

# INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

**Report No.: ISDSC270**

**Date ISDS Prepared/Updated:** 14-Feb-2013

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## I. BASIC INFORMATION

### A. Basic Project Data

<b>Country:</b>	Africa	<b>Project ID:</b>	P127086
<b>Project Name:</b>	Sustainable Groundwater Management in SADC Member States (P127086)		
<b>Task Team Leader:</b>	Samuel Taffesse		
<b>Estimated Appraisal Date:</b>	14-Aug-2013	<b>Estimated Board Date:</b>	14-Nov-2013
<b>Managing Unit:</b>	AFTN2	<b>Lending Instrument:</b>	Specific Investment Loan
<b>Focal Area:</b>	International waters		
<b>Sector:</b>	Water supply (45%), Public administration- Water, sanitation and flood protection (35%), Public administration- Information and communications (20%)		
<b>Theme:</b>	Water resource management (45%), Other environment and natural resources management (20%), Climate change (20%), Regional integration (15%)		
<b>Financing (In USD Million)</b>			
<b>Financing Source</b>		<b>Amount</b>	
BORROWER/RECIPIENT		15.00	
Global Environment Facility (GEF)		9.00	
Foreign Multilateral Institutions (unidentified)		16.50	
Financing Gap		5.00	
Total		40.50	
<b>Environmental Category:</b>	B - Partial Assessment		
<b>Is this a Repeater project?</b>	No		

### B. Global Environmental Objective(s)

11. The PDO is to enhance sustainable management of groundwater resources and its resilience to climatic variability and change in the SADC region.

### C. Project Description

1. The main challenges facing the sustainable management of the aquifers in the SADC region are acknowledged as being: (i) a lack of reliable information and data; (ii) limited capacity of technical staff and institutions; (iii) limitations imposed by legal and regulatory frameworks; (iv) lack of policy harmonization; (v) poor understanding and low level of awareness on the importance of groundwater resources; (vi) intensification in the exploitation of groundwater; (vii) increasing risk of contamination and pollution; (viii) limited knowledge on the dynamics of shared aquifers; and (ix) the adverse impact of climate change. Added to these challenges is the transboundary nature of groundwater resources in the SADC region. While the Revised SADC Protocol on Shared Watercourse Systems has resulted in the successful creation of a number of River Basin Organisations, it has not yet led to the creation of effective mechanisms to address the challenges of transboundary aquifers.

2. The Global Environmental Facility (GEF) has been supporting the “SADC Groundwater and Drought Management Project” (SADC GDMP) with the World Bank as the Implementing Agency. The SADC GDMP addressed the need to develop a strategic regional approach to support and enhance the capacity of the Member States in the definition of groundwater drought management policies. This was done specifically in relation to the role, availability (magnitude and recharge) and supply potential of groundwater resources. The Internationally Shared Aquifer Resources Management (ISARM) Initiative, led by UNESCO and International Association of Hydrologists (IAH), has been working in the SADC region to improve the understanding of the scientific, socio-economic, legal, institutional and environmental issues related to the management of transboundary aquifers. Other partners, notably Germany and Japan, have also been assisting SADC Member States and RBOs in the inclusion of groundwater and specific assessments, such as JICA’s support to Namibia with the Stampriet Artesian Basin Assessment and Germany to hydro-geological mapping in the region. The International Atomic Energy Agency (IAEA) has also made significant contributions to various national groundwater resource assessments and could extend the role of environmental isotopes to transboundary aquifer studies.

3. Emerging from these various initiatives is an increasing recognition of the need to deepen the understanding and cooperation around groundwater management in the SADC. A number of activities have been identified through the outputs of the GDMP. These have been captured in the Decision Support Guidelines that focus on the design of dynamic tools to facilitate the management of groundwater resources and protection of groundwater dependent ecosystems. This includes groundwater management plans aimed at improving community resilience through improved groundwater management. The development of a regional hydro-geological map and groundwater inventory has further outlined the regional requirements needed to interface national initiatives within a regional monitoring and data management network. This will foster cooperation and secure improved economic gains through a more cohesive, coordinated and sustained institutional framework centered around the Southern Africa Development Community —Groundwater Management Institute (SADC GMI).

