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Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 14-May-2023 | Report No: PIDISDSA34685

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Jordan	P176619	Jordan Water Sector Efficiency Project	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
MIDDLE EAST AND NORTH AFRICA	31-Mar-2023	15-Jun-2023	Water
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Ministry of Planning and International Cooperation, Hashemite Kingdom of Jordan	Ministry of Water and Irrigation, Hashemite Kingdom of Jordan	

Proposed Development Objective(s)

The project development objective (PDO) is to improve the efficiency of water services in Jordan

Components

Component 1. Sustainable non-revenue water reduction
Component 2. Increased energy efficiency and reduced energy supply costs
Component 3. Water security measures to underpin efficiency improvements
Component 4. Project management and implementation support
Component 5. Contingent Emergency Response Component

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	300.00
Total Financing	300.00
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	200.00
Non-World Bank Group Financing	
Trust Funds	50.00
Concessional Financing Facility	50.00
Other Sources	50.00
FRANCE: French Agency for Development	50.00

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

1. **Water scarcity is a key impediment to growth, development and poverty reduction in Jordan.** Jordan is one of the most water-scarce countries in the world, which poses severe limits on agriculture and water supply to its cities. With only 97 cubic meter per capita per year, the available water is well below the absolute water scarcity threshold of 500 cubic meter per capita per year. Over 92 percent of the land in Jordan is classified as semi-arid or arid and receives less than 200 mm of rainfall per year.

2. **Jordan has seen its population grow through a combination of organic growth and refugee influx– reducing the amount of water per person available as an economic input**. Between 2011 to 2015, an estimated 1.3 million Syrian refugees fled to Jordan, an influx equivalent to 20 percent of Jordan's pre-crisis population. The rapid increase in population has placed pressures on public services and infrastructure throughout the country, in particular electricity and water services. The combination of demand- and supply-side shocks led to a sharp rise in sector debt, impacting the sustainability of basic services delivery and the country's fiscal position. As Jordan's population has grown and become increasingly urbanized (91 percent in 2019), around half of Jordan's available water is used for municipal water supply (including non-residential uses) and the other half is allocated to agriculture (compared with a global average of 70 percent of water for agriculture). Water scarcity severely constrains agricultural output in the country. Jordan also has high levels of non-revenue water (NRW is the difference between the amount of water put into the distribution system and the amount of water billed to consumers for technical or commercial reasons)— NRW accounts for approximately 50 percent of municipal water in Jordan.

3. **The water sector is also the largest single energy consumer in Jordan, and half of water utilities' operational costs are for electricity**. Significant energy is inherently required for pumping water to urban and agricultural areas because of Jordan's natural hydrogeology and topography, and ageing infrastructure only increases the high energy requirements of the sector.

4. **Climate change and population growth will further reduce water resources availability at the same time that these factors will drive growth in demand for water.** Across the Middle East and in Jordan, many of the effects of climate change on the water cycle are already observed and are expected to worsen in the future. The National Water Strategy 2016-2025 estimated that water demand would exceed available water resources by more than 26 percent by 2025.

5. **GOJ has been proactive both in the analysis of water scarcity challenges and in attempts to formulate a response through the evolution of the national water program during the recent decades.** Since the 1960s, the Ministry of Water and Irrigation (MWI) with the support of Central Government and from international technical and financial partners has pursued measures to forecast and respond to water scarcity in Jordan over the past decades including: (i) the development of water master plans and national strategies; (ii) reallocation from agriculture to domestic water supply; (iii) wastewater reuse in agriculture; (iv) improvements to water productivity in agriculture, and; (v) a program of PPPs to augment bulk water availability.

6. **Reform of both the energy and water sectors has been a priority of the Government's economic reform agenda and are a key pillar of the Economic Modernization Vision and its Executive Program (2023-2025).** Energy and water sector reforms are central parts of the Jordan Reform Matrix (2018-2024) as they are recognized important drivers for economic competitiveness and growth. The Water Sector Financial Sustainability Roadmap (FSR) (approved by Cabinet of Ministers in November 2022), a deliverable under the Reform Matrix, outlines policy and investment actions needed to bring the water sector back into sustainable operations and to serve as a foundation and leverage new supply-side investments. The Economic Modernization Vision includes eight drivers of economic growth, including sustainable resources with the objectives of optimizing the use of natural resources to ensure sustainability, promoting inclusive sectoral growth and enhancing quality of life. Energy and water are the two anchors for sustainable resources economic growth driver. In the water sector, the Vision focuses on promoting water security in a financially sustainable manner, innovations in enhancing water production, sustainable water use through demand management, reducing sector inefficiencies and water losses and optimizing water use.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The proposed project development objective (PDO) is to improve the efficiency of water services in Jordan

Key Results

7. The proposed project will support results in (i) non-revenue water reduction; (ii) energy efficiency; (iii) water security and drought management; and (iv) strengthening systems to improve operational performance.

