly/annual total hours of support needed	<p>Procurement (requisitions and tenders): 48 hours</p> <p>Payroll review(salaries, reimbursements, DSA's): 4 hours</p> <p>Review of all daily payments(National and International</p> <ul style="list-style-type: none"> - 1st approval: 48 hours - 2nd approval: 20 hours <p>VAT and EMP 201– (review and submission to SARS):</p> <p>6 hours</p> <p>IFR's, Meetings etc.: 16 hours</p> <p>Total average monthly hours: 142 *</p> <p>Financial yearend audit assistance: 60* hours</p>
Full payroll services and support	8 Employees
Monthly/annual statutory reports, payments and submission	<p>VAT</p> <p>Company Taxation</p> <p>Payroll Taxation</p>
Vendor selection and registrations	10 per month
Procurement processes	Tender and RFQ compilation and adjudication: 10 per month
Other	<p>Appointed public officer</p> <p>Internal Auditing</p> <p>Approval and release of all payments</p> <p>International bank transfers</p> <p>General support with external audit</p>

Appendix M: Cost-benefit Analysis

Costs Summary

Cost	UFS	Bloemfontein Commercial	CSIR	UP	IWMI	Commercial
OFFICE LEASE	Current contractual amount	Commercial property rental amounts for Brandwag and Westdene. Limited suitable space is available, and the quality might not meet client's requirements	Commercial property lease options for various areas in Pretoria was considered. and compared. Quality, affordable options that meet client's standards and requirements are available. Average rates of R130 p/sqm is a good indication of commercial A grade office space with a green rating. Considering size, quality of facilities, proximity to UP, CSIR and IWMI as well as easy access to highways, Gautrain and International airports, Hilcrest Office park in Lynnwood is a good indication of facilities and availability.			
TRAINING VENUE LEASE	Currently SADC GMI does not make use of any facilities provided at favorable rates at UFS and all facilities are procured at standard commercial rates. The impact of possible savings or additional cost are considered neutral.					
CONFERENCE VENUE LEASE						
UTILITIES	Included in current rate	Commercial rates quoted by leasing agents per sqm are used. R 25 p/sqm				
OFFICE CLEANING AND MAINTENANCE	Included in current rate	Commercial rates quoted by leasing agents per sqm are used: R 15 p/sqm				
EMPLOYEE COST	After careful consideration and discussions, it was confirmed that the scenarios under consideration will have no impact of staff costs and it is considered neutral.					
SUB-CONTRACTING OF SERVICES	Current contractual amount	Engaged with 4 potential service providers: Costing and service delivery based on Transaction volumes, Services needed, Professional hours. All services based on monthly averages for the last 24 months and interview skills assessment and needs analysis. Full details and profiles can be provided. Final costing will be based on more detailed information sharing and negotiations, but commercial rates provided is a fair indication of cost estimation and can be used to negotiate terms with potential and current host organisation.				
RELOCATION COSTS	NA	1 Month salary for all permanent employees (Subject to board approval)				
RETRENCHMENT COST	After careful consideration and discussions, it was confirmed that the scenarios under consideration will have no impact of staff costs and it is considered neutral.					
RECRUITMENT COST						
ALL FLIGHTS BLM/JHB	Cost based on 2 year(2018, 2019) average spend	NA				
OTHER						

Appendix M: Cost-benefit Analysis

STAFF ACCOMMODATION JHB	Cost based on 2 year(2018, 2019) average spend	NA				
Additional Cost identified during interview process	UFS	Bloemfontein Commercial	CSIR	UP	IWMI	Commercial
Capacity Building and new skills and experience development to ensure continuity	NA	Professional Support Service: 15 hours per month@ R 1500 for 6 months				
Capex spend on Office Furniture and additional equipment	NA	R 15 000 per workstation: R 150 000				
Shopfitting and customization. Worst case scenario considered	NA	R 20 p/sqm over 24 months				
Relocation Office Furniture	NA	Estimate: R 4 500	Estimate: R 21 000			

