

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Iraq

Project: Port Sector Rehabilitation Project (II)

Loan Agreement: February 16, 2014

Loan Amount: 39,118 million yen

Borrower: The Government of the Republic of Iraq

2. Background and Necessity of the Project

(1) Current State and Issues of the Port Sector in Iraq

Iraq has a coastline approximately 48 km in length sandwiched between its borders with Iran and Kuwait; port facilities are located only along the waterway between Khor Abd-Allah and Khor Al Zubair in Basra Governorate and with the Shatt al-Arab River. At present, the only ports properly performing their functions are Umm Qasr Port, as international commercial port, and Khor Al Zubair Port, as industrial port, both located along the waterway between Khor Abd-Allah and Khor Al Zubair. These two ports are fully functioning hub ports in Iraq. Japanese firms were involved in their development during the 1970s and 1980s.

However, due to inadequate maintenance resulting from economic sanctions as well as soil accumulation and wrecks, these two ports are also facing difficulties in ship navigation. The volume of cargo handled annually in these ports fell to approximately 1.8 million tons in 2003 as a result of the start of the Iraq War; however, it subsequently showed signs of recovery, reaching some 10.3 million tons in 2010. The volume of cargo handled is expected to keep increasing and will likely to reach more than 27.3 million tons in 2018, surpassing the total cargo handling capacity of the existing port facilities, which is approximately 13.9 million tons.

Also, under normal circumstances, it takes two or three days to load and unload 300 to 400 boxes to and from the containers at a berth. However, because of several reasons such as the shortage of cargo handling machines, it takes about 5.4 days to load and unload 175 boxes at these ports. As these figures show, the port facilities necessary to meet increasing import-export demand have not been sufficiently developed yet. Therefore, there is an urgent need to implement a comprehensive port rehabilitation project in order to lead Iraq to the recovery.

Table 1: Volume of Cargo Handled by Year (Unit: 1,000 tons)

Year	2005	2006	2007	2008	2009	2010	2011	2012
Umm Qasr Port	3,244	7,659	6,310	7,595	7,662	7,513	8,642	9,315
Khor Al Zubair Port	1,857	4,294	4,395	4,032	3,291	2,804	3,076	4,189
Total	5,101	11,953	10,705	11,627	10,953	10,317	11,718	13,504

(2) Development Policies for the Port Sector in Iraq and the Priority of the Project

In 2013, Iraq announced a national development strategy (National Development Strategy Year 2013–2017), which aims to increase the competitiveness of existing ports compared with ports in neighboring countries by repairing existing port facilities and navigation routes. For the port sector, the strategy places high priority on removing wrecks, improving operational efficiency, and optimizing related organizations. This is because wrecks along navigation routes are preventing ships from entering the ports, and ports in Iraq are not properly performing their functions due to the insufficient port facilities. NDP aims to meet demand for sea transport services by rehabilitating the country's major ports (including Umm Qasr Port and Khor Al Zubair Port).

The project aims to restore the functions of Iraqi ports and improve their efficiency by developing port facilities and navigation routes mainly around Khor Al Zubair Port in southern Iraq, so that Iraqi economic and social restoration will be facilitated.

(3) Japan and JICA's Policy and Operations in the Port Sector

The development of transportation and communication infrastructure is in line with the Country Assistance Policy for Iraq formulated by the Japanese government and JICA, which identifies reinforcement of basic economic infrastructure as one of its priority areas. To provide support for developing Iraq's port sector, Japan has implemented two emergency grant aid cooperation projects through the United Nations Development Program (UNDP) (dredging of old Umm Qasr Port in 2003: approx. 2.5 million dollars; dredging of the Khor Abd-Allah waterway in 2005: approx. 23 million dollars) and also provided technical cooperation training programs on port operation management (2006), port development planning (2007 and 2008), port strategy management (seminars: 2007 to 2008 and 2012) and dredging technologies (2008 to 2011). Since 2008, Japan has also been implementing the Port Sector Rehabilitation Project (I) (ODA loan project) in order to support the development of port facilities and navigation routes at Umm Qasr, Iraq's largest commercial port, as well as other ports. In addition, since 2013, Japan has been implementing the Project on Master Plan Study for the Port Sector in Iraq, a development-study technical cooperation project, to support the formulation of a master plan for future port sector development in Iraq.

(4) Other Donors' Activities

Subsequent to the 2003 Iraq War, the UNDP implemented two dredging projects with the financial support of the Japanese government. The UNDP also served as the executing agency in the partial implementation of wreck removal project, which was planned within the framework of the Oil-for-Food Program (OFFP).

