

# INTEGRATED SAFEGUARDS DATA SHEET

## IDENTIFICATION / CONCEPT STAGE

**Report No.:** ISDSC11655

**Date ISDS Prepared/Updated:** 02-Mar-2015

### I. BASIC INFORMATION

#### A. Basic Project Data

<b>Country:</b>	Morocco	<b>Project ID:</b>	P154280
<b>Project Name:</b>	Strengthen capacity for an inclusive design of groundwater mangement contract for green growth.		
<b>Team Leader(s):</b>	Amal Talbi		
<b>Estimated Date of Approval:</b>	13-Apr-2015		
<b>Managing Unit:</b>	GWADR	<b>Lending Instrument:</b>	Lending Instrument
<b>Sector(s):</b>	General water, sanitation and flood protection sector (100%)		
<b>Theme(s):</b>	Climate change (20%), Water resource management (80%)		
<b>Financing (in USD Million)</b>			
Total Project Cost:	0.75	Total Bank Financing:	0
Financing Gap:	0		
<b>Financing Source</b>			<b>Amount</b>
Miscellaneous 1			0.75
<b>Environment Category:</b>	C - Not Required		

#### B. Project Development Objective(s)

The proposed development objective of the grant is to support the ABH-OER in the inclusive design of groundwater management contracts.

#### C. Project Description

The activities of this grant will be conducted in the Oum Er Rbia river basin and in particular in the Tadla groundwater system. The Tadla, a vast plain, which stretches about 320,000 ha, is located 200 km south-east of Casablanca, at an average altitude of 400 m. It is drained by the Oum Er Rbia river (OER) and its major tributaries, the wadis Srou and El Abid. The Tadla groundwater system includes, from top to bottom, the following entities: (i) a very limited groundwater in contact with the crystalline basement, together with Triassic formations which are not exposed in the basin and which provides only local interest; (ii) a Cénomianian-Turonian carbonated groundwater; (iii) a Senonian aquifer of minor significance; (iv) the Eocene groundwater; and ultimately a complex plio-quatarnary groundwater made of by places of sand and gravels, conglomerates, and lacustrine limestones (calcarenites).

The two most strategic aquifers in the Tadla system, from water quality and quantity aspects, are the Turonian groundwater and the Eocene groundwater. They are the ones for which a groundwater management contract is likely to be designed under this grant. Although the Turonian and Eocene aquifers are yearly recharged by rainfall in areas where they are outcropping (but also through leakage from other aquifers), their exploitation by drilling has grown considerably from the early 80s, after a succession of dry years. As a result, surface water deficits induced by drought events have led the farmers of irrigated areas to develop groundwater exploitation. From that time, the proliferation of drilled wells resulted in a continual unbalance of each of these two aquifers. The balance deficit of the two groundwater results in a continuous destocking since the early 1990s, and in a steady decline of groundwater levels, variable by sector, of the order of 1 to 2 m/year (Turonian) and 1 to 3 meters/year (Eocene).

Climate change projections in Oum Er Rbia basin predict a reduction in the annual water availability for irrigation by 0.2 billion m<sup>3</sup> by 2030 and a potential lowering of the groundwater table up to 50 meters by 2030. The main irrigation areas in the Oum Er Rbia basin (e.g. Tessaout Amont and Tessaout Aval, Doukkala and Haouz) are expected to be affected by this reduction of water availability according to one of the three climate change models used in the World Bank study on climate change impacts in Oum Er Rbia Basin (2013). The potential lowering of the groundwater table is a concern as groundwater is used to irrigate 10 percent of cultivated land in the basin, however 9 out of the 11 different groundwater units in the Oum Er Rbia basin already are overused due to irrigation.

As groundwater will be a resource that will be needed to reduce the impact of climate change, as a result, demand management for groundwater needs to be put in place as of now. The top-down option with water counter on wells and the water police have not been successful as very few wells are installed and the water police is limited in number and in power. New approach is needed.

Groundwater management contract is an option that has been tested in other basins such as Souss Massa and the ABH-OER is willing to test it in the Oum Er Rbia river basin. To increase the likelihood of success of this approach, the ABH OER is designing with a strong emphasis on a participatory approach with a strong and direct involvement of the users.

One major step of the design of the contract management is to conduct a modeling of the groundwater system to project the levels of groundwater over time in the next decades, based on the inflows (rainfall and recharge) and the different use scenario. A firm (Anzar) conducted a modeling of the groundwater system of the Tadla; however there are two shortcomings: (i) the projections of the rainfall did not take into account the projected impact of climate change (i.e. the projected reduced recharge of the groundwater) and hence overestimated the water storage in the groundwater in the next two decades; and (ii) the use of groundwater were based on user declarations and not based on actual pumping which resulted in a significant underestimation of the exploitation of the groundwater. As such the current modeling needs to be updated.

Once the modeling is completed, with the inclusion of the impact of climate change and actual use of water, different future groundwater use scenarios are discussed with users and the agreed scenario is then the base of a groundwater contract management where the role a responsibilities of each stakeholder is defined, the monitoring of the groundwater discussed and agreed, the allocation for users agreed on, and redress mechanism for users agreed upon as part of the management contract.