D. Project Description

8. **The proposed Series of Projects (SOP) provides the investment support and long-term approach needed for full implementation of the Water Sector Financial Sector Roadmap and to improve the efficiency and resilience of the water sector**. Through the SOP, multiple projects financed by the World Bank contribute to the Government's objectives to improve efficiency, service delivery and financial sustainability of the water

sector. The SOP is expected to be implemented between 2023 and 2032, through three proposed investments beginning with the proposed project, followed by two further investments in sector efficiency. The program is aligned with, and will contribute to, the Economic Modernization Vision, Government's National Strategy for the Water Sector, and Non-Revenue Water Reduction and Energy Efficiency Strategies.

9. The first project in the series, (SOP1) will focus on improving water sector efficiency. Proposed interventions are grouped around five components:

- **Component 1. Sustainable non-revenue water reduction**. Aims to improve efficiency by reducing waste of the available water resources (financial and commercial) and overall improvement in operational systems in the water sector, in support of adaptation to climate change impacts on water availability. This component would strengthen NRW systems in the country to improve planning, operationalization, and help sustain NRW reduction over time.
- **Component 2. Increased energy efficiency and reduced energy supply costs**. The water sector in Jordan requires significant energy for operation - energy costs represent over half of the water utilities' operational costs - due largely to pumping costs associated with the extraction of deep groundwater, and conveyance of water from the source to population centers. This component would improve the efficiency of the water sector by reducing energy used, costs, and GHG emissions.
- **Component 3. Water security measures to underpin efficiency measures**. Given Jordan's extreme water scarcity and frequent and intense droughts, improved water allocation will support different mechanisms to enable efficient and fair management of water shortages. This component will strengthen drought management with aims to apply a comprehensive drought risk management approach to increase capacity to monitor, forecast, plan for, and respond to droughts in the water sector. This component will also support preparation of studies for rehabilitation water storage systems.
- **Component 4. Project management and implementation support**. This Component would focus on project management required to implement this Project and to strengthen systems for the planned SOP.
- **Component 5. Contingency Emergency Response.** A Contingency Emergency Response Component (CERC) with zero allocation would be created and made implementation-ready to allow the GoJ to respond quickly in case of an eligible emergency. The mechanism will be defined in a specific CERC Operational Manual that will clearly outline the triggers, eligible expenditures, procurement thresholds, and procedures for using part of IBRD resources of the project to respond quickly in the event of an eligible emergency.

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

12. **The Project Environmental risk is rated Substantial.** The Project's environmental risks are mainly related to the construction and rehabilitation of the water network and rehabilitation of groundwater wells, including: risks of air pollution, noise, , generation and improper management of non-hazardous waste, and hazardous waste as well as risks associated with use of chemicals, and low potential of increase in water extraction affecting the aquifers safe yield during operation. There are also risks of potentially uncovering old asbestos pipes during water network rehabilitation. Biodiversity assessment will be conducted for activities located in areas of biodiversity value and risks associated with treated wastewater due to alterations in water allocation planning will be assessed during preparation of water allocation and drought contingency plans.

13. **Social risks: SOP-1 has a variety of social risks and is rated Moderate**. The Project has a variety of social risks and is rated **Moderate**. The main social risks are related to small to moderate-scale civil works across the national geographic scope of SOP-1, to be undertaken by different implementing agencies. No significant labor influx is expected, since most labor will be sourced from readily available local labor.

14. **The project has prepared environmental and social management instruments proportionate to the risks and impacts.** Mitigation and monitoring measures to address the environmental and social risks are incorporated into the Environmental and Social Management Framework (ESMF) and Labor Managagement Procedures (LMP) that have been prepared. The project also has a robust Stakeholder Engagement Plan (SEP) for meaningful engagement and information disclosure with affected parties throughout the project cycle. Works are expected to take place within existing rights-of-way and sites; a Resettlement Framework has been prepared for any small parcels of land, if needed. The project design incorporates resourcing and capacity building for environmental and social risk management and stakeholder engagement across the implementing agencies.

E. Implementation

Institutional and Implementation Arrangements

15. **The implementation arrangements are aligned with the current institutional architecture of the water sector in Jordan.** A Steering Committee would be established to oversee and provide strategic guidance to project implementation. The Steering Committee will be chaired by the Minister of Water and include senior management from key stakeholder agencies and institutions such as Ministry of Water and Irrigation (MWI), Water Authority of Jordan (WAJ), Jordan Valley Authority (JVA), Miyahuna Water Company (MWC), Aqaba Water Company (AWC) and Yarmouk Water Company (YWC), , with representatives from MOPIC, the Ministry of Finance, Ministry of Agriculture, and the Ministry of Energy and Mineral Resources. WAJ would be responsible for overall project coordination with support from the Project Management Directorate (PMD). The water companies (MWC, AWC, and YWC) would be responsible for implementation of activities under Components 1 and 2. Each water company will be responsible implementing NRW reduction actions in the secondary and tertiary networks, and activities that improve energy efficiency. MWI will be responsible for implementing actions under Component 3 on hydro-informatics and drought risk management and JVA would be responsible for implementing actions under Component 3 on water storage. Alignment with Development Partners active in the sector would be facilitated through existing coordination mechanisms.

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APPROVAL

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