

Ex-Ante Evaluation (for Japanese ODA Loans)

1. Name of the Project

Country: The Republic of Iraq

Project: Water Supply Improvement Project in Kurdistan Region

Loan Agreement: March 17, 2009

Loan Amount: 34,266 million Yen

Borrower: The Government of the Republic of Iraq

2. Background and Validity of the Project

After receiving significant damage economically and socially due to the long-term economic restrictions and conflict, Iraq has been reconstructed with support from international society after the war.

Although the water supply sector in Iraq was relatively in good condition compared with its neighboring countries before the 1991 Gulf War, its condition has worsened significantly because of the lack of maintenance, operations, and extension due to economic restrictions and conflict following the war.

Infrastructure

Because the infrastructure for water service was neglected in the Kurdistan Region under the former Hussein regime, the facilities have aged, markedly decreasing the region's ability to draw and purify water. With no choice but to impose restrictions, water is supplied only about one hour per day in the Sulaimaniya and Dohuk Governorates, and four to five hours per day in the Erbil Governorate, which is far short of sufficient supplies. For example, in Erbil, the largest city in the region, the capacity of the three water treatment plants is approximately 241,000 m³ per day, which falls considerably short of the daily demand of 442,000 m³. In Halabja, a city in the Sulaimaniya Governorate, there are no water treatment plants, and residents must rely on springs and ground water as water sources. The capacity of the water supply is approximately 18,000 m³ per day, which falls considerably short of the daily demand of 57,000 m³. Additionally, in Kurdistan, much of the water piping was laid before 1950s, and significantly deteriorated. Due to inadequate maintenance and management, rate of leakage is estimated 50%, which even rose as high as 80% in some regions.

Quality of the Water

Large outbreaks of *Chlorella* in Kurdistan Region in the summer of 2007 showed decline in the quality of tap water and the deterioration and lack of water-related facilities including water distributing pipes.

Government Activities

According to the 3rd National Development Strategy announced by the Government

of Iraq in February 2007, the Government of Iraq announced improvement of accessibility to safe tap water, the rate of leakage, the water supply networks, and environmental protection. Currently, the government is proceeding with the examination and implementation improvement projects in Baghdad, the capital city, and Basra, the largest city in southern Iraq.

Japanese Contribution for Iraq

At the meeting of donor countries supporting Iraq's reconstruction held in Madrid in October 2003, Japan announced to provide a maximum of 3.5 billion USD in ODA loans for medium-term reconstruction demand; in addition to 1.5 billion USD in grant aid for urgent reconstruction in Iraq. JICA has set its direction to provide assistance for the improvement of water services and the environment surrounding urban sanitation services for the improvement of quality of life as one of its Priorities and Points of Concern. Supporting this Project with an ODA loan is, therefore, necessary and relevant.

3. Project Description

(1) Project Objectives

The project aims to contribute for the socio-economic rehabilitation in Iraq through improvement of water supplies i.e., maintenance of new water intake and water treatment facilities, expansion of current facilities, and improvement the water distribution equipment for better water service in the autonomous Kurdistan Region include Halabja City and Sulaimaniya City (the Sulaimaniya Governorate), Erbil City (the Erbil Governorate) and Dohuk City (the Dohuk Governorate).

(2) Project Site/ Target Area

Halabja City and Sulaimaniya City (the Sulaimaniya Governorate), Erbil City (the Erbil Governorate), Dohuk City (the Dohuk Governorate)

(3) Project Components

1) Procurement of goods and services, construction

Halabja City: Construction of water intake and treatment facilities (50,000 m³/ day) and water service facilities

Sulaimaniya City: Replacement of water service pipes

Erbil City: Expansion of water treatment facilities (96,000 m³/ day) and construction of water service facilities

Dohuk City: Replacement of water service pipes

2) Consulting Services (e.g. Detailed design, procurement support, supervision of construction works, training)

(4) Estimated Project Cost (Loan Amount)

41,514 million Yen (Loan Amount: 34,266 million Yen)

(5) Schedule

April 2009 - December 2014 (69 months in total)

Project completion is defined as the completion of the procurement of goods and services, and construction.

