



Integrated Safeguards Data Sheet Identification / Concept Stage (ISDS)

Concept Stage | Date ISDS Prepared/Updated: 18-Oct-2018 | Report No: ISDSC25591



BASIC INFORMATION

A. Basic Project Data

Project ID	Project Name	Environmental Category	Country
P169078	Horn of Africa - Groundwater Initiative	B - Partial Assessment (B)	Africa
Team Leader(s)	Estimated Date of Approval	Managing Unit	Financing Instrument
Tesfaye Bekalu Wondem		GWA01	Investment Project Financing

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	2.00
Total Financing	2.00
Financing Gap	0.00

DETAILS

Non-World Bank Group Financing

Trust Funds	2.00
Cooperation in International Waters in Africa	2.00

B. Project Development Objective(s)

To strengthen the knowledge and analytical foundation for cooperative management and development of international waters in Sub-Saharan Africa to aid sustainable climate resilient growth. This will be done by through the Catalytic subprogram of the Cooperation in International Waters in Africa (CIWA) MDTF. The Catalytic subprogram will generate, share, and manage knowledge that can facilitate cooperative development and management of international waters; explore potential high impact collaborative investment opportunities in defined basins and regions; and create shared understanding of the opportunities, risks, costs, and benefits of cooperative development and management of international waters among stakeholders.

The specific objectives of this sub activity are to undertake a comprehensive assessment of the ground and surface water potential in the IGAD member countries, strengthen the regional ground water information data availability and support IGAD member countries to Strengthen and manage the sustainable development of their groundwater potential.

Task description: This project strengthens the knowledge and analytical foundation for sustainable development of



groundwater resources in the greater Horn of Africa region and supports trans boundary cooperation for its management. The project will provide critical knowledge for improving the planning and design of water harvesting and artificial recharge infrastructure that are key to water security in the Horn of Africa and explore opportunities to mobilize deeper groundwater resources for economic development, as a basis for sustainable and climate resilient growth.

The project will (i) increase the knowledge base on regional ground water resources by conducting a regional hydrological assessment of the surface and renewable groundwater potential, considering their spatial and temporal variability, as a basis for investments aiming at building resilience against climate variability (ii) Strengthen the capacities of ground water development and management in IGAD member countries by undertaking a needs assessment for building the capacity of ground water management at the national level (iii) Prepare three feasibility studies for groundwater development opportunities in the region, including an assessment of available groundwater resources and identification of infrastructure investment needs and (iv) strengthen the capacity of IGAD Water Unit to support regional cooperation on groundwater management and enhance the capacity of IGADs climate center ICPAC in the area of groundwater data management and assessments.

C. Project Description

Approach. Ensuring the proper management of the resource and the sustainability of groundwater related uses requires reliable information on the actual availability, variability and quality of it, as well as a proper institutional framework and sufficient capacity to guarantee efficient use, help avoid overexploitation and pollution and manage critical situations.

The results of the assignment “Case Study on Drought Resilience for the Horn of Africa”, funded by the WB Water Partnership Program (WPP) Disaster Risk Management (DRM) Window were used as a guidance for the development of this project’s objective, approach and components. Building from the main findings of the assessment, and in close collaboration with the Intergovernmental Authority on Development (IGAD), the focus and scheduling of the Regional Groundwater Initiative activities have been developed.

The proposed project will complement WB and other donors’ water resources management activities in the region by strengthening knowledge and capacity, with a focus on drought resilience and transboundary cooperation. The CIWA-funded activities will contribute to the sustainability of other investments because they will address fundamental technical issues. For instance, in the region there are many resilience programs making a valuable contribution to overall water security by investing in landscape and watershed protection, building groundwater development structures, recharge devices or water harvesting structures based on a mostly empirical basis, but a quantified basis for the required number, design and volume of these structures is often lacking precisely because of poor knowledge and capacity, as is coordination among programs and systematic evaluation and monitoring. This project will help with tools, studies and trainings on new technologies, focused on the sustainable exploitation of the groundwater resources.

The proposed project will provide support to all the IGAD countries because, to different levels depending on their capacity and awareness, water resources management in Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda generally neglects groundwater.



A few key reasons for that were identified in the WPP assignment. First, groundwater remains an invisible and unknown resource very much. It is confirmed that some of the countries, like South Sudan or Somalia, share a weak knowledge of the groundwater resource, while some others have less limitations in that sense, like Uganda or Kenya, but it is recognized as a subject to improve for the entire region. There are several aspects for which applied knowledge is inadequate or not shared and there is still a strong disconnection with water resources management. The Regional Groundwater Initiative should help to guarantee more knowledge creation and dissemination, for it to be applied by governments, NGOs, local users, private sector and organizations working on drought relief. For all the countries, it is constantly mentioned that transboundary aspects and dynamics of groundwater need to be more considered in the ongoing groundwater assessments.

