

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: Arab Republic of Egypt

Project: Borg El Arab International Airport Extension Project

Loan Agreement: March 1, 2016

Loan Amount: 18,200 million Yen

Borrower: Government of the Arab Republic of Egypt

2. Background and Necessity of the Project

(1) Current State and Issues of the Aviation Sector in Egypt

Egypt plays an important role in the aviation sector in the region as a connection between the Middle East and Africa. Of Egypt's main sources of foreign currency revenue (tourism, exports of oil and natural gas, tolls for the Suez Canal, and remittances by workers overseas), tourists and overseas workers mainly transport by air. Therefore, the aviation sector is important for Egypt's economic development.

The total number of passengers in the aviation sector in Egypt has increased from about 18 million to about 31 million which is about 72% rise during this decade, from 2002 to 2013. Because a new president was elected in June 2014, politics and security are both expected to become more stable, which will lead to the recovery of the tourist industry and an increase in demand for aviation. In this situation, it is necessary for the aviation sector to immediately improve its passenger capacity through the development and expansion of its infrastructure.

(2) Development Policies for the Aviation Sector in Egypt and the Priority of the Project

The goal of Egypt's Aviation Sector Development Plan in the Sixth Five-Year Plan (2007-2012) is to improve the airport terminals in Cairo, Borg El Arab, Hurghada along with the Red Sea, and Sharm el-Sheikh in the Sinai Peninsula. The Borg El Arab International Airport in the suburbs of Alexandria, the second largest city in Egypt, is the gateway for air transportation to the Nile Delta. Although there is the El Nouzha Airport in Alexandria, it is restricted not to operate commercial flight due to the geographical and structural limitations. Because use of the airport will continue to be limited to small-scale chartered flights, the Borg El Arab International Airport has become more important. About 80% of the passengers using the airport are Egyptians who mainly go to foreign countries to find work. In this context, a new terminal and apron were constructed under the preceding project "Borg El Arab International Airport Modernization Project" (L/A agreement in 2005) to increase the passenger capacity of the airport. When the facilities constructed under the preceding project

began to be used, the number of passengers sharply increased from about 700,000 in 2010 to about 2 million passengers in 2012, the fourth largest number in Egypt, although the number of passengers using other airports decreased after the political change in 2011. According to the demand forecast made in 2012, the number of passengers was expected to be 2.5 million in 2015 and 3.6 million in 2020 due to an increase in demand for labor in Gulf countries and the market entry of low-cost airlines, both of which had not been assumed for the preceding project (JICA, “Project Implementation Survey on the Borg El Arab Airport Modernization Project (SAPI)” (2012)). If the airport only uses the passenger terminal which was constructed according to the initial estimate made at the beginning of the preceding project (about 1 million passengers in 2014), it is expected that the service level will decrease and limitations on use will arise due to excessive demand. Therefore, it is necessary to immediately increase the passenger capacity of the airport. In addition, it is necessary for airplanes to cross the runway when approaching the taxiway from the terminal, which will cause safety problems, such as an increase in the risk of accidents due to the increasing number of departures and arrivals in the future. The project will contribute to solving these problems because it aims to increase the passenger capacity through expansion and improvement of the airport.

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

Under the development issue of “improvement of investment and business climate” as part of the Japanese government’s priority assistance area for Egypt, “realization of sustainable growth and creation of employment”, JICA is carrying out the “Transportation and Traffic Efficiency Improvement Program” to support the construction of a stable and efficient transportation and traffic system. For instance, the project for the development of the Suez Canal by the use of yen loans, grant aid, technical cooperation, and the “Phase 1 Project for Cairo Metro Line 4” which uses a yen loan. In the aviation sector, under the “Borg El Arab International Airport Modernization Project” (L/A agreement in 2005), the airport was improved as the gateway to the Nile Delta. Because this project aims to support the construction of a stable and efficient, transportation and traffic system through the expansion and improvement of the airport, this project is relevant to JICA’s cooperation policy.

(4) Other Donors’ Activity

In the aviation sector in Egypt, the World Bank has provided support for the repair of Cairo International Airport, while the Kuwait Development Bank has provided support for the expansion of Hurghada International Airport along the Red Sea. In addition, the Islam Development Bank and the African Development Bank have provided support for the expansion of Sharm el-Sheikh International Airport in the Sinai Peninsula.

(5) Necessity of the Project

This project will contribute to Egypt's economic development through strengthening the aviation sector in Egypt. As described above, this project is relevant to Egypt's development policies and issues, as well as Japan's and JICA's priority aid areas, and is expected to use Japanese technology as a project with Special Terms for Economic Partnership (STEP). Therefore, the necessity and relevance of JICA's support for the implementation of this project are high.

3. Project Description

(1) Project Objective

To increase the passenger capacity of Borg El Arab International Airport in the suburbs of Alexandria, the second largest city in Egypt, and appropriately keep up with the increasing demand for aviation through expanding and improving the passenger terminal and surrounding facilities at the airport, thereby contributing to improving the convenience and safety of air transportation in the Nile Delta.

(2) Project Site/Target Area

Borg El Arab City, Alexandria Governorate

(3) Project Components

- 1) Construction of a terminal (one-story building, about 36,000 m²), apron, and related facilities (access road, parking lot, supply/treatment facilities, etc.)
- 2) Construction of taxiways and commercial facilities
- 3) Consulting service (technical support for detailed design review, bidding assistance, construction supervision, airport management)

(4) Estimated Project Cost (Loan Amount)

26,422 million Yen (Loan Amount: 18,200 million Yen)

(5) Schedule

Scheduled between March 2016 and May 2021 (63 months in total). This project is regarded as having been completed when use of the facilities begins (March 2020).