Cost-benefit analysis**Option 1 – 6 ZAR**

		OPTION 1				OPTION 2				OPTION 3 & 4 & 5 & 6			
HOST		UFS				COMMERCIAL				HILLCREST OFFICE PARK, CSIR, UP, IWMI			
LOCATION		FREESTATE				FREESTATE				GAUTENG			
FOOTPRINT		83,5				150				140			
INCLUSIVE MONTHLY RENT/SQM		R	166			R	178			R	170		
NUMBER OF STAFF		8				8				8			
EXCHNAGE RATE USED ZAR/\$		R	18,50			R	18,50			R	18,50		
		2021	2022	2023		2021	2022	2023		2021	2022	2023	
BENEFITS													
TECHNICAL SUPPORT													
FINANCIAL SUPPORT													
OPERATIONAL SUPPORT													
OTHER													
LOCATION		5				6				1			
TOTAL													
RANKING		5				6				1			
COST IMPACTING CBA													
OFFICE LEASE		R 166 500	R 166 500	R 166 500		R 248 400	R 267 030	R 287 057		R 218 400	R 234 780	R 252 389	
TRAINING VENUE LEASE		R -	R -	R -		R -	R -	R -		R -	R -	R -	
CONFERENCE VENUE LEASE		R -	R -	R -		R -	R -	R -		R -	R -	R -	
UTILITIES		R -	R -	R -		R 45 000	R 48 375	R 52 003		R 42 000	R 45 150	R 48 536	
OFFICE CLEANING AND MAINTENANCE		R -	R -	R -		R 27 000	R 29 025	R 31 202		R 25 200	R 27 090	R 29 122	
EMPLOYEE COST			R -	R -		R -	R -	R -		R -	R -	R -	
SUB CONTRACTING OF FINANCIAL SERVICES		R 1 509 600	R 1 509 600	R 1 509 600		R 942 000	R 991 926	R 1 044 498		R 942 000	R 991 926	R 1 044 498	
ASSISTANCE EXTERNAL AUDIT		R -	R -	R -		R 58 500	R 61 601	R 64 865		R 58 500	R 61 601	R 64 865	
EXTERNAL AUDIT		R -	R -	R -		R 60 000	R 63 180	R 66 529		R 60 000	R 63 180	R 66 529	
RELOCATION COSTS (OFFICE FURNITURE)		R -	R -	R -		R 4 500	R -	R -		R 21 000	R -	R -	
RETRENCHMENT COST		R -	R -	R -		R -	R -	R -		R -	R -	R -	
RECRUITMENT COST		R -	R -	R -		R -	R -	R -		R -	R -	R -	
ALL FLIGHTS BLM/JHB		R 149 729	R 157 665	R 166 021		R 149 729	R 157 665	R 166 021		R -	R -	R -	
STAFF ACCOMMODATION & OTHER JHB		R 189 540	R 199 586	R 210 164		R 189 540	R 199 586	R 210 164		R -	R -	R -	
FINANCIAL STAFF CAPACITY BUILDING		R -	R -	R -		R 150 000	R -	R -		R 150 000	R -	R -	
CAPEX - OFFICE FURNITURE		R -	R -	R -		R 150 000	R -	R -		R 150 000	R -	R -	
SHOPFITTING & CUSTOMISATION *		R -	R -	R -		R 36 000	R 36 000	R -		R 33 600	R 33 600	R -	
TOTAL		R 2 015 369	R 2 033 350	R 2 052 285		R 2 060 669	R 1 854 387	R 1 922 339		R 1 700 700	R 1 457 327	R 1 505 938	
TOTAL NPV		R 5 797 267				R 5 555 417				R 4 442 834			
RANKING		6				5				1			