4. The proposed Sustainable Groundwater Management project would be a follow-on to the GDMP financed through the International Waters window of the Global Environment Facility, with additional co-financing through the Climate Change Adaptation Fund and other national resources. Twelve letters of endorsement have been submitted thus far from GEF Focal Points and respective line Ministries. Alignment with other projects under the SADC Groundwater Management Programme (GMP) will facilitate co-financing from other partners and the PIF is being discussed with potential development partners. The proposed operation will not support a sector program but

will be based on the regional SADC GMP. The regional approach is preferred to complement and extend the benefits of individual national interventions, as well as reflecting the important transboundary nature of the aquifers in the region. To establish an improved system for groundwater management in the SADC, the following components and related activities have been identified through an iterative consultative process with SADC, its Member States, UNESCO, and other stakeholders:

5. The project will have four major components that jointly address and will support the sustainable management of groundwater in SADC region and improve adaptation to climate change in support of the Regional Strategic Action Plans (RSAP3) and the SADC Climate Change Adaptation Strategy for the Water Sector.

6. Component 1: Institutional Strengthening and Policy Development. The aim of this component is to strengthen the institutional framework and improve capacity of the agencies responsible in the participating countries in sustainable groundwater management at national and regional level. Thus, this component will have two major subcomponents:

(1.1) Establishment of groundwater management framework within SADC Member States: under this subcomponent the following activities will be supported: (i) defining national institutional arrangements for groundwater but also within climate change mitigation and adaptation framework. Under this activity a management framework will be defined and supported in at least one aquifer in each country; (ii) improvement in institutional capacity of agencies responsible in groundwater management in participating countries through training, improvement of legal, institutional policy formulation, monitoring and improving enforcement capacity; and (iii) mapping to cover areas not reached during the GDMP project and with interface with identification of regions prone to relatively disproportionate impacts from climate change. This component will rely on partnership with those agencies that have a comparative advantage and presence on the ground.

(1.2) Strengthening Regional Cooperation in Groundwater Management. This subcomponent will support (i) the development of regional institutional, legal and policy framework and establishment of minimum harmonized structures at regional level and within appropriate trans-boundary institutions, such as the River Basin Organisations. The framework development will be undertaken with reference to the United National International Law Commission Draft Articles on the Law on Transboundary Aquifers as recommended by the 3rd SADC Water Dialogue. The component will assist the southern African region explore mechanisms for developing and deepening agreements to include groundwater provisions and linkages with other initiatives such as with the Groundwater Commission of the African Ministerial Conference on Water (AMCOW). It would also help increase the resilience of these agreements to changing circumstances brought about as a result of climate change. (ii) Operationalizing the GMI and project administration and management that will support implementation of the project, integration of regional activities, coordination of the Project Steering Committee meetings and workshop events established under the GDMP, in addition to the traditional PIU work. Operationalizing the GMI includes provision of the minimum necessary office and other equipment in support of the Institution. The GMI is expected to provide TA to the countries; establish central information clearing house that will be accessible to national, RBO and local levels; serve as a focal interlocutor with other regional and international groundwater agencies on groundwater management issues in SADC region; prepare awareness creation material and coordinate their implementation; conduct and support SADC member Member countries States in scientific research; study and propose to SADC Secretariat sustainable financing mechanism for groundwater management at regional level; and coordinating research and pilot activities in building

resilience to climate change using groundwater.

