

## Environmental and Social Data Sheet

### Overview

Project Name: WADI AL ARAB WATER SYSTEM II PROJECT  
 Project Number: 2014-0150  
 Country: Jordan  
 Project Description: The Project consists of a new water intake facility from the King Abdullah Canal, a treatment plant, pumping facilities and a transmission pipeline to the Zabda Reservoir on the western side of the City of Irbid. The system will provide an additional 30 million cubic metres of potable water per year to the Northern Governorates.

EIA required: yes

The ESIA, to the satisfaction of the Bank, shall have been completed and approval obtained from the competent authority. The Promoter will send the NTS of the EIA to the EIB for publication on its website.

Project included in Carbon Footprint Exercise: yes

### Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The Project will support a high priority water supply infrastructure in one of the world's most water stressed countries and will allow the promoter to meet the growing demand, which is exacerbated by the number of Syrian refugees in the area. The project will improve the resilience of the communities to extreme droughts and climate change, as reliance on the current overexploited fragile local sources can be avoided.

The Ministry of Environment is the competent environmental authority at regional, national and international level for the Kingdom of Jordan. The project does not fall under Annex I or II of the European Environmental Impact Assessment Directive 2011/92/EU, but it does fall under the environmental impact screening obligations according to the list in Annex 2 of the Jordanian Environment Impact Assessment Regulations of 2005. Accordingly, an Environmental and Social Impact Assessment (ESIA) Study is currently being finalized in compliance with the Jordanian Environment Protection Law No. 52 of 2006, the Environmental Impact Assessment Regulation No. 37 of 2005, the Ministry of Environment requirements and the EIB Environmental and Social Standards. The ESIA is being carried out by an international consultant financed by the United States Agency for International Development USAID. In line with Jordanian ESIA regulation a scoping session with project stakeholders was held in the city of Irbid on 24 March 2015 in order to identify valued environmental and social components to be addressed in the study. Once completed, the document will also be made available for consultation to the public for 30 days. The ESIA will also include an Environmental and Social Management Plan (ESMP).

According to the draft ESIA, no infrastructure associated with the project is located in or affects sensitive or protected areas. The negative impacts identified at this stage (e.g. typical construction works related nuisances) are considered to be minor or they can be mitigated as long as national regulations and the requirements of the ESMP are followed properly. Regarding the operation, besides unavoidable energy and chemical requirements for the treatment, the assumption is that Israel, which is providing this water to Jordan from Lake Tiberias under international agreements, exercises its capacity to continue to balance total abstractions from the Lake and hence the Jordan River in its own and Jordan's interest.

Through the project, there is certainty that the amounts of water transferred to Jordan stay within the Jordan River basin as the water will after usage and appropriate wastewater treatment, return towards the lower Jordan valley for use in irrigation or release into the Jordan River.

An Environmental and Social Management Plan (ESMP), to the satisfaction of the Bank shall have been prepared with provisions to be followed by the promoter, contractors and the supervision consultant.

The Project is considered acceptable for EIB financing.

## **Environmental and Social Assessment**

### **Environmental Assessment**

The Project will support a high priority water supply infrastructure in one of the world's most water stressed countries and will allow the promoter to meet the growing demand, which is exacerbated by the number of Syrian refugees in the area - the number of Syrian refugees in Irbid was estimated at over 143 000 persons in May 2015. Reliable and improved access to water is beneficial for health, economic development and social stability in Jordan. It will benefit local workers and SMEs through the employment creation during the construction period and to a lesser extent, during the operation period. The project will improve the resilience of the communities to extreme droughts and climate change, as reliance on the current, fragile local sources can be avoided. The project should also be evaluated in a context where underground sources are already overexploited, and where multilateral agreements to share the water sources and new technologies – e.g. desalination, wastewater reutilisation for agriculture, and reduction of distribution losses - are the main solutions identified in the National Water Strategy for a better distribution of the water resources, bringing social and political stability to the region.

Due to the political complexity of the region, there is no River Basin Management Authority for the Jordan River, nor a river basin management plan with related SEA (Strategic Environmental Assessment) as would be required for such basin management plan inside the EU under the SEA Directive 2001/42/EC.

The management of the scarce water resources is mainly based on bi/multilateral agreements, the most relevant being an Annex to the Peace Treaty signed in 1994 between Israel and Jordan. This Treaty Annex specifies the allocation of the Jordan River and the lower Yarmouk River water between the two countries. As part of this treaty and subsequent agreements, Israel supplies Jordan with 75 million m<sup>3</sup>/year from the lake per year plus 15 to 55 million m<sup>3</sup>/year of Yarmouk River water that Jordan is allowed to store in the Lake (net of a contribution to of 25 million m<sup>3</sup>/year for Israel). A 2013 purchase agreement for an additional 20 million m<sup>3</sup>/year, together with an additional 10 million m<sup>3</sup>/year taken from the water already existing in the King Abdullah Canal (this water is currently used for irrigation, and will be substituted by treated wastewater) will provide the necessary water for the Project.