(6) Project Implementation Structure

- 1) Borrower: The Government of the Arab Republic of Egypt
- 2) Guarantor: None
- 3) Executing Agency: Egyptian Airports Company
- 4) Operation and Maintenance System: Egyptian Airports Company

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

1) Environmental and Social Consideration

- ① Category: B
 - ② Reason for Categorization: The Project does not fall under the category of a sensitive sector, characteristic or area as listed in the JICA Guidelines for Environmental and Social Considerations (April 2010), and its adverse impact on the environment is not likely to be significant.
 - ③ Environmental Permit: The Environmental Impact Assessment (EIA) of the Project was approved by the Egyptian Environmental Affairs Agency in January 2015.
 - ④ Anti-Pollution Measures: During the construction, measures will be taken to meet the emission standards and the environmental standards in Egypt concerning water quality, noise, vibration, waste, etc., including the prevention of leakage of waste water and fuel, and the use of soundproof devices for equipment. After the facilities constructed under this project begin to be used, measures will be taken concerning water quality, noise, vibration, waste, etc., such as adjusting the number departures and arrivals, and the appropriate classification and disposal of waste.
 - ⑤ Natural Environment: Because the target area is not an area which is likely to receive any impact, such as a national park, or any area around it, the unfavorable impact on the natural environment is estimated to be minimal.
 - ⑥ Social Environment: The project will be carried out on the existing premises of the airport, it is unnecessary to acquire land or transfer residents.
 - ⑦ Other / Monitoring: During the construction, the implementing agency and the constructor will monitor noise, vibration, water quality, waste, etc. After the facilities begin to be used, the implementing agency, etc. will monitor noise, vibration, water quality, waste, etc.
- 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 Person with Disability, etc.): Activities will be carried out with consideration for gender during the stages of design and construction. Specific activities will be examined at the time of the detailed design review.

(8) Collaboration with Other Donors:

None in particular.

(9) Other Important Issues

1) Use of Japanese Technologies

This project aims to improve the airport to reduce its environmental burden and is expected to facilitate the use of the following Japanese technologies as a

STEP project:

An air-conditioning system which uses energy-saving technology; solar power generation; LED lighting; the application of photocatalyst technology (technology which reduces the number of cleaning times required through facilitating the decomposition of organic matter (dirt)) to toilets and wall glass; and other environmentally friendly technologies where Japan has superiority.

2) Coordination with Technical Cooperation to Improve the Operation and Maintenance Capacity

Because this project will be carried out utilizing the implementing agency's staff members who have participated in issue-specific training, such as "planning of airport construction, operation, and maintenance," such training will also be utilized in the future.

3) Indirect Support of Symbolic Technical Cooperation in the Region

Because this project will establish an international transportation network that will not only connect Borg El Arab City with neighboring countries but also indirectly connect the city with Japan, this project will provide indirect support for smooth management of the Egypt-Japan University for Science and Technology (E-JUST), which is located in the city and is carrying out technical cooperation, while improving the international status of the university.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicator)

Indicator	Baseline (Actual Value in 2013*)	Target (2022) 【Expected value 2 years after project completion】
No. of air passengers (thousands/year)	2,261	3,822 (3,091)
No. of departure and arrival flights (times/year)	25,986	34,864 (26,785)

(Note) Targets in parentheses represent the expected numbers of passengers using the new terminal covered by this project.

* Source: Egyptian Ministry of Civil Aviation, "Implementation Program for Borg El Arab International Airport Extension Project" (2014)

2) Internal Rate of Return

Based on the conditions indicated below, this project's Economic Internal Rate of Return (EIRR) will be 17.90%, while the Financial Internal Rate of Return (FIRR) will be 13.75%.

【EIRR】

Cost: Project cost (excluding tax), operation and maintenance costs

Benefit: Increase in Egyptians' opportunities to travel, increase in tourism revenues, landing charges, airplane parking charges, airport use charges, etc.

Project Life: 30 years

【FIRR】

Cost: Project cost (excluding tax), operation and maintenance costs

Benefit: Increase in landing charges, airplane parking charges, airport use charges, etc.

Project Life: 30 years

(2) Qualitative Effects

Improved convenience and safety through improvements in passenger capacity, and promotion of economic growth through response to the increase in aviation demand from tourists and workers overseas.

5. External Factors and Risk Control

The implementing agency's immediate construction of taxiways without delay.

6. Lessons Learned from Past Projects

The ex-post evaluation of the "Bangkok International Airport Extension Project" in Thailand provides the lesson that any project for expanding an airport while still in operation requires special attention to be paid to the safe navigation of airplanes and the convenience of passengers.

Because this project will carry out construction while also operating the existing passenger terminal, based on the lesson above, attention should be paid to cooperating with the operation of the existing facilities from the stage of the detailed design review. At the same time, technical assistance for airport operation and management should be included in the duties of the construction supervision consultant.

7. Plan for Future Evaluation

(1) Indicators to be Used

Number of international/domestic flight passengers (thousands/year)

Number of departures and arrivals of international/domestic flights (times/year)

(2) Timing

Two years after the completion of the project