The other challenge for sustainably mobilizing the regional groundwater resources is the inadequate capacity for groundwater development, management and use in the region. In terms of policy and legal frameworks, these should be updated and more work to ensure proper enforcement is required. Consideration should also be given to developing specific national groundwater frameworks. On the other hand, the expertise needed to provide the required guidance to groundwater development and management is much higher than what exists among most of the countries. Therefore, building of the technical and leadership capacity of the staff dealing with groundwater development and management needs to be given more attention in the IGAD region.

The proposed project with an estimated budget of US\$ 2 mill. has been structured around four main components that start addressing the abovementioned gaps. Each component includes a regional dimension, with a set of activities at local, national or transboundary level in the Horn of Africa, and a global dimension aiming at developing guidance for assessing and managing groundwater in dryland regions in Africa and elsewhere. The Project components are :-

Component 1: Expand the knowledge base on regional groundwater resources (US\$ 450,000). This component seeks to continue taking stock of existing information and initiatives to establish a baseline of knowledge on the physical and social aspects of regional groundwater resources in the region, engaging external partners for some of the activities as needed.

The main activity under this component will be the determination of the surface water availability, water variability and natural recharge of shallow groundwater over the region (with an eye on water harvesting, artificial recharge and resource development) and the status and knowledge of deep groundwater exploration, development and management..

Building on the methodology of a pilot study to understand surface water availability, spatial and temporal variability and reliability in the regions of Somaliland and Puntland, volumes of water available for harvesting for 7, 14, and 21 days monthly will be defined at catchment level for the entire region. The input data used for the study will be extracted from a modelling exercise being carried out at the IGAD ICPAC Center in Nairobi, Kenya. This sub component will be complemented by Mapping of potential groundwater recharge



zones in the arid lands of the IGAD region (funded by European Space Agency ESA). ***The deliverable will be a surface and ground water assesment for selected parts of the region.***

The component will also support the finalization of knowledge management gaps in South Sudan and evaluate the situation in the remaining four regions of the southern part of Somalia. This was a remaining activity from the March 2017 to September 2017 WB Water Partnership Program funded assignment on the knowledge base. This competent also includes developing a dedicated Regional Groundwater Center aligned to ICPAC and a Water Information Database for the region.

Component 2: Strengthen capacities in groundwater development and management in IGAD member countries (US\$ 300,000).

This component aims to support regional capacity in groundwater development and management by identifying institutional needs and regional cooperation opportunities. It will identify institutions with responsibility and interests in groundwater management and associated capacity needs and promote capacity building and regional cooperation by facilitating activities, such as pilot programs, study tours and inter-institutional engagement. Some activities under this component will focus specifically on the nexus groundwater & drought resilience and on transboundary cooperation. Some capacity building activities proposed will be more tailored to state-level needs. ***The main deliverable from this activity will be a comprehensive needs assessment of the capacity to develop and manage groundwater in the region.*** The component will also include different sub activities that aim to strengthen capacity of IGAD Water Unit for the overall coordination of the project.

Component 3: Maximize the benefits of groundwater to strengthen resilience to drought and economic development in the region (US\$ 1,100,000) This component focuses on sectoral water needs, vulnerable groups and on assessing economically exploitable groundwater resources (as opposed to theoretically available resources) and started identifying suitable solutions to build resilience to drought using groundwater. The development in future demands from groundwater resources will certainly require a more detailed understanding of the water availability, water quality and the potential pollution threats, since the available knowledge is not enough for the aquifers in use. Some priorities include Mt. Elgon (between Uganda and Kenay), Merti (between Somalia and Kenya), a ground water aquifer between Sudan-South Sudan. All these are shared ground water resources and if developed, they have huge potential in promoting cooperation among the shared water resources. ***A total of three complete feasibility studies that includes the ground water assesment, the infrastructure need to develop, preliminary cost, assesment of the associated Environmental and social safeguards risks and mitigation measures will the main deliverable from this component.***

Component 4: Project management, Monitoring and evaluation (US\$ 150,000: IGAD is the implementing agency for the project and will mobilize its in-house capacity for the work. However as the need arise IGAD will use the service of consultant either firm or individual to fill some of the missing capacity gaps. This component will finance IGAD staff travel related expense to supervise this project, consultant contracts and travels costs, workshop and review meeting costs, report production and dissemination expenses.



