Japanese ODA Loan

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Republic of Iraq
Project: Electricity Sector Reconstruction Project (Phase 2)
Loan Agreement: June 29, 2015
Loan Amount: 53,771 million Yen
Borrower: The Government of the Republic of Iraq

2. Background and Necessity of the Project

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

Three wars and years of economic sanctions since the 1980s have left the electric power infrastructure in the Republic of Iraq, including power plants and transmission and distribution networks, aging and decayed. Since the end of the Iraq War in 2003, the infrastructure of the electricity sector has been gradually rehabilitated, but Iraq's current capacity to supply electricity is only approximately 12,000 megawatts against a total national demand of around 16,000 to 18,000 megawatts. It is not unusual for electricity outages to last for more than 10 hours a day.

Power demand continues to grow along with reconstruction efforts and population increases, and is expected to hit 20,000 megawatts in 2017. Iraq's key cities in particular, therefore, are likely to increase maximum electricity load. The excessive loads resulting from the gap between electricity supply and demand are also triggering widespread blackouts that halt industrial activity and social services. Thus, the construction and rehabilitation of the country's transmission and transformation networks is a pressing concern.

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

The Master Plan (2013–2017) formulated by the Ministry of Electricity (MOE) in 2012 projects an average national annual increase in maximum electricity load of 6.3 percent between 2015 and 2020, with 2020 figures for Baghdad at 31.4 percent and Basra at 11.0 percent. The MOE is doing what it can to respond to the demand for electricity by building and rehabilitating power stations. Meanwhile, in order to achieve a low-loss, stable electricity supply, it also has plans to strengthen domestic electricity networks as well as increase the total number of 400-kV substations throughout the country from 31 (in 2014) to 58.

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

Japan's Country Assistance Policy for Iraq (June 2012) stipulates "strengthening economic infrastructure" as a priority area, making electricity reconstruction consistent with national policy goals. The Rolling Plan issued as an attachment to the above policy also makes "strengthening economic infrastructure" a priority area, defining this as infrastructure development in electricity and other areas underlying the vitalization of the private sector. Japan has been providing support for Iraq's electricity sector in the form of grant aid (FY2005–FY2006) and six instances of loan assistance between FY2007 and FY2014. One of these was the Electricity Sector Reconstruction Project (loan agreement signed January 2008), whose objective was

to ensure a stable electricity supply by procuring machinery, equipment and materials for substation and distribution networks across Iraq. In addition, JICA held training sessions on the electricity sector (substation training center operations and management, transmission and distribution networks) for 30 percent of all Iraqi trainees (1,582 people) between FY2003 and FY2013.

(4) Other Donors' Activity
Multiple donors, including the US, UNDP, and the World Bank, offered emergency reconstruction support for electricity facilities after the end of the Iraq War in 2003.

(5) Necessity of the Project
As indicated above, the gap between electricity supply and demand in various parts of Iraq, coupled with the country's damaged electrical facilities, made it essential for the Ministry of Electricity (MOE) to rapidly move forward with the building and reconstruction of substations and other transmission and transformation networks. The project is in line with the development policies of the Iraqi government as well as the policy of the Government of Japan and JICA, and its implementation is therefore highly necessary and relevant.

3. Project Description

(1) Project Objective(s)
The objective of the Project is to improve the levels of reliability and availability of the electricity supply in Iraq, by provision of installing new 400-kV substations and reconstructing transmission and transformation networks, thus contributing to socio-economic reconstruction in the country.

(2) Project Site/Target Area
All over Iraq (excluding the Kurdistan Region)

(3) Project Component(s)
This Project implements 1) and 2) below, primarily in central Iraq (the Baghdad suburbs) and southern Iraq (Basra, Dhi Qar, and Maysan governorate). It is set up as a sector loan in order to address the country's security situation and reconstruction needs.

1) Civil works, equipment procurement, etc.
   ① Construct 400-kV substations (including 400 kVGIS, 500 MVA transformers)
   ② Reconstruct transmission and transformation facilities
2) Consulting services (basic design, procurement support, construction supervision support, environmental and social considerations, etc.)

(4) Estimated Project Cost (Loan Amount)
54,404 million Yen (Loan Amount: 53,771 million Yen)

(5) Schedule
From June 2015 to August 2021 (total of 74 months). Project completion is defined as the completion of commissioning (August 2019).

(6) Project Implementation Structure

1) Borrower: The Government of the Republic of Iraq
2) Guarantor: None
3) Executing Agency: Ministry of Electricity (MOE)
4) Operation and Maintenance System: MOE

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

1) Environmental and Social Consideration

① Category: B

② Reason for Categorization: The Project is not located in a sensitive area, nor has sensitive characteristics, nor falls into sensitive sectors under the JBIC Guidelines for Confirmation of Environmental and Social Considerations (April, 2002), and its potential adverse impacts on the environment are not likely to be significant. In addition, although sub-projects have yet to be defined, selected sub-projects were limited to those in Category B and below.

③ Environmental Permit: Preparation of an Environmental Impact Assessment (EIA) report for this project is not required under Iraqi law.

④ Anti-Pollution Measures: No major negative environmental impacts are expected in terms of water quality, noise, or vibration. During construction, appropriate anti-pollution measures will be taken in line with Iraqi construction guidelines and other regulations to prevent scattering of construction materials and paint as well as contamination of the surrounding soil with fats and oils.

⑤ Natural Environment: The project site is not located in or near sensitive areas such as national parks, and adverse impact on the natural environment is assumed to be minimal.

⑥ Social Environment: All potential sites are under the jurisdiction of the Iraqi government, and the project will not require any new site acquisition or resettlement. In addition, the project plans to select sites from among land that is not being cultivated.

⑦ Other/Monitoring: During the construction period, the MOE will monitor for impact (noise, vibration, etc.) on the surrounding environment.

2) Promotion of Poverty Reduction: N/A
3) Promotion of Social Development (e.g. Gender Perspectives, Measure for Infectious Diseases Including HIV/AIDS, Participatory Development, Consideration for Persons with Disability, etc.): N/A

(8) Collaboration with Other Schemes or Donors

Synergy is expected between the project and electricity sector training on power station operations and maintenance.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicator)

Indicators will be set wherever possible in order to accurately grasp sub-project effects once the sub-projects under this Project have been decided. Baseline studies will then be conducted in order to establish baseline and target values.

(2) Qualitative Effects
Economic and industrial vitalization. Stabilization in people's livelihoods. Strengthening implementation, operations, and management systems of MOE.

(3) Internal Rate of Return
Internal rate of return will be calculated in order to accurately grasp project implementation effects once the sub-projects under this Project have been decided.

5. External Factors and Risk Control

Worsening public security.

6. Lessons Learned from Past Projects

(1) Lessons learned from evaluating similar projects
A lesson cited in the ex-post evaluation for the Java-Bali Transmission Line/Substation Development Project (East Java) (I & II) in the Republic of Indonesia was that in addition to establishing power transmission networks, achieving sufficient project outcomes required ongoing expansion and the development of new power sources after project implementation.

(2) Lessons for this project
The Iraq National Development Plan (2013–2017) calls for the development of 25,000 megawatts of new power sources by the end of 2017, and this project is expected to achieve sufficient effects in this regard. Regular monitoring of the progress of this plan has been scheduled.

7. Plans for Future Evaluation

(1) Indicators to be Used
As noted in 4 (1) and 4 (3) above, the Project will use the indicators established once sub-projects have been finalized.

(2) Timing
Two years after the completion of the Project