Cost-benefit analysis

Option 1 – 6 USD

		OPTION 1				OPTION 2				OPTION 3 & 4 & 5 & 6			
HOST		UFS				COMMERCIAL				HILLCREST OFFICE PARK, CSIR, UP, RWMI			
LOCATION		FREESTATE				FREESTATE				GAUTENG			
FOOTPRINT		83,5				150				140			
INCLUSIVE MONTHLY RENT/SQM		R		9		R		10		R		9	
NUMBER OF STAFF		8				8				8			
EXCHNAGE RATE USED ZAR/\$		R		18,50		R		18,50		R		18,50	
		2021	2022	2023		2021	2022	2023		2021	2022	2023	
BENEFITS													
TECHNICAL SUPPORT													
FINANCIAL SUPPORT													
OPERATIONAL SUPPORT													
OTHER													
LOCATION		5				6				1			
TOTAL													
RANKING		5				6				1			
COST IMPACTING CBA													
OFFICE LEASE		USD 9 000	USD 9 000	USD 9 000		USD 13 427	USD 14 434	USD 15 517		USD 11 805	USD 12 691	USD 13 643	
TRAINING VENUE LEASE		USD -	USD -	USD -		USD -	USD -	USD -		USD -	USD -	USD -	
CONFERENCE VENUE LEASE		USD -	USD -	USD -		USD -	USD -	USD -		USD -	USD -	USD -	
UTILITIES		USD -	USD -	USD -		USD 2 432	USD 2 615	USD 2 811		USD 2 270	USD 2 441	USD 2 624	
OFFICE CLEANING AND MAINTENANCE		USD -	USD -	USD -		USD 1 459	USD 1 569	USD 1 687		USD 1 362	USD 1 464	USD 1 574	
EMPLOYEE COST		USD -	USD -	USD -		USD -	USD -	USD -		USD -	USD -	USD -	
SUB CONTRACTING OF FINANCIAL SERVICES		USD 81 600	USD 81 600	USD 81 600		USD 50 919	USD 53 618	USD 56 459		USD 50 919	USD 53 618	USD 56 459	
ASSISTANCE EXTERNAL AUDIT		USD -	USD -	USD -		USD 3 162	USD 3 330	USD 3 506		USD 3 162	USD 3 330	USD 3 506	
EXTERNAL AUDIT		USD -	USD -	USD -		USD 3 243	USD 3 415	USD 3 596		USD 3 243	USD 3 415	USD 3 596	
RELOCATION COSTS		USD -	USD -	USD -		USD 243	USD -	USD -		USD 1 135	USD -	USD -	
RETRENCHMENT COST		USD -	USD -	USD -		USD -	USD -	USD -		USD -	USD -	USD -	
RECRUITMENT COST		USD -	USD -	USD -		USD -	USD -	USD -		USD -	USD -	USD -	
ALL FLIGHTS BLM/JHB		USD 8 093	USD 8 522	USD 8 974		USD 8 093	USD 8 522	USD 8 974		USD -	USD -	USD -	
STAFF ACCOMMODATION & OTHER JHB		USD 10 245	USD 10 788	USD 11 360		USD 10 245	USD 10 788	USD 11 360		USD -	USD -	USD -	
FINANCIAL STAFF CAPACITY BUILDING		USD -	USD -	USD -		USD 8 108	USD -	USD -		USD 8 108	USD -	USD -	
CAPEX - OFFICE FURNITURE		USD -	USD -	USD -		USD 8 108	USD -	USD -		USD 8 108	USD -	USD -	
SHOPFITTING & CUSTOMISATION *		USD -	USD -	USD -		USD 1 946	USD 1 946	USD -		USD 1 816	USD 1 816	USD -	
TOTAL		USD 108 939	USD 109 911	USD 110 934		USD 111 388	USD 100 237	USD 103 910		USD 91 930	USD 78 774	USD 81 402	
TOTAL NPV		USD	313 366			USD	300 293			USD	240 153		
RANKING		6				5				1			

Cost-benefit analysis**Option B1 – 3 ZAR***Shows alternative Gauteng location and possible cost implications*