In addition, the United States performed emergency dredging of Umm Qasr Port,

providing necessary equipment, and also implemented support programs, including outsourcing of port management operations to private companies. The United Kingdom and Denmark are also implementing small-scale support programs related to sea marks.

(5) Necessity of the Project

In response to the decline in Iraq's production capabilities during the many years of conflicts and economic sanctions, there has been a rapid increase in demand for imports of substitute products as well as in the volume of cargo required to meet demands from the reconstruction activities. Nevertheless, most imported cargos are handled at ports in neighboring countries and transported by land. The resulting economic loss is estimated to be as much as 230 million dollars. Therefore, the underdevelopment of port facilities in Iraq is recognized as one of the bottlenecks to the country's restoration and economic growth.

It is highly necessary and urgent to implement a rehabilitation project that aims to support the development of Khor Al Zubair Port, which plays a pivotal role in trading and is the second most important port after Umm Qasr Port, which was developed in Phase 1 of this project.

In addition, the project will be implemented at sites relatively well protected as those located inside port facilities or on the ocean. The executing agency has also acquired knowledge and experience in port projects by implementing Phase 1 of this project. For these reasons, the project is likely to be properly completed and generate its expected effects.

Therefore, JICA's support for the Project is highly necessary and relevant.

3. Project Description

(1) Project Objective

The project aims to restore the functions of ports in Iraq and improve their efficiency by developing port facilities and navigation routes at Khor Al Zubair Port in southern Iraq and other sites, thereby contributing to Iraq's economic and social reconstruction.

(2) Project Site/Target Area:

Khor Al Zubair Port in Basra Governate and other sites

(3) Project Components (including the Procurement Method)

A) Overview of the overall project plan

During Phase 1 project, out of Umm Qasr Port (commercial port) and Khor Al Zubair Port (industrial port), Umm Qasr port was mainly focused for the development. In Phase 2, priority will be placed on restoring the functions of Khor Al Zubair Port, Iraq's second most important port after Umm Qasr. Khor Al Zubair is likely to see a rapid

increase in imports and exports as a result of the development of an industrial complex in its hinterland. The operations listed in B) below will be carried out. The project is also a STEP project that applies Japan's technological utilization standards to civil engineering works and the related equipment procurement packages.

B) Civil works and equipment to be procured

- i) Dredging (inside Khor Al Zubair Port, approx. 5.4 million m³)
- ii) Wreck removal (six ships sunken along the navigation routes to Khor Al Zubair Port and in its port waters)
- iii) Civil engineering works and procurement of related equipment (extension of the berth of Khor Al Zubair Port; building of facilities to support navigation from Umm Qasr Port to Khor Al Zubair Port; procurement of vessel equipment required for the facilities of Khor Al Zubair Port and other sites; procurement of cargo handling equipment required for the facilities of Khor Al Zubair Port; procurement of rubber-tired gantry cranes (RTG) for the facilities of Umm Qasr Port)
- iv) Utility construction works (construction of water and electricity supply facilities at Khor Al Zubair Port; removal of unused cranes and other equipment at Umm Qasr Port)

C) TOR for consulting services

- i) Basic research
- ii) Support for procurement (detailed design; drafting of preliminary qualification (P/Q) review documents and bidding documents; preparations for P/Q and bidding, implementation, and evaluation; contract support, etc.)¹
- iii) Construction monitoring, etc.
- iv) Technology transfer and training, etc.

(4) Estimated Project Cost (Loan Amount)

41,029 million yen (Loan amount: 39,118 million yen)

(5) Schedule

The project is planned to be carried out from February 2014 to January 2020 (total: 72 months). Subsequent to the completion of the civil engineering works and equipment procurement, the project shall be deemed completed upon delivery of the port facilities (January 2020).

¹ Procurement support services for dredging and sunken ship removal, which are required as emergency measure, shall be provided as consulting services of the Port Sector Rehabilitation Project (I).

