Japanese ODA Loan

Ex-Ante Evaluation

Middle East Division II, Middle East and Europe Department

Japan International Cooperation Agency

1. Name of the Project

Country: The Republic of Iraq (Iraq)

Project: Water Supply Improvement Project in Kurdistan Region (II)

Loan Agreement: September 15, 2018

2. Background and Necessity of the Project

(1) Current State and Issues of the Water and Sewerage Sector and the Development of the Kurdistan Region in Iraq

In Iraq, water supply facilities have not been properly rehabilitated or expanded due to the two wars and economic sanctions. These facilities have aged and deteriorated without proper maintenance. In particular, in the Kurdistan Region, lack of investment in the water supply sector has led to a significant decline in water intake and treatment capacity and the deterioration of water transmission and distribution facilities. As a result, the region is suffering from lack of water supply, left with no choice but to restrict water supply to one hour per day in Sulaymaniya and Duhok Governorates and four to five hours per day in Erbil Governorate.

For example, Erbil, the largest Kurdistan city, has three water treatment plants with a total capacity of 241 thousand cubic meters per day, which falls significantly short of the daily peak demand of approximately 442 thousand cubic meters. In addition, Halabja City in Sulaymaniya Governorate has no water treatment plant and relies on springs and underground water sources, which deliver only 18 thousand cubic meters of water per day while the daily peak demand reaches approximately 57 thousand cubic meters. Moreover, the existing distribution facilities have deteriorated significantly across the Kurdistan Region because they have not been rehabilitated or replaced since they were installed before 1955. Therefore, the leakage rate has significantly increased, exceeding 50% on average and reaching as high as 80% in some areas (JICA Special Assistance for Project Formation (SAPROF) Study 2008).

In its medium-term development plan called the Regional Development Strategy for Kurdistan Region 2013-2017 (hereinafter referred to as the RDS 2013-2017), the Ministry of Planning of the Kurdistan Regional Government (hereinafter referred to as the “KRG”) set the goal of increasing water supply

coverage to 99% of the population of the Kurdistan Region within three years and identified the Water Supply Improvement Project in Kurdistan Region (hereinafter referred to as “this Project”) as a priority project. Moreover, in its long-term policy plan called the Regional Strategic Development Vision for 2020 (hereinafter referred to as the “KRG 2020 Vision”), the KRG has also given priority to improving water supply services for residents and aimed to develop infrastructure to enhance access to safe water and sanitation.

(2) Development Policies for the Water and Sewerage Sector and the Development of the Kurdistan Region in Iraq and the Priority of this Project

Japan’s Country Development Cooperation Policy for the Republic of Iraq (July 2017) identifies “strengthening economic infrastructure” and “basic living infrastructure rehabilitation” as priority areas, stating that Japan will assist in developing water and sewerage facilities as well as enhancing health and education services in order to promote domestic and foreign private investment and alleviate people’s dissatisfaction with the delay in the rehabilitation of public services. In particular, the “improvement of water, sewage and environment” is listed as one of the priority development issues. This Project conforms to these policies.

Moreover, this Project is consistent with the development issues and policies of Iraq as well as the assistance policies of Japan and JICA. This Project is also expected to contribute to SDG 6 (ensure availability and sustainable management of water and sanitation for all). Therefore, it is highly necessary for JICA to support the implementation of this Project.

(3) Other Donors’ Activities

In the water and sewerage sector in Iraq, the World Bank launched the Emergency Water Supply Project in 2008 (109.5 million USD; completed in 2015). Since 2014, this sector has received various assistance from the UNICEF (providing 35.94 million USD as of May 2017 through the on-going Water, Sanitation and Hygiene program), the UK Department for International Development (DFID; providing a total of 20 million pounds sterling for water supply, sanitation, and medical assistance), and the World Bank (providing 60 million USD; completed in 2016). In the Kurdistan Region, Korean international Cooperation Agency (KOICA) implemented the Project for the Construction of a Water Supply System in Dohuk, Iraq (3.8 million USD; completed in 2015).

3. Project Description

(1) Project Objectives

By constructing and expanding water intake and treatment facilities and constructing water transmission and distribution facilities in Sulaymaniya, Erbil, and Duhok Governorates in the Kurdistan Region of northern Iraq, this Project aims to improve water supply services in the target cities, thereby contributing to economic and social reconstruction in these cities.

(2) Project Site / Target Area

Sulaymaniya, Erbil, and Duhok Governorates in the Kurdistan Region of northern Iraq

(3) Project Components

(a) Halabja City (Sulaymaniya Governorate): Construction of new water intake and treatment facilities (50,000 m^3 per day; completed) and construction of water transmission and distribution facilities and replacement of water transmission, distribution, and service pipes

(b) Sulaymaniya City: Replacement of water transmission, distribution, and service lines

(c) Erbil City: Expansion of water treatment facilities (96,000 m^3 per day; completed), construction of water transmission and distribution facilities, and replacement of water transmission, distribution, and service pipes

(d) Duhok City: Replacement of water distribution and service pipes (completed)

(e) Consulting services (detailed design, procurement support, construction supervision, support for water rate revision, support for formulating and implementing environmental management and monitoring plans, and training)

(4) Estimated Project Cost (Loan Amount)

42,553 million yen (loan amount: 2,463 million yen (first phase: 34,266 million yen))

(5) Schedule

March 2009 to November 2021 (total 153 months). This Project will be deemed complete when the service starts (in November 2020).

