

INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC6563

Date ISDS Prepared/Updated: 02-Dec-2013

Date ISDS Approved/Disclosed: 11-Dec-2013

I. BASIC INFORMATION

A. Basic Project Data

| | | | |
|---|--|------------------------------|------------------------------|
| Country: | Lebanon | Project ID: | P147854 |
| Project Name: | Lake Qaraoun Pollution Prevention Project (P147854) | | |
| Task Team Leader: | Maria Sarraf | | |
| Estimated Appraisal Date: | | Estimated Board Date: | 26-May-2015 |
| Managing Unit: | MNSEE | Lending Instrument: | Investment Project Financing |
| Sector(s): | General water, sanitation and flood protection sector (100%) | | |
| Theme(s): | Water resource management (100%) | | |
| Financing (In USD Million) | | | |
| Total Project Cost: | 50.00 | Total Bank Financing: | 50.00 |
| Financing Gap: | 0.00 | | |
| Financing Source | | | Amount |
| Borrower | | | 0.00 |
| International Bank for Reconstruction and Development | | | 50.00 |
| Total | | | 50.00 |
| Environmental Category: | B - Partial Assessment | | |
| Is this a Repeater project? | No | | |

B. Project Objectives

The project development objectives are to reduce the quantity of untreated municipal sewage discharged into the Litani River, to increase the adoption of integrated pest management practices among targeted farmers and to improve the capacity of key stakeholders to manage environmental pollution around the Qaraoun Lake.

C. Project Description

The project will comprise the following components:

Component 1. Improve the collection of the municipal sewage (US\$ 45 million).

This component will finance activities that increase sewerage collection in areas where waste water treatment plants have already been constructed in order to maximize the utilization of investments already made:

- It is likely to finance expansion of service coverage for sewerage collection in the villages of Kaa El Reem, Hazarta, Karak in the Greater Zahlé (estimated between 70-90 km of network). This sewage network will be connected to the Zahlé Waste Water Treatment Plant (WWTP) which has a capacity of 56,000 m³/day. Zahlé WWTP is funded by the Italian Cooperation and is expected to become operational in February 2014.
- This component will also examine the possibility of expanding sewage collection to cover Zahlé East and South (Masse, Raite, Dei Ghazal, Koussaya, Ain Kaferzebd, Kfar Zabad, Terbol, Dalhmyat) if Zahlé WWTP can accommodate the flow of these additional villages. This is estimated at about 120 km of networks.
- It will also look at completing the sewage coverage to maximize the utilization of 3 small size wastewater treatment plants constructed by USAID (El Ferzol, Ablah and Aitanit/Qaraoun) and now being operated by the municipalities.

Component 2. Increase the adoption of IPM practices (US\$ 1.5 million).

This component will build and strengthen the capacity of farmers in the project area to implement integrated pest management (IPM) practices and to reduce the application of chemical fertilizers. This will allow farmers to reduce the quantities of pesticides and fertilizers used without reducing yields. The emphasis will be on irrigated farms in the West Bekaa district, given the close proximity to Lake Qaraoun and to the main course of the Litani River immediately upstream from the lake .

Given that FAO has been implementing a Regional Integrated Pest Management Program in the Near East since 2004 that covers 10 countries (including Lebanon) , it is likely that FAO will be in charge of implementing the activities under this component. IPM activities will be implemented through Farmer Field Schools (FFS) methodology, which is a proven methodology that is based on participatory approach to train and empower farmers on the use of IPM techniques and on the proper handling and disposal of pesticides. Similar participatory approaches will be used to train farmers on alternative methods and practices for sustainable fertilizer use in the project area. Baseline surveys and regular farm visits will be conducted to monitor the use of agro-chemicals by targeted farmers as well as the sales of these chemicals in the project area. The project will also support capacity building of MoA extension agents and other stakeholders on IPM and FFS approaches, and will sponsor public awareness campaigns related to environmental and public health concerns associated with excessive use of agro-chemicals.

Component 3. Capacity Building, Technical Studies and Project Management (US\$ 3.5 million)

Capacity building. This component will fund institutional technical assistance for the Bekaa Water and Wastewater Establishment (BWWE) by building on the capacity strengthening that has been initiated under the Bank-financed Ba'albeck Water and Wastewater Project (P074042), which closed in June, 2012 and on GiZ support, which is phasing out from the water sector in Lebanon. It will also support the Litani River Authority (LRA) by building on activities achieved under the USAID Litani River Basin Management Support Program and continue to focus on strengthening its capacity to monitor water resources, manage irrigation system, improve risk management, and strengthen

institutional capacity to support the implementation of the Business Plan (initially as a secretariat of multi-sectoral committee) and potentially as River Basin Agency, if its mandate is expanded.