(6) Project Implementation Structure

- 1) Borrower: The Government of the Republic of Iraq
- 2) Executing Agency: Ministry of Transport (MOT) and General Company for Ports of Iraq (GCPI)
- 3) Operation and Maintenance System: Same as (2) above

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

1) Environmental and Social Consideration

- i) Category: B
- ii) Reason for Categorization: The project does not fit the definition of a large-scale port sector project given in the Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (issued April 2002) and is unlikely to have serious adverse environmental impact. In addition, the targeted area does not have, nor is it exposed to, environmental impact as specified in the guidelines.
- iii) Environmental Permit: Iraq's domestic laws do not mandate submission of an environmental impact assessment (EIA) report for this project.
- iv) Anti-Pollution Measures: The targeted wrecks are small in size. Although spills of chemicals and other substances are unlikely to occur, preventive measures such as oil fencing will be taken during the removal works. The results of a baseline survey for dredging do not indicate any serious contamination of bottom soil. Also, safety measures, such as detection and removal of unexploded bombs, will be implemented and a dredging management plan will be formulated before carrying out dredging work. Dredged soil will be disposed of at an existing soil disposal facility on land.
- v) Natural Environment: The project site is not located in or around sensitive areas such as national parks, and adverse impact on the natural environment is assumed to be minimal.
- vi) Social Environment: This project aims to improve existing port facilities and does not involve land acquisition or relocation of residents.
- vii) Other/Monitoring: In this project, with the support of project management consultants, GCPI's environmental unit will monitor the quality of river water, groundwater and wastewater from soil disposal facilities during construction as well as use of port facilities.

2) Promotion of Poverty Reduction: None in particular

3) Promotion of Social Development (e.g., Gender Perspective, Measure for Infectious Diseases including HIV/AIDS, Participatory Development, Consideration for the Handicapped, etc.): None in particular

(8) Collaboration with Other Schemes and Donors:

JICA has implemented similar projects with the financial support of the Japanese government. JICA also plans to continue to actively collaborate and cooperate with the UNDP, which participated in project progress management as a third-party monitoring institution during Phase 1 of this project.

(9) Other Important Issues:

- This project aims to rehabilitate port facilities developed by Japanese companies in the past.
- The restoration of the functions of ports that play crucial roles in Iraq's logistics system will have significant ripple effects.
- When implementing and managing this project, with considering security situation JICA plans to create an implementation system, including appropriate training programs for the executing agency, in order to make maximum use of the local resources available.
- In the future, JICA plans to provide a variety of related training programs, such as skills training for dredging and port management, as well as to work in collaboration with the Project on Master Plan Study for the Port Sector in Iraq (started in August 2013) to provide technical cooperation through development plan surveys.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Table 2: Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (Actual value in 2010)	Target (2022) (Expected value 2 years after project completion)
Amount of cargo handled annually (million tons)	7.5 (Umm Qasr Port)	27.4 (Umm Qasr Port)
	2.8 (Khor Al Zubair Port)	7.6 (Khor Al Zubair Port)
Total tonnage of vessels entering the port annually (million GT)	15.3 (Umm Qasr Port)	27.4 (Umm Qasr Port)
	2.8 (Khor Al Zubair Port)	6.7 (Khor Al Zubair Port)
Average dead weight tonnage (DWT) of vessels entering the port	3,300 (Khor Al Zubair Port)	5,000 (Khor Al Zubair Port)

2) Internal Rate of Return

Based on the conditions stated below, the economic internal rate of return (EIRR) of the project is calculated to be 44.2% and the financial internal rate of return (FIRR) 8.0%.

[EIRR]

Cost: Project costs as well as operation and maintenance costs

Benefits: Increase in the size of vessels able to enter the ports, improvement in cargo

handling efficiency, and reduction in land transportation costs

Project Life: 40 years

[FIRR]

Cost: Project costs as well as operation and maintenance costs

Benefit: Increase in port facility fee earnings

Project Life: 40 years

(2) Qualitative Effects

Improvement in logistics efficiency, promotion of private investment

5. External Factors and Risk Control

Security deterioration, etc.

6. Results of Evaluation and Lessons Learned from Past Projects

The ex-post evaluation of the Cai Lan Port Expansion Project implemented in Vietnam indicates that the executing agency's skill in operating cutting-edge equipment in port facilities is likely to be inadequate, and it is therefore very important and effective to provide on-site training in order to ensure efficient operation, maintenance and management of facilities.

Based on lesson learned from past projects, when introducing new port facility equipment in this project, JICA will provide technical cooperation, including skills training by JICA staff as well as on-site training by consultants and contractors, to improve the executing agency's abilities to operate, maintain and manage facilities.

7. Plan for Future Evaluation

(1) Indicators to be Used

- 1) Amount of cargo handled annually (million GT)
- 2) Total tonnage of vessels entering the port (million GT)
- 3) Average dead weight tonnage (DWT) of vessels entering the port
- 4) Economic internal rate of return (EIRR)
- 5) Financial internal rate of return (FIRR)

(2) Timing of Next Evaluation

Two years after project completion

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