

Ex-ante Evaluation

1. Name of the Project

Country: The Republic of Iraq

Project: Basrah Water Supply Improvement Project

(Loan Agreement: June 11, 2008; Loan Amount: 42,969 million yen; Borrower: The Government of the Republic of Iraq)

2. Necessity and Relevance of JBIC's Assistance

In the aftermath of many years of economic sanctions and conflicts, which have left deep scars in its economy and society, Iraq has begun to move toward reconstruction with technical and financial assistance from the international community.

Before the 1991 Gulf War, the water supply situation in Iraq compared favorably with the situation in most of its neighboring countries. However, due to subsequent economic sanctions and conflicts, the operation and maintenance as well as expansion and the like of Iraq's water supply facilities have been largely neglected, resulting in the deterioration of Iraq's water supply situation.

The 12 water treatment plants in Basrah, the second largest city in Iraq (the combined population of the cities of Basrah and Hartha, also target in this project, is about 1 million), have a total capacity of approximately 412,000 tons per day, which falls significant short of the maximum demand of about 914,000 tons per day. As a result, some 70% of households in Basrah have access to water supply services for less than 12 hours a day, and the quality of treated water is less than satisfactory. Moreover, since the water service district that each water treatment plant serves is fixed, there are no water distribution networks that would enable a water treatment plant serving one water service district to help another district that happens to be facing a water shortage. As a result, the way of water supply in Basrah is neither systematic nor efficient. Furthermore, since many water pipes were installed in the 1950s or earlier, and have received insufficient maintenance to date, the water supply system has degraded to the extent that the rate of water leakage today is estimated to be as high as 50% of the total water supply. The decrepit water supply facilities in Basrah are causing all manners of problems, so there is an urgent need to develop water supply facilities in the cities through this project.

In its "National Development Strategy (2005–2007)," which was adopted in June 2005, the Iraqi government sets as its goal the development of water supply facilities in water and sanitation system by reducing the country's water leakage rate and improving its water distribution networks. Toward this end, infrastructure development projects are being studied and implemented in Baghdad, Erbil and Halabja.

In the International Conference on Reconstruction in Iraq held in Madrid in October 2003, besides grand aid amounting to \$1.5 billion for urgent reconstruction of Iraq, the Government of Japan pledged a total of \$3.5 billion in yen loans to support medium-term reconstruction after 2005. Additionally, in JBIC's Medium-Term Strategy for Overseas Economic Cooperation Operations (April 2005), one of the sectors is the assistance it provides for efforts being made to solve global problems and build peace. Consequently, the support for Iraq, where social instability continues even after major conflicts have ceased, is consistent with JBIC's assistance policy.

JBIC's support for the project is therefore highly necessary and relevant.

3. Project Objectives

The objective of the project is to improve quantity and quality of the water supply situation in the cities of Basrah and Hartha, Basrah Governorate in southern Iraq, by rehabilitating and newly constructing water treatment plants, as well as by improving of distribution networks and other facilities; thereby contributing to the economic and social reconstruction of the two cities.

4. Project Description

(1) Target Area

Basrah City and Hartha City, Basrah Governorate

(2) Project Outline

- (a) Rehabilitation and construction of water treatment plants
- (b) Improvement of distribution networks and other water supply facilities
- (c) Consulting services

(3) Total Project Cost/Loan Amount

72,944 million yen (Yen Loan Amount: 42,969 million yen)

(4) Schedule

July 2008–November 2014 (77 months). The definition of project completion is “when the installation of equipment and materials is completed.”

(5) Implementation Structure

- (a) Borrower: The Government of the Republic of Iraq
- (b) Executing Agency: Ministry of Municipalities and Public Works (MMPW)
- (c) Operation and Maintenance System: Same as (b)

(6) Environmental and Social Consideration

(a) Environmental Effects/Land Acquisition and Resident Relocation

(i) Category: B

(ii) Reason for Categorization

This project is not likely to have significant adverse impact on the environment due to the fact that the project sector and project characteristics are not likely to exert impact and the project is not located in a sensitive area under the “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Consideration” (established in April 2002). Thus, this project is classified as Category B.

(iii) Environmental Permit

Preparation of the Environmental Impact Assessment (EIA) report related to this project is not required under Iraq’s domestic laws.

(iv) Anti-Pollution Measures

Operations to remove and dispose of existing asbestos pipes will not be necessary during the water pipe replacement operation. Additionally, most of the sludge that will be generated in the water supply system will be turned into compost, and the rest will be incinerated.

(v) Natural Environment

This project involves rehabilitation and construction of water supply facilities, and so adverse impact on the natural environment is assumed to be minimal.

(vi) Social Environment

This project may require a certain amount of land acquisition to improve distribution networks and other facilities, and in that case, land acquisition will be conducted in keeping with Iraq's domestic procedures. Resident relocation will not be required.

(vii) Other/Monitoring

The project will be monitored by the executing agency on the basis of an environment monitoring plan and the like that will be prepared with assistance provided as part of the project's consulting services.

(b) Promotion of Poverty Reduction

None

(c) Promotion of Social Development (e.g. Gender Perspective, Measure for Infectious Diseases Including AIDS, Participatory Development, Consideration for the Handicapped, etc.)

None

(7) Other Important Issues

None

5. Outcome Targets

(1) Evaluation Indicators (Operation and Effect Indicator)

Indicator	Baseline (2007)	Target (2016) (2 years after completion)
Amount of water supply (m ³ /day)	412,200	608,000
Water supply hour (hour/day)	12	24
Water quality (NTU)	10–35	10 or less
Water quality (TDS: mg/l)	1,500	900
Water leakage rate (%)	50	30

Note: NTU (Nephelometric Turbidity Unit)

TDS (Total Dissolved Solids)

(2) Number of beneficiaries

Although it is not possible to determine the number of people who will benefit directly from this project, the number of indirect beneficiaries in the target areas will be around 935,000 (as of 2005).

(3) Internal Rate of Return (Financial and Economic Internal Rate of Return)

As matters now stand in Iraq, and given the country's inadequate water rate structure and collection structure, and so on, it is not possible to calculate the Financial Internal Rate of Return (FIRR). In addition, since there are no valid data available regarding the multiple effects of the

project on the national economy and the like, it is impossible to calculate the Economic Internal Rate of Interest (EIRR).

6. External Risk Factors

Deteriorating condition of public security, etc.

7. Lessons Learned from Findings of Similar Projects Undertaken in the Past

The lesson learned from the ex-post evaluations of similar past projects is that establishment of an appropriate operation and maintenance system is indispensable for ensuring smooth operation and maintenance of a project after it is launched. The Ministry of Municipalities and Public Works, the agency responsible for the operation and maintenance of this project, has operated and maintained Iraq's water supply facilities throughout the period of economic sanctions as well as before and after the conflicts, and is committed to paying close attention to the establishment of an effective operation and maintenance system by including in the project thorough training in operation and maintenance, and so on.

8. Plans for Future Evaluation

(1) Indicators for Future Evaluation

- (a) Amount of water supply (m³/day)
- (b) Water supply hour (hour/day)
- (c) Water quality (NTU)
- (d) Water quality (TDS: mg/l)
- (e) Water leakage rate (%)

(2) Timing of Next Evaluation

2 years after project completion