Technical Studies. As indicated earlier, the quantity of solid waste generated in villages/towns located in the Upper Litani Catchment was estimated at 650 t/ day in 2011. However this amount is likely to have increased substantially due to the influx of Syrian refugees , which has increased the population of this area by at least 50%. Currently there is one sanitary landfill (constructed by a WB funded project) in Zahlé serving a large area and receiving about 130 t/ day. Two additional sanitary landfills are under construction: one in Baalback with a capacity of 100 t/day (with funding from the Italian Cooperation) and a small one in the city of Jeb Jennin funded directly by the municipality. The Business Plan has identified the need for additional sanitary landfill to cope with the quantity of waste generated around the Litani River /Lake Qaraoun upper catchment area. Under the proposed project, it is suggested to undertake all necessary technical, environmental and social studies for (i) establishing a sorting and landfilling site in Barr Elias, Tal Thnoub and/or Rachaya; and (ii) the closure and capping of existing dump sites such as Temnin al Tahta, Qab Elias, Barr Elias, Hawch Al Harim, Al-Khyara, Jeb Jennine or Gazze.

Project Management. This component will support the establishment of a fully functioning Project Management Unit (PMU). Funding will cover the cost of consultants, field visits, office equipment, audits and any operating costs necessary for project implementation as well as activity monitoring and evaluation.

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

The overall technical assistance under the project will cover the entire Litani river basin, while direct investments will focus on the villages of Kaa El Reem, Hazarta, Karak in the Greater Zahlé area, the villages of Masse, Raite, Dei Ghazal, Koussaya, Ain Kaferzebd, Kfar Zabad, Terbol, Dalhmyat) in Zahlé East and South, and municipalities of El Ferzol, Ablah and Aitanit/Qaraoun. The Litani River is the principal artery of Lebanon, exceeding 170 km in length, and its major water structure is the Qaraoun dam, which forms the Qaraoun Lake (or reservoir), which was built to produce hydropower, and provide water for irrigation and water supply. The Upper Litani River catchment extends over an area of 1,500 km² (10% of the Lebanese territory) and comprises 99 towns/villages distributed into four administrative districts: Baalbeck, Zahlé, West Bekaa, and Rachayya.

Large stretches of the River and the Lake are polluted from four sources of pollution: (i) Most municipal wastewater is currently discharged untreated in the Litani River; In the Bekaa, it is estimated to be 63 million m³ with an annual load of 21,300 tons of Biochemical Oxygen Demand (BOD). (ii) Industrial wastewater is estimated at about 4 million m³ in the Bekaa. Of 294 industrial establishments located along the Litani river, 120 are large-scale priority industries located within 400 m of the river, its tributaries or Qaraoun Lake, many of which produce effluents that are conveyed to surface water through either the nearby tributary or the existing sewer networks. (iii) Municipal Solid waste generated in the upper catchment of the Lake is estimated at 650 tons per day. Due to lack of sufficient number of sanitary landfills, most garbage is dumped in open dumps or in the River itself along the entire Qaraoun catchment. (iv) Agriculture is the largest land use in the basin and irrigated agriculture in the Bekaa covered about 54,000 ha concentrated in three districts: Baalbek (24,000 ha); Zahlé (16,000 ha) and West Bekaa (10,000 ha) . Vegetables, fruit trees, cereals and industrial crops are the main crops and farmers over-fertilize their crops and the most important constituents of agricultural runoff and water seepage are agricultural chemicals and non-degradable pesticides which end up in waterways with irrigation overflows. Pollution from these sources has led

to the deterioration of water quality in the Litani River and the Qaraoun Lake, and results indicate high concentrations of ammonia, nitrites and fecal coliforms and phosphates and sulphates in all sections of the river. Sediments in the Qaraoun Lake contain high concentrations of metals such as Arsenic (As), Cadmium (Cd), Mercury (Hg) and Vanadium (V) and phenols and TPH, indicative of urban runoff and organic industrial pollution.

While this project is an environmental enhancement project, activities related collection, treatment and disposal of sewage and construction or rehabilitation of sewer systems may generate environmental impacts – during construction and implementation periods. For this project, the environmental safeguard aspects will be related to the construction/ rehabilitation of the sewage/ septage treatment facilities, main sewer trunk lines, pumping stations, sewer manholes, interceptor canals and sludge management. During project implementation the impacts are likely to arise from discharge and quality of treated water, if any, odor and sludge management, temporary disruption of access and services, disruption of access and traffic, general layout of the habitation, and impacts due to rubble, noise, dust and air pollution. The main environmental issues related to existing and operating wastewater treatment plants could be inadequate network and connectivity, poor operations and maintenance, discharge of untreated water, poor sludge management, including disposal, inaccurate use of (un)treated water etc.