This grant will support the ABH-OER in the design of an inclusive groundwater management

contract and will (i) in the first component project provide rainfall series for the groundwater modeling, which is the basis for user discussion on the selection of the use scenario, and also identify and discuss with stakeholder the basin's vulnerabilities to climate change, and (ii) based on the climate change, update the modeling (taking into account the climate change) so as to present to the stakeholder accurate evolution of groundwater and establish on this basis the management contract. The in-depth knowledge on the stakeholder mapping in particular for the larger group representing the farmers will be conducted as part of the grant (in terms of large farmers versus small farmers, type of irrigation, technologies, etc.). This stakeholder mapping is doable for the two aquifers of the Turonien and the Eocene as the number of farmers is expected to be in the hundreds for the Turonien and thousands for the Eocene. The more detailed description of the content of the components is presented as follows:

#### Component 1: Stakeholder involvement in selecting performance indicator for a climate risk assessment of Oum Er Rbia Basin

The key objective of this component is to establish from available information and current knowledge, the evolution of rainfall/runoff, and the vulnerability in the basin based on performance indicators selected by stakeholder. Indeed, most of climate change analyses focus on the change in the rainfall and temperature, and in some cases the runoff. However, users are likely to be also interested on performance indicators that matters to them, for example how this translates in number of hectares that can be irrigated, or does it affect the energy production through hydropower, etc.

Main tasks: The initial planning of this component is to have the following tasks : (i) assessment of current information/knowledge on the Basin (hydrology/hydrogeology) and initial climate risk assessment; (ii) training on methodology for the initial climate risk assessment and consultation with key stakeholders in identifying key performance indicators for main uses (and to extent possible thresholds); (iii) climate risk assessment for key performance indicators (and threshold to the extent possible); (iv) consultations on results of climate risk impact based on key indicators (and possibly threshold) and identify potential trade-off.

#### Component 2: Inclusive design and establishment of groundwater contract management in Oum Er Rbia Basin.

Key objective: Morocco's groundwater resources are strategic to ensuring notably sustainable and stable agricultural revenues, including for small scale farmers, but over the past decades stocks have been heavily impacted. Based on initial pilot in Morocco on a convention including water users at the level of the Souss-Massa basin and on lessons learned in other basins in Morocco and in other countries, key elements for increasing the likelihood of successful groundwater management contract are involving stakeholder, building trust, good communication, and transparency in the process. Given the long engagement of the Bank in the Oum Er Rbia Basin (in agriculture, water supply and sanitation, climate change, etc.), and the interest of the ABH-OER to design and establish two groundwater management contracts following these principles of bottom up approach (inclusiveness, transparency, agreement), this component aims at piloting this approach in the Basin and supporting the ABH-OER in the consultations and consensus building process.

Main task: The initial planning of this component is to have the following tasks : (i) consultation with stakeholder to select the two aquifers for establishing the groundwater contract management based on agreed criteria; (ii) stakeholder analysis and assessment on way forward for each contract

(including legal gaps and way to move forward with existing legal instruments); (iii) initial consultations workshop to agree on the process and key content of contract management for two aquifers; (iv) assistance to the ABH-OER in the designing process and first draft contract management for two aquifers; (v) consultation workshops on process and initial draft of contract management (including getting the medium and long-term objective of use of groundwater be stakeholder in a context of reduction of recharge of groundwater due to climate change); (vi) workshop to present and exchange with other ABH-OER on the groundwater contract management; and (vii) synthesize lessons learned and prospective.

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

The activities of this proposed grant will be in the Tadla's aquifer system of Oum Er Rbia Basin. The Tadla is a vast and monotonous plain located 200 km south-east of Casablanca, at an average altitude of 400 m, and which represents 320,000 ha. Shared between the provinces of Beni Mellal and Azilal, it is bordered to the north by the Khouribga plateau, to the east by Oued Zem, to the west by the Oued El Abid and south by the Atlas Mountains. It is drained by the Oum Er Rbia river and its major tributaries are the wadis Srou and El Abid.

As Activities to be financed under this project will focus mainly on studies, consultations, trainings, and designing of contract agreement for two existing aquifers and not involve any civil works, the policy on Involuntary Resettlement, OP 4.12, does not apply to this project. In other words, activities financed under this project will not result in direct economic and social impacts caused by the involuntary taking of land resulting in relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihoods, whether or not the affected persons must move to another location.

#### **E. Borrower's Institutional Capacity for Safeguard Policies**

This is a category C project.

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

Hana Salah (GSU05)

Suiko Yoshijima (GENDR)

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

<b>Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/ BP 4.01	No	The project will finance assessments, consultations, and training and does not finance any physical interventions. Therefore none of the safeguards policies are triggered.
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	No	

Involuntary Resettlement OP/BP 4.12	No	
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	

### III. SAFEGUARD PREPARATION PLAN

Appraisal stage ISDS required?: No

### IV. APPROVALS

Team Leader(s):	Name: Amal Talbi	
<b>Approved By:</b>		
Safeguards Advisor:	Name: Nina Chee (SA)	Date: 23-Mar-2015
Practice Manager/ Manager:	Name: Steven N. Schonberger (PMGR)	Date: 23-Mar-2015

<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.