Also, in an effort to satisfy the demand in a water stressed region through cooperation, "SWAP Arrangements" were signed between Israel and Jordan in February 2013. This agreement states that Israel which controls and is the largest user of water from the Upper Jordan River including Lake Tiberias, will sell 50 million m<sup>3</sup>/year of fresh water from the Lake to Jordan to supply the cities in the North of Jordan, and that Jordan would sell desalinated water from a new – yet to be built - desalination plant in Aqaba to Israel in the south where the latter has no possibility to access desalinated water of its own. Such additional water would allow for a future expansion of the plant from 30 to 45 million m<sup>3</sup>/year.

The ESIA does not foresee particular environmental issues with this water transfer from Lake Tiberias to Jordan which occurs entirely within the Jordan basin. Lake Tiberias is Israel's largest freshwater reservoir supplying approximately one third of its water needs through the National Water Carrier, the backbone of Israel's national water distribution system. The

amount to be released to Jordan represents a relatively small part of the water available from Lake Tiberias and is more than compensated for by the 100's of millions of m<sup>3</sup>/year of water now available from the many Mediterranean desalination plants in Israel where the water is normally consumed.

There is no agreement between Jordan and Israel as to how Israel should manage its own abstraction from the Lake and whether the provision of water to Jordan will result in a commensurate reduction of Israel's own abstraction from the Lake in order to maintain the water balance at the Lake and the Lower Jordan River, downstream of the Lake. However Israel does have targets of its own regarding the management of the water levels through abstractions and releases to the Lower Jordan River as well as international agreements regarding the protection of each other's related groundwater and water supply systems against pollution, contamination, harm and unauthorized withdrawals of each other's allocations. Israel needs water to feed the National Water Carrier. It can do this from various sources, including the desalination plants on the Mediterranean coast as well as Lake Tiberias. With technological improvements desalination costs have come down a lot whereas surface water such as that of Lake Tiberias requires costly treatment. This suggests that Israel does not have as strong an economical reason anymore to prefer water from Lake Tiberias over desalinated water. Given all the above, it seems reasonable to assume that the water allocated to Jordan will come from a reduction in abstractions by Israel in order to preserve the River Jordan ecosystem.

In the context of the ESIA carried out for this project it is not possible to secure this behaviour from Israel in the form of a condition as it is a sovereign state that is not a party to this project or its' financing. Given furthermore that the water releases to Jordan are the result of complex long lasting negotiations that are completed already; that Jordan has no other sources of water to tap; that Israel has alternatives to substitute this loss of water from the Lake; and finally that Israel has the capacity, the self-interest and the means to not further stress the fragile Lake and Jordan River, it remains a small but outstanding risk for which it is assumed that Israel exercises its capacity to continue to balance total abstractions from the Lake and hence the Jordan River in its own and Jordan's interest.

### **EIB Carbon Footprint Exercise**

The estimated annual emissions of the project in a standard year of operation, is 80 kT CO<sub>2</sub>e/year. This is made up of 26 kT from the water treatment plant and 54 kT for the pumping (800 m altitude difference), requiring 98,000 MWh per year and unit emissions in Jordan of 560 kg per MWh.

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

There are no emissions savings as this concerns a new project providing additional water in a demand constrained area, hence the net effect of the project is expected to be + 80 kTCO<sub>2</sub>e/year. This is however a conservative estimate since there should be some savings, particularly in the earlier years from relieving the overexploited sources that are used today.

### **Social Assessment, where applicable**

A total of 21 parcels of land will need to be acquired to accommodate the intake, pumping station and water treatment plant. The project will also cause some hinder during the construction of the pipeline to small commercial activities.

An ARAP (Abbreviated Resettlement Action Plan) was hence also carried out as part of the ESIA to identify PAP's (Project Affected Persons) and establish procedures for compensation.

The land acquisition process has already been launched and follows national rules which appear to be satisfactory. Seven plots of land are governmental and 14 are privately owned. Two of these plots are planned to be only partially acquired (13% and 3% respectively).

The main activity on the plots being purchased is agriculture, with no houses or other noteworthy activities on any of the plots.

The proposed project transmission line mainly crosses land that already belongs to the government, and it is not expected to result in disputes over land ownership. Regarding the hinder during the construction activity, the ARAP has catalogued details of all PAP's for subsequent compensation.

The promoter has a good general reputation related to Labour and Working Conditions. The Ministry of Labour takes serious action against violations of Jordanian labour regulations and codes. The yet-to-be identified contractors who will be implementing the construction activities will be required to comply with the requirements of the ESMP including on Labour and Working conditions.

### **Public Consultation and Stakeholder Engagement, where required**

A first public consultation including a workshop in Irbid on 24 March 2015 took place as part of the scoping stage of the EIA Study. After completion the final draft ESIA will be made available for public review for 30 days. The final ESIA study, including potential impacts and mitigation plans summarised in an ESMP, the date of the final EIA submittal, and the final determination of the Ministry will be disclosed to the public as per Ministry of Environment requirements. This is expected before signature of the finance contract.

### **Other Environmental and Social Aspects**

Jordan lies in a climate sensitive area that is expected to suffer from a net reduction in rainfall. Bringing in additional water from Lake Tiberias as per international agreements dating as far back as 1994 will increase the net available water in Jordan. This new, additional source results in an improved resilience of the system to the effects of climate change (adaptation). This positive adaptation outcome is acknowledged but is not as big a driver as demand from population growth and the refugee influx.