Regional and Global dimension: The project will receive USD 2 M of CIWA financing, to mainly cover the local, national, and the regional dimension. However, some of the funding and the time allocation will be devoted to global activities. IGAD will support regional and national activities. Implementation of global activities will involve key partners (tentatively European Space Agency, IGRAC, IDMP and others) to ensure that activities are delivered in synergy with ongoing and existing international cutting-edge work. Moreover, it is important to consider that a Greater Horn of Africa groundwater strategy could lay the foundations for World Bank engagement in developing other regional strategies in Africa. Like the Horn of Africa, other regions in Africa like the Sahel of the SADC region suffer from severe aridity challenges, and groundwater likely has the potential to also support water security and human and economic development in those areas. Hence, further strategies could be developed from the learning’s of the Greater Horn of Africa experience. Table 1 below summarizes the potential project’s activities at the local/national/regional and global levels.

Table 1: Preliminary Component summary of national, regional and global activities.

	Local, National, Regional	Global Activities
Components	Potential partners: IGAD	Potential partners: ESA, IGRAC, IDMP
1- Increase the knowledge base on regional groundwater resources	<ul style="list-style-type: none"> • Evaluations of the level of knowledge available locally, nationally and regionally • Assessments of shallow & deep, renewable & non-renewable groundwater resources considering variability, dynamics, cost and quality (in pilot areas and selected aquifers) • Arrangements for data acquisition, compilation in database, management, processing & sharing 	<ul style="list-style-type: none"> • Development and promotion of methodologies for groundwater assessments (water availability, variability, cost, quality)
2- Strengthen capacities in groundwater development and management in IGAD member countries	<ul style="list-style-type: none"> • Detailed diagnosis of the capacity for groundwater development and management • Reinforcement of regional institutions focused on water and groundwater resources • Support to the legal and policy frameworks on groundwater • Facilitation of the transboundary dialogue • Training and capacity building at national level about several relevant gaps identified, 	<ul style="list-style-type: none"> • Development of methodology and questionnaire for capacity for groundwater development and management diagnostics • Preparation of guidelines for the role of specialized



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	from groundwater surveying to hydro diplomacy	centers in groundwater management
3- Maximize the benefits of groundwater to strengthen resilience to drought and economic development in the region	<ul style="list-style-type: none"> • Assessment of the socio-economic barriers to water security for most vulnerable groups/sectors in the IGAD region • Assessment of sectoral and spatial-temporal supply/demand gaps across the region • Development of a communication strategy on groundwater and its role for building resilience to drought 	<ul style="list-style-type: none"> • Development of methodologies for evaluating the cost of access to secure groundwater sources, based on available technology, capacity, energy costs, depth and variability of groundwater • Preparation of a brief knowledge note on practical examples of innovative approaches in the region that have increased water security/ drought resilience and economic benefits for beneficiaries through the use of groundwater. The collection of examples will be complemented with economic analysis, but in any case, low cost options that could be implemented at community level will be staged

Gender inclusion. The project design is gender sensitive and will assess during preparation the implications for women and men of any planned action, including legislation, policies and activities on the ground at all



levels. In the Horn of Africa, access to water has major implications as women are generally in charge of fetching water for all the uses. Often, the needed water comes from groundwater. Therefore, although over extraction negatively impacts the poorest and most vulnerable groups, because they cannot afford to dig deeper, women are especially affected because they need to fetch it from further away. This project will pay particular attention to the gender dimension, particularly through the development of the pilots, which will address any emerging issues. Indeed, gender-sensitive groundwater development and management help secure and protect groundwater access. An approach to groundwater development and management that puts gender at the center stage facilitates the representation and participation of women in aquifer management, so that groundwater priorities of men and women for different activities are both considered in planning.

Specific gender actions. The project design will lay emphasis on the gender dimension through ensuring equality issues are addressed in the suggested activities to the extent possible. Participation of gender sensitive professionals who can recognize gender differentiated needs, priorities, skills and capacities will be essential part of the project preparation and implementation. The project will make gender a core element of all project components- including studies, capacity building activities and pilot activities- not only because women are a vulnerable group that is disproportionately exposed to the impacts of droughts in the IGAD region, but also because they can play a decisive role in building sustainable resource management. On the one hand, gender balance will be promoted during the entire project implementation. In this regard, it will focus on guaranteeing the attendance of similar number of female and male attendees in the training events, meetings in legal and policy framework discussions.

During project preparation and implementation, this project will coordinate closely with other development partners supporting enhancement of knowledge and capacity for groundwater development and management in the Horn of Arica to maximize synergies and avoid duplication. These includes but not limited to the IDDRSI strategy initiative, launched in 2011; A groundwater and climate change study in Africa funded by DFID in 2010 and conducted by the British geological survey; The livelihoods for resilience initiative in the Horn of Africa by ILRI and supported by FAO and CGIAR, The Integrated Drought management Programme in the Horn of Africa (IDMP HoA) carried out by the Global Water Partnership and WMO in 2015; Mapping, assessment and management of transboundary water resources in the IGAD sub-region project; Forecasting Drought in East Africa by European Centre for Medium- Range Weather Forecasts (ECMWF) products in forecasting droughts in East Africa; UNESCO Mapping Programme in the Horn of Africa and others.