E. Borrowers Institutional Capacity for Safeguard Policies

The Council for Development and Reconstruction is responsible for national development plans and implementing infrastructure projects. It has been the implementing agency for various World Bank funded projects and as such is familiar with Bank procedures. Experience from earlier projects indicate that the CDR has effectively and satisfactorily implemented Environmental Management Plans and under their aegis has promulgated guidelines on sludge reuse and has strengthened capacity on monitoring and sampling of water and wastewater quality, along with public awareness campaigns. The Ministry of Environment sets environmental standards, approves EIA reports, monitors environmental quality and regulates collection and disposal of solid waste. The Bekaa Water and Wastewater Establishment (BWWE) which is responsible for the service provision of water and wastewater services and irrigation within this project area, is a weak agency with insufficient institutional and financial capacity. It has also inherited distribution networks in poor conditions, with very high levels of illegal connections and very low collection rates from those legally connected. The Litani River Authority monitors the quality of the Litani River, while the Ministry of Agriculture is responsible for the regulation of pesticide and fertilizers and has launched measures to enhance enforcement and promote awareness about proper use, handling and disposal of pesticides.

F. Environmental and Social Safeguards Specialists on the Team

Chaogang Wang (MNSSU)

Ruma Tavorath (SASDI)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

| Safeguard Policies | Triggered? | Explanation (Optional) |
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| Environmental Assessment OP/ BP 4.01 | Yes | The Government will prepare an Environmental and Social Management Framework (ESMF) for the entire project, since site locations for construction of the sewage network are still |

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| | | <p>unspecified and the location of the connectivity pipelines are not yet identified. The ESMF will conform to the requirements of OP4.01 as well as the Lebanese laws and/or regulations on environmental reviews and impact assessment, and any other pertinent environmental requirements as they relate to the project. As and when individual subprojects are identified and their designs are finalized, Environmental Impact Assessment (EIA) and Environmental Management Plans will be prepared for each, in accordance with their environmental risks, based on the screening tools and guidelines established in the ESMF.</p> <p>Post-assessment of the 4 existing Waste Water treatment plants at Zahlé, El Ferzol, Ablah and Aitanit/Qaraoun will also be undertaken to determine current conditions of operations and recommendations will be made to mitigate and/or improve the existing conditions.</p> |
| Natural Habitats OP/BP 4.04 | No | The project will be implemented within the identified villages and districts and at the 4 existing wastewater facilities which are not located in the proximity of natural habitats or protected areas. |
| Forests OP/BP 4.36 | No | The project will be implemented within the identified villages and districts and at the 4 existing wastewater facilities that are not in forested zones and generated activities will not have any adverse impact on forests |
| Pest Management OP 4.09 | Yes | The project does not finance procurement or use of pesticides/insecticides. However the project will provide institutional support and capacity building on IPM practices to key stakeholders (irrigated farmers, research institutes and official/staff of MOA). The capacity building may also have indirect impacts on irrigation practices with reliance on application of fertilizers and pesticides. This policy is being triggered to ensure that these activities are well managed. The ESMF will include an annex detailing the required IPM guidelines |
| Physical Cultural Resources OP/ BP 4.11 | TBD | All construction activities will include mechanisms to screen for chance finds of physical cultural resources, and if found, the policy will be triggered and appropriate |

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| | | measures will be taken as per the policy. The equivalent national regulations of the GoL will be adhered to at all times. The triggering of this policy will be determined after completion of the ESIA |
| Indigenous Peoples OP/BP 4.10 | No | There are no groups of indigenous people or indigenous communities in the project areas. |
| Involuntary Resettlement OP/BP 4.12 | Yes | The project will finance the sewage networks associated to the wastewater treatment plants which have already been constructed. Efforts will be made to avoid land acquisition for the construction of sewage pipelines. However, it is not hundred percent sure that land acquisition will be avoidable before the alignments of the pipelines are finally determined. Therefore OP 4.12 is triggered and a Resettlement Policy Framework will be prepared. For the land used for the wastewater treatment plant, a post assessment will be carried out and remedial actions will be taken if there are any pending issues related to the land use. |
| 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

A. Tentative target date for preparing the PAD Stage ISDS: 01-Sep-2014

B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

The Government of Lebanon has prepared Draft Terms of Reference for commencing the preparation of the Environmental and Social Management Framework and the post-assessment of the 4 wastewater treatment plants. It is expected that these safeguard documents will be ready by May 2014. As and when individual sub-projects are identified and their designs are completed, the site-specific Environmental Management Plans will be developed based on the guidelines and screening tools established in the ESMF.

IV. APPROVALS

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| Task Team Leader: | Name: Maria Sarraf | |
| Approved By: | | |
| Regional Safeguards Coordinator: | Name: Maged Mahmoud Hamed (RSA) | Date: 05-Dec-2013 |

¹ 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.

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| Sector Manager: | Name: Charles Joseph Cormier (SM) | Date: 11-Dec-2013 |
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