(6) Project Implementation Structure

- 1) Borrower: The Government of the Republic of Iraq
- 2) Executing Agency: Regional Ministry of Municipalities in Kurdistan (RMKK)
- 3) Operation and Maintenance System: Same as 2)

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

1) Environmental and Social Consideration

(i) Category: B

(ii) Reason for Categorization:

The Project is classified as Category B since it does not fall into “the projects in sensitive sectors (i.e., sectors that are liable to cause adverse environmental impact) or with sensitive characteristics (i.e., characteristics that are liable to cause adverse environmental impact)” as stipulated in the *JBIC Cooperation Guidelines for Confirmation of Environmental and Social Considerations* (enacted in April 2002), and it is considered not to have significant adverse impact on the environment.

(iii) Environmental Permit:

The Environmental Impact Assessment (EIA) was approved by the Ministry of Environment, Kurdistan Regional Government in November 2007.

(iv) Anti-Pollution Measures:

Most of the sludge produced in a process of the water treatment is temporarily stored at the water treatment plants and composted to be recycled as fertilizer while rest of remaining sludge is incinerated. Details include anti-pollution measures are to be formulated in the Detailed Design.

(v) Natural Environment:

The project area is not located in the environmentally sensitive areas such as national parks nor is it near the sensitive areas hence the project is not considered to have potential adverse impact on natural environment.

(vi) Social Environment:

The planned construction site for water intake facilities, water treatment and distributing reservoir facilities is government-owned property; hence land acquisition and resettlement are not required.

(vii) Other/ Monitoring:

According to the environmental monitoring plan created with support of the Project consultant, the executing agency shall monitor noise, vibration, and air quality during the construction work as well as the quality of water and sludge during its service.

2) Promotion of Poverty Reduction: None in particular

3) Promotion of Social Development (e.g. Gender Perspective, Measures for

Infectious Diseases including HIV/ AIDS, Participatory Development, Consideration for the Handicapped): None in particular

(8) Collaboration with other Donors: None in particular

(9) Other Important Issues: None in particular

4. Targeted Outcomes

(1) Performance Indicators (Operation and Effect Indicator)

Indicator	Targeted Area	Baseline (Actual Value in 2007)	Target (2016) [Expected value 2 years after project completion]
Water supplied population (persons)	Halabja	124,000	155,000
	Sulaimaniya	150,000	190,000
	Erbil	790,000	990,000
	Dohuk	112,000	140,000
Water supply quantity (m ³ / day)	Halabja	17,700	64,000
	Sulaimaniya	15,000	39,000
	Erbil	241,000	427,000
	Dohuk	20,000	60,000
Water supply hours (hour/ day)	Halabja	1	12
	Erbil	8	12
Non-revenue water rate (%)	Halabja	50	40
	Sulaimaniya	70	45
	Erbil	50	40
	Dohuk	80	45

(2) Internal Rate of Return

The financial internal rate of return (FIRR) and economic internal rate of return (EIRR) of the Project are not calculated because reliable data is difficult to obtain due to Iraq's domestic situation, and prospect of rise in the water rate for appropriate internal rate of return is unknown at the present moment due to low charge of the water rate with government subsidies.

5. External Factors and Risk Control

e.g. Deterioration in the security situation.

6. Lessons Learned from Past Projects

Ex-post evaluation of similar projects in the past has shown importance to maintain related facilities which are not included in the Project but have an impact on the project effect. This Project is carried out for the development of overall facilities

related to water services such as water treatment, distribution and supply of water; therefore, few affect from other related facilities is expected for the project effect although sufficient assistance may necessary.

7. Future Evaluation Plan

(1) Indicators to be used in the future evaluation

- 1) Water supplied population (persons)
- 2) Water supply quantity (m³/ day)
- 3) Water supply hours (hour/ day)*
- 4) Non-revenue water rate (%)

* Water supply hours are calculated only in Halajab and Erbil.

(2) Schedule: 2 years after completion of the project