Also, the IGAD's Climate Prediction & Applications Centre, ICPAC, is another initiative that is improving the regional capacity for water resources management from the side of the practical tools, and it is gradually performing more and more efforts on groundwater. ICPAC seeks "to become a viable regional center of excellence in climate prediction and applications for climate risk management, environmental management, and sustainable development". It aims to achieve this by providing timely climate early warning information and supporting specific sector applications to enable the region cope with various risks associated with extreme climate variability and change for poverty alleviation, environment management and sustainable development of its member countries. To date, ICPAC has (i) enhanced regional capacity for climate



diagnostic centres, scientists and users, (ii) produced and disseminated timely climate early warning information, (iii) improved seasonal forecasting, (iv) established a continuously updated data bank for development of baseline statistics and hazards maps, and (v) enhanced collaborations with sector specific users (such as water resources, agriculture, etc.) through pilot application projects for development of new application tools. Specific ICPAC projects currently focus on regional capacity building, monitoring and resilience. ICPAC focus areas with greatest relevance to groundwater include: Water resources, Remote sensing, Climate Prediction & Early Warning and Disaster Risk Reduction.

ICPAC draws on international frameworks and principles for application at regional and national levels. Strategic components particularly relevant to groundwater include contingency planning, regional collaboration of preparedness and response, vulnerability analyses, and needs assessment and resource mobilization.

The regional approach is preferred to complement and extend the benefits of individual national interventions, as well as reflecting the important transboundary nature of many aquifers in the Horn of Africa region. All the components will benefit from regional technical assistance and cross learning activities. The regional dimension of the project is critical in the implementation of this project, notably by fostering exchange of experience among institutions built or strengthened in participating countries. It will help the policy dialogue on groundwater governance issues among the IGAD Member States. As mentioned in the components description, actual activities on those aspects will include, among others: data compilation and sharing; preparation of tools and guidelines; provision of training of trainers; facilitation of exchange of experience through study tours and the delivery of cross learning events; designing and carrying out communication and advocacy campaigns.

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SAFEGUARDS

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

This is a project that includes conducting feasibility studies on ground water potential in three places in the horn of Africa. Some priorities include Mt. Elgon (between Uganda and Kenya), Merti (between Somalia and Kenya), a ground water aquifer between Sudan-South Sudan. The feasibility studies will include complete assessment of factors that might affect the study areas environmentally and socially and include mitigation measures too. Since the specific sites for the feasibility studies are known, each feasibility study will include a complete Environmental impact Assessment. a ToR for conducting the Environmental Impact assessment will be prepared and reviewed before the commencement of the feasibility studies.

E. Borrower's Institutional Capacity for Safeguard Policies



IGAD has the experience in managing feasibility studies that fully address environmental and social aspects. The proposed feasibility studies are planned to be outsourced to experienced consulting firms and the ToR will include a dedicated section to ensure safeguards. The Bank team will review and clear the ToR for all works including the ground Water Feasibility studies.

F. Environmental and Social Safeguards Specialists on the Team

Tracy Hart, Environmental Specialist
Harub Ahmed Harub, Social Specialist

G. Policies that might apply

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Safeguard Policies Triggered by the Project	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The ground water feasibility studies will include Environmental assessments and will propose mitigation measures. The team will ensure the inclusion of this in the ToR of the ground water feasibility studies.
Natural Habitats OP/BP 4.04	No	
Forests OP/BP 4.36	No	
Pest Management OP 4.09	No	
Physical Cultural Resources OP/BP 4.11	No	
Indigenous Peoples OP/BP 4.10	Yes	This is in view of the ground water feasibility studies and their potential to affect indigenous people during future implementation. The feasibility study will determine that and recommend measures to address.
Involuntary Resettlement OP/BP 4.12	Yes	This is also in view of the ground water feasibility studies and their potential to displace people during future implementation. The feasibility study will determine that and recommend measures to address.
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

H. Safeguard Preparation Plan

Appraisal stage ISDS required? Yes

a) Tentative target date for disclosing the appraisal stage ISDS
31-Oct-2018

b) Time frame for launching and completing the safeguard-related studies that may be needed.
The specific safeguards studies and their timing will be specified in the Appraisal Stage ISDS.

APPROVALS

Team Leader(s):	Tesfaye Bekalu Wondem
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Approved By

Safeguards Advisor:	Nathalie S. Munzberg	10-Oct-2018
Practice Manager/Manager:	Catherine Signe Tovey	12-Oct-2018

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