7. Component 2: Trans-Boundary Aquifer Management. The aim of this component is to consolidate a sustainable institutional and policy framework for Trans-Boundary Aquifers. This will address the lack of institutional, legal and policy mechanisms in relation to trans-boundary aquifers by implementing management structures in at least one trans-boundary aquifer in the SADC region. This will be achieved through a Transboundary Diagnostic Analysis (TDA) and the development and implementation of a Strategic Action Plan for the trans-boundary aquifer in order to reach an informed consensus on the factors affecting the management of the aquifer at the national and trans-boundary level. This process will facilitate establishment of a co-operative arrangement for the integration of groundwater resources management into organisational framework for the respective RBOs and commitments from the countries sharing the resource to implement priority actions. Two trans-boundary aquifers have been identified --the “Stampriet Kalahari / Karoo Aquifer System” and the “Ramotswa Dolomitic Aquifer” – which are shared by Botswana, Namibia and South Africa. These two aquifers were selected through the SADC – UNESCO ISARM process but given the limited resource, the Stampriet Kalahari / Karoo Aquifer System has been selected as a priority for this proposed project support. The selection of this aquifer was based given the importance of the aquifer for the three countries, clear support by the countries that share the aquifer, the real potential for overexploitation and the interest by UNESCO to support the establishment of management framework for this specific component. The TDAs and SAPs that will be the main outputs of this component, will provide lessons to the SADC Member States in undertaking assessments of groundwater potential, establishing joint management mechanisms for trans-boundary groundwater resources, introducing conjunctive water management strategies and addressing present and predicted trends in degradation and climate variability. The component will serve as a demonstration of replicable approaches for the more sustainable development and management of strategic groundwater resources. This component will benefit from a considerable amount of co-financing from UNESCO. The Stampriet Kalahari / Karoo Aquifer System will be a priority but depending on availability of additional resources, other TBA will benefit from the support of this project.

8. Component 3: Support to Improving Climate Change Resilience. To reduce vulnerability to climate change impact on groundwater systems, the SADC countries Member States should include an adaptive capacity in using and managing their groundwater resources sustainably. Thus this component will support: (i) the inclusion of groundwater governance into regional climate change adaptability framework, (ii) the definition of institutional arrangements for inclusion of groundwater in climate risk management at national level; and (iii) execution of specific adaptive measures such as improving vegetation cover of recharge areas, management of groundwater to reduce variability in water availability through the cycles and enhancing artificial recharge such as through small sand dams will be pursued. This component will support the scaling-up of the successful lessons learned from the GDMP pilot projects and will focus on highly food insecure river basins that are vulnerable to climate change.

9. Component 4: Improving Regional Groundwater Information System and Awareness. The aim of this component will be to establish an information and data management platform that integrates local and national variables into a regionally applicable tool for enhancing managing the region’s aquifer systems and enhance awareness on groundwater. The component will have two major subcomponents: (i) Groundwater Information System: As part of operationalizing the GMI, the system would be hosted by the Institute with virtual nodes in each of the SADC Member States. The information system will build upon available databases in the region and will verify internationally available information on groundwater about the SADC region groundwater systems.

The information system will include GIS data layers for key variables and build on the recently completed hydro-geological map for the SADC region, including population and land use variables, ecosystems, vulnerable areas, threats, wells inventory, among others. This component will finance the design of the system, equipment, training, deployment of the system and consultant services for developing and testing the information platform. The collection of the data, including inventory of wells, and studies to compile these important groundwater variables will also be financed under this component; and (ii) Communication and awareness activities and development of tools to improve awareness of groundwater management issues in the SADC region. This will expand the application of the Decision Support Guidelines developed through the GDMP and will link to the data and information platform. Through the support of consultants and implementation of a grant facility this component would strengthen national and sub-national capacities to develop targeted awareness and communication tools. The subcomponent also will support the development of educational materials for schools on the importance of groundwater and its environmental function.

#### **D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

10. The project includes the SADC member states and will support physical interventions at aquifer level to demonstrate replicable approaches for a more sustainable development and management of groundwater resources. These interventions will be undertaken in onetransboundary aquifer shared by Botswana, Namibia, and South Africa, which were all selected through the SADC - UNESCO ISRAM process. The Southern Africa region contains large expanses of arid and semi-arid land, a number of important ecosystems that are dependent on groundwater and indigenous groups for whom access to water resources is a serious concern. The project is not expected to have any negative impacts on either groundwater-dependent ecosystems or indigenous peoples, however.