	OPTION B1			OPTION B2			OPTION B3		
HOST	CENTURION - ROUTE 21 CORPORATE PARK			MIDRAND GAUTRAIN STATION OFFICE BLOCK			MELROSE CORPORATE PARK/JHB		
LOCATION	GAUTENG			GAUTENG			GAUTENG		
FOOTPRINT	144			143			140		
INCLUSIVE MONTHLY RENT/SQM	R		170	R		190	R		225
NUMBER OF STAFF	8			8			8		
EXCHNAGE RATE USED ZAR/\$	R		18,50	R		18,50	R		18,50
	2021	2022	2023	2021	2022	2023	2021	2022	2023
BENEFITS									
TECHNICAL SUPPORT									
FINANCIAL SUPPORT									
OPERATIONAL SUPPORT									
OTHER									
LOCATION	2			3			4		
TOTAL									
RANKING	2			2			3		
COST IMPACTING CBA									
OFFICE LEASE	R 225 024	R 241 901	R 260 043	R 257 400	R 276 705	R 297 458	R 352 800	R 379 260	R 407 705
TRAINING VENUE LEASE	R -	R -	R -	R -	R -	R -	R -	R -	R -
CONFERENCE VENUE LEASE	R -	R -	R -	R -	R -	R -	R -	R -	R -
UTILITIES	R 43 200	R 46 440	R 49 923	R 42 900	R 46 118	R 49 576	R -	R -	R -
OFFICE CLEANING AND MAINTENANCE	R 25 920	R 27 864	R 29 954	R 25 740	R 27 671	R 29 746	R 25 200	R 27 090	R 29 122
EMPLOYEE COST	R -	R -	R -	R -	R -	R -	R -	R -	R -
SUB CONTRACTING OF FINANCIAL SERVICES	R 942 000	R 991 926	R 1 044 498	R 942 000	R 991 926	R 1 044 498	R 942 000	R 991 926	R 1 044 498
ASSISTANCE EXTERNAL AUDIT	R 58 500	R 61 601	R 64 865	R 58 500	R 61 601	R 64 865	R 58 500	R 61 601	R 64 865
EXTERNAL AUDIT	R 60 000	R 63 180	R 66 529	R 60 000	R 63 180	R 66 529	R 60 000	R 63 180	R 66 529
RELOCATION COSTS (OFFICE FURNITURE)	R 21 000	R -	R -	R 21 000	R -	R -	R 21 000	R -	R -
RETRENCHMENT COST	R -	R -	R -	R -	R -	R -	R -	R -	R -
RECRUITMENT COST	R -	R -	R -	R -	R -	R -	R -	R -	R -
ALL FLIGHTS BLM/JHB	R -	R -	R -	R -	R -	R -	R -	R -	R -
STAFF ACCOMMODATION & OTHER JHB	R -	R -	R -	R -	R -	R -	R -	R -	R -
FINANCIAL STAFF CAPACTY BUILDING	R 150 000	R -	R -	R 150 000	R -	R -	R 150 000	R -	R -
CAPEX - OFFICE FURNITURE	R 150 000	R -	R -	R 150 000	R -	R -	R 150 000	R -	R -
SHOPFITTING & CUSTOMISATION *	R 34 560	R 34 560	R -	R 34 320	R 34 320	R -	R 33 600	R 33 600	R -
TOTAL	R 1 710 204	R 1 467 471	R 1 515 812	R 1 741 860	R 1 501 520	R 1 552 672	R 1 793 100	R 1 556 657	R 1 612 718
TOTAL NPV	R		4 470 877	R		4 568 111	R		4 725 866
RANKING	2			3			4		

Net present value

The impact of benefits and cost savings are illustrated over a three-year term: 2021 – 2023. To assist management in quantifying the implication over an extended period, taking time value of money into account, future amounts are discounted at the projected SA inflation rate of 5.3% for that period.

This allows us to determine the value of a future spend or savings at a specific date (January 2021) and then compare alternative options.