(6) Project Implementation Structure

1) Borrower: The Government of the Republic of Iraq
2) Guarantor: None
3) Executing Agency: The Ministry of Municipality and Tourism, Kurdistan

Region (hereinafter, referred to as the “MOMT”)

4) Operation and Maintenance Agency: Sulaymaniya Water Directorate, Erbil Water Directorate, Halabja Water Directorate, and Duhok Water Directorate

(7) Collaboration and Division of Roles with Other Projects and Donors

1) Japan’s Assistance Activities:

In the water supply sector in Iraq, Japan has financed approximately 118.5 billion yen through three ODA Loan projects: the Basrah Water Supply Improvement Project (Loan Agreement signed in June 2008), the Water Supply Improvement Project in Kurdistan Region (Loan Agreement signed in March 2009), and the Water Supply Sector Loan Project in Mid-Western Iraq (Loan Agreement signed in March 2010).

2) Other Donors’ Assistance Activities:

In the Kurdistan Region, KOICA implemented the Project for the Construction of a Water Supply System in Dohuk, Iraq (3.8 million USD; completed in 2015).

(8) Environmental and Social Consideration / Poverty Reduction / Social Development

1) Environmental and Social Consideration

i) Category B

ii) Reason for Categorization: This Project falls into Category B because it is not located in any of the sensitive areas nor does it have any of the sensitive characteristics or falls under the sensitive sectors listed in the JBIC Guidelines for Confirmation of Environmental and Social Considerations (published in April 2002) and because it is unlikely to have a significant adverse impact on the environment.

iii) Environmental Permit: The Environmental Impact Assessment (EIA) Report for this Project was approved by the KRG Ministry of Environment in November 2007.

iv) Anti-Pollution Measures: The sludge generated from water treatment is to be properly disposed of by the KRG in accordance with the Iraqi law.

v) Natural Environment: This Project is likely to have a minimal adverse impact on the natural environment since the project site is not located in sensitive areas or their vicinity, such as national parks.

vi) Social Environment: All the sites selected for construction of

water intake and treatment facilities and distribution reservoirs in this Project are owned by the government; therefore, this Project will not involve land acquisition or involuntary resettlement.

vii) Other / Monitoring: Air and water quality, noise levels, and sludge treatment will be monitored by the contractors during the construction process and by the executing agency after the service starts.

2) Cross-Cutting Issues: None in particular

3) Gender Classification: Not subject

Activities / reason for Classification: It is because there is little possibility that this Project can take specific actions to contribute to gender equality.

(9) Other Important Issues: None in particular

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Indicator	Site	Baseline value (2007)	Current value (2017)	Current target value (2022) [Expected value 2 years after project completion]
Water supplied population (persons) *1	Halabja City	102,000	155,000	174,000
	Erbil City	788,000	1,114,000	1,248,000
	Sulaymaniya City	871,000	1,187,000	1,328,000
	Duhok City	247,000	379,000	427,000
Average daily water supply (m^3 per day) *1	Halabja City	17,000	51,000	58,000
	Erbil City	315,000	371,000	416,000
	Sulaymaniya City	272,000	272,000	272,000
	Duhok City	82,000	126,000	142,000
Water supply duration (hours per day) *2	Halabja City	1	12	12
	Erbil City	8	12	12

*1 The “water supplied population” and the “average daily water supply” are reference indicators for Sulaymaniya and Duhok Cities because they do not represent the direct effects of this Project (the development of water distribution networks).

*2 The “water supply duration” is used as an indicator only for the two cities where water

treatment plants are constructed and expanded.

(2) Qualitative Effects

Economic and social reconstruction in the Kurdistan Region

(3) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) of this Project is calculated at 8.6%. The Financial Internal Rate of Return (FIRR) cannot be estimated since the annual cash flow will be negative during the project life period.

[EIRR]

Cost: Project costs and operation and maintenance expenses (excluding taxes)

Benefit: Increases in water supply and decreases in costs (for purchasing bottled drinking water, water trucks, pumps, and tanks)

Project life: 30 years

[FIRR]

Cost: Project costs and operation and maintenance expenses

Benefit: Service revenues

Project life: 30 years

5. Prerequisites and External Factors

(1) Prerequisites:

None in particular

(2) External Factors:

The security situation will not be much worse than it is now.

6. Lessons Learned from Past Projects

The ex-post evaluation of the Urban Water Supply and Sanitation Improvement Program in India drew a lesson for water and sewerage projects: it is essential to estimate demand for the water supply services and assess the willingness and capability of residents to pay for the services to determine maximum affordable rates and formulate a realistic plan to promote household water connections.

Since the MOMT is planning to revise the water billing system in 2018 by introducing metering charges and installing meters, JICA will support to revise the water rate charges while taking into account the beneficiaries' share of costs in areas with different populations and different poverty levels as well as

enhance operation and maintenance capacity through consultants hired in this Project in order to facilitate the introduction of metering charges and the installation of meters.

7. Evaluation Results

Japan's Country Development Cooperation Policy for the Republic of Iraq (July 2017) identifies "strengthening economic infrastructure" as one of the Priority Areas and points out the necessity of developing water and sewerage facilities in order to promote domestic and foreign private investment. Therefore, it is highly significant to implement this Project.

Moreover, this Project conforms to the development issues and policies of Iraq as well as the assistance policies of Japan and JICA. This Project is also expected to contribute to SDG 6 (ensure availability and sustainable management of water and sanitation for all). Therefore, it is highly necessary for JICA to support the implementation of this Project.

8. Plan for Future Evaluation

(1) Indicators to be Used

Per 4. (1) – (3)

(2) Timing

Ex-post evaluation: 2 years after project completion