#### **E. Borrowers Institutional Capacity for Safeguard Policies**

11. Safeguards capacities vary considerably across the countries bordering the Trans-boundary Aquifers. In some, such as South Africa, it is very strong. The modest scale of the potential impacts is such that capacity should not be a serious constraint as long as due consideration is given to safeguards issues. Under GDMP, simple procedures were developed and followed for the small-scale works that took place.

#### **F. Environmental and Social Safeguards Specialists on the Team**

Paula F. Lytle (AFTCS)

Stephen Ling (AFTN3)

## **II. SAFEGUARD POLICIES THAT MIGHT APPLY**

<b>Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/ BP 4.01	Yes	TA activities under the project will aim to enhance awareness of environmental sustainability issues and their inclusion in decision-making processes, through valuation, mapping and monitoring approaches. Therefore the impact of the project on groundwater sustainability, and the communities and ecosystem that depend on it, will be entirely positive. However, the project will support small civil works to enhance recharge (expected

		to be mainly check dams of around 1m height in seasonal streams and associated boreholes), catchment re-vegetation, and sustainable community use of groundwater. These small scale worksactivities have the potential for localized environmental impacts, which are readily mitigable through the use of simple environmental management measures. An ESMF will be developed during preparation, or if the scope of activities permit, an EMF-EMP or EMP may be used. The safeguards instruments will be consulted upon and disclosed before appraisal.
Natural Habitats OP/BP 4.04	TBD	The project will benefit groundwater-dependent ecosystems. The small-scale civil works will be located in community areas, and not within undisturbed natural habitats. However, the design of the civil works activities will be analyzed during preparation to assesswhether there may be any need to include measures to avoid impacts on the movement of aquatic species. These measures will be included in the ESMF and/or EMP.
Forests OP/BP 4.36	No	The project does not affect or involve forests.
Pest Management OP 4.09	No	The project does not involve pest management
Physical Cultural Resources OP/ BP 4.11	Yes	Small sand dams in ephemeral stream beds close to rural communities and associated boreholes are not expected to affect or cause any damage to PCR, but chance finds procedures will be included in the safeguards framework instruments, as a precaution.
Indigenous Peoples OP/BP 4.10	TBD	The project is unlikely to have a direct impact on indigenous people; however, given the ongoing saliency of water access as an issue for San/Basarwa peoples, this will be looked at further during preparation, and capacity-building directed at civil society organizations for aquifer management should address issues of inclusion. If the project does involve or affect Indigenous Peoples, an Indigenous Peoples Planning Framework or Indigenous Peoples Plan will be prepared, consulted upon, and disclosed before appraisal.
Involuntary Resettlement OP/BP 4.12	TBD	The extent to which civil works would require land acquisition and what would be the

		appropriate modality for any such land acquisition will be assessed during project preparation. If necessary, a Resettlement Policy Framework will be prepared, consulted upon, and disclosed before appraisal.
Safety of Dams OP/BP 4.37	No	The project does not involve or depend on dams.
Projects on International Waterways OP/BP 7.50	Yes	The project will pilot sustainable groundwater measures in at least one Trans-Boundary Aquifer, Stampriet-Kalahari-Karoo (international water course), shared by Botswana, Namibia and South Africa.
Projects in Disputed Areas OP/BP 7.60	No	N/A

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS:** 30-Nov-2012

**B. Time frame for launching and completing the safeguard-related studies that may be needed.**  
**The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

02/02/2013

### IV. APPROVALS

Task Team Leader:	Name: Samuel Taffesse	
<b>Approved By:</b>		
Regional Safeguards Coordinator:	Name: Alexandra C. Bezeredi (RSA)	Date: 14-Feb-2013
Sector Manager:	Name: Jonathan S. Kamkwalala (SM)	Date: 16-Oct-2012

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.