	OPTION 1	OPTION 2	OPTION 3 & 4 & 5 & 6	OPTION B1	OPTION B2	OPTION B3
HOST	UFS	COMMERCIAL	HILLCREST OFFICE PARK,	CENTURION - ROUTE 21	MIDRAND GAUTRAIN	MELROSE CORPORATE
LOCATION	FREESTATE	FREESTATE	GAUTENG	GAUTENG	GAUTENG	GAUTENG
FOOTPRINT	83,5	150	140	144	143	140
INCLUSIVE MONTHLY RENT/SQM	R 166	R 178	R 170	R 170	R 190	R 225
NUMBER OF STAFF	8	8	8	8	8	8
EXCHNAGE RATE USED ZAR/\$	R 18,50	R 18,50	R 18,50	R 18,50	R 18,50	R 18,50
BENEFITS						
TOTAL						
RANKING	5	6	1	2	2	3
COST IMPACTING CBA						
TOTAL NPV	R 5 797 267	R 5 555 417	R 4 442 834	R 4 470 877	R 4 568 111	R 4 725 866
RANKING	6	5	1	2	3	4

Based on net present value of cost – the option with the lowest value will receive the best ranking. Although the difference between values might be marginal it is clear that Pretoria should receive serious consideration as a preferential base.

Sensitivity analysis

A sensitivity analysis will be done to test different scenarios that might present a risk to the sustainability of the project to assess the possible impact on the organisation and how that might influence the cost-benefit analysis and decision.

The scenarios will be discussed with the client and the necessary CBA done and presented.

Summary Findings

Benefits:

The benefits of being hosted by the selected institutions UFS, IWMI, CSIR and UP cannot be quantified. All the interviewees confirmed their interest to continue and grow their current relationship or start building new networks and working relationships with SADC GMI.

The “value” or benefit of these symbiotic relationships is subjected and reliant on the individuals involved, the shared values and resources available.

Based on location, access to international airports and stakeholder proximity – The Lynnwood/Hillcrest/Hatfield area of Pretoria is a strong possibility. Various modes of transport, easy access to highways as well as hotels, training and conference facilities are aligned with SADC GMI requirements. A grade facility, that meet international green standards with competitive rates and flexible lease agreements adds to the attraction.

The UFS has indicated that they might not be in a position to make additional space available to SADC GMI, which might necessitate a move to a commercial property in Bloemfontein. Research done indicates that there might be a lack of suitable office space available at competitive rates.

The UFS has indicated that the financial and corporate governance experience gained over the last four years is extensive and that a loss of these expertise might be detrimental to SADC GMI. The risk is being mitigated by making additional provision for staff capacity building for a bridging term.

These risks and mitigation strategies will be carefully considered before a final decision is made but it should not overshadow the strategic decision, supported by SADC GMI Executive Management and Board as well as SADC Secretariat members interviewed. To move SSD GMI to Gauteng.

The next step will be to start intensive negotiations with possible host organisation and assess shared value, aligned goals and technical and research sharing possibilities.

Quantifying symbiotic relationships and share value to incorporate in the CBA will then add depth to the CBA and assist with final ranking and decision making.

Costs:

The different expenses and cost that might impact the CBA has been researched, agreed and quantified extensively. The information provided can be used as a baseline for negotiations with possible host organisations.

As more detail becomes available through engagement with host organisation, a detailed scenario CBA can be done for each of the options available and the ranking expanded to include each individual organisation's cost and benefits.

Detailed descriptions and negotiations of service levels and contractual support arrangements is necessary to support a final decision.

Conclusion

With the information available, the CBA leans towards supporting a strategic move of the SADC GMI office from Bloemfontein to Gauteng and Pretoria in particular.

The final motivation and support for the strategic changes will be subject to implementation of the necessary support structures and controls to mitigate any risk that might pose a threat to the sustainability of SADC GMI as well as the organization's ability to apply and secure funding.