

Ex-Ante Evaluation (for Japanese ODA Loan)

**1. Name of the Project**

Country : Mongolia

Project : New Ulaanbaatar International Airport Construction Project (II)

Loan Agreement : April 16, 2015

Loan Amount : 36,850 million Yen

Borrower : The Government of Mongolia

**2. Background and Necessity of the Project**

(1) Current State and Issues of the Transport and Airport Sector in Mongolia

Since its establishment in 1957, the Chinggis Khaan International Airport (CKIA), a current capital airport, has been rehabilitated through paving and extending its runway in order to respond to increasing demands. Its location surrounded by mountains in south and east, however, confines access to the Airport upon arrival and departure only in the north-west side, which has caused some troubles including delays and flight cancellation. The current location can no longer make further expansion works possible. The Airport has not been able to meet recent increasing demands and witnessed serious congestions at peak hours. Accordingly, it is necessary to construct a new international airport in another location which has none of abovementioned geographical constraints and to transfer the operation in CKIA to the new international airport.

(2) Development Policies for the Transport Sector in Mongolia and the Priority of the Project

The Government of Mongolia has declared a new airport construction in both the “Action Plan of the Government of Mongolia for 2004-2008” and the “Millennium Development Goals-based Comprehensive National Development Strategy of Mongolia (approved by the Parliament of Mongolia in 2008)”. It positioned the new international airport as a highly important infrastructure to become an international hub airport for passengers and freight transportation in the Northeastern Asia in the “Government Policy on Civil Aviation up to 2020 (approved by the Parliament of Mongolia in 2013)”.

(3) Japan and JICA’s Policy and Operations in the Transport Sector

The Government of Japan’s Country Assistance Policy for Mongolia (set in May 2012) considers “Enhancement of the capacity and function of Ulaanbaatar as urban center” to be one of the priority areas. JICA’s Country Analytical Paper for Mongolia also regards “Improvement of infrastructure, and urban planning and management” as one of the priority development issues. Therefore, the Project conforms to these directions.

JICA has assisted transport sector in Mongolia through its grant aid cooperation to implement the Project for Construction of Railway Fly-over in Ulaanbaatar City (2009).

#### (4) Other Donors' Activity

The Asian Development Bank implemented a feasibility study to strengthen functions of CKIA in 1993, and proposed transferring operation to the new international airport from CKIA in the feasibility study. This was followed by the European Bank for Reconstruction and Development to formulate "Civil Aviation Master Plan" in 2003 and a proposal for the new international airport to be constructed in the current site.

#### (5) Necessity of the Project

Although the Project was approved in 2008, a request for an additional loan was submitted in 2013. This was because a financial shortage was not able to be fully covered by the Government of Mongolia while the total project cost increased for some reasons including higher prices of construction materials than the ones at the time of appraisal (partly because of the Project's schedule delays by continuous unsuccessful tenders, etc), rapid fluctuations in exchange rate, and specification changes responding to demands prospect of passengers with better performance than expected. For the purpose of smooth implementation of the Project and the realization of its effect, an additional fund through Yen Loan is considered to be inevitable. In addition, since the Project conforms to both Mongolia's development issues and development policies and Japan's assistance policy as mentioned above, the necessity and relevance for JICA to support the implementation of the Project are high.

### **3. Project Description**

#### (1) Project Objective

This project aims to improve the safety, reliability and convenience of the capital airport through construction of a new international airport in the suburbs of Ulaanbaatar, thereby contributing to further economic growth in Mongolia.

#### (2) Project Site/Target Area

Sergelen District, in Tuv Province (located about 50 km south of Ulaanbaatar)

#### (3) Project Components

##### 1) Airport construction work

- Scope at the time of previous appraisal: Runways, taxiways, aprons, terminal buildings, airport control tower, etc.

- Added scope of this time: Fuel hydrant system, airport maintenance equipment, etc

##### 2) Consulting services: Detail design, construction supervision and monitoring, etc.

#### (4) Estimated Project Cost (Loan Amount)

75,748 million Yen (Loan Amount: 36,850 million Yen)

#### (5) Schedule

May 2008 – December 2017 (116 months). The Project completion is defined as when the facility operation is commenced (May 2017).

#### (6) Project Implementation Structure

##### 1) Borrower: The Government of Mongolia

- 2) Executing Agency: Ministry of Road and Transport
- 3) Operation and Maintenance System: Civil Aviation Authority of Mongolia
- (7) Environmental and Social Consideration/Poverty Reduction/Social Development

1) Environmental and Social Consideration

- ① Category: A
- ② Reason for Categorization: This project is categorized as an airport sector project which is likely to have significant adverse impact on the environment under the “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations” (established in April 2002).
- ③ Environmental Permit: The Environmental Impact Assessment (EIA) report concerning this project was approved by the then-Ministry of Nature and Environment of Mongolia in June 2007.
- ④ Anti-Pollution Measures: In this project, measures to prevent air pollution will be adopted, including placing a limit on the idling of aircraft and operation vehicles, introducing low-emission vehicles, and so on. Wastewater from the airport will be dealt with by installing sewage treatment facilities in a manner that satisfies domestic standards, while waste material will be treated appropriately in accordance with Mongolia’s collection and treatment system. Additionally, on the basis of noise simulation, it is assumed that the noise from aircraft landings and takeoffs will have no significant impact on the inhabited areas surrounding the airport. In addition, as a change from the time of previous appraisal, there might be impacts on water quality and soil by a refueling system shift from a refueler system to hydrant system. However, since the pipe used is a seamless type causing no oil leakage into the soil, and since the constant monitoring system is planned by setting oil leakage detector for the connection parts between pipes and equipment, any impacts such as oil contamination on water quality and soil are not expected. EIA for the fuel hydrant system was approved by the Ministry of Environment, Green Development and Tourism in March 2015.
- ⑤ Natural Environment: The area targeted by this project is not located in or around sensitive areas, such as national parks, and so adverse impact on the natural environment is assumed to be minimal.
- ⑥ Social Environment: The entire project site is state-owned land, and neither land acquisition nor resident relocation will be required.
- ⑦ Other / Monitoring: In this project, the executing agency will monitor the air quality, water quality, noise, vibration and the natural environment while the project is under construction and in service. Meanwhile, the contractor has conducted monitoring in accordance with the contract between the Executing Agency and the contractor. Once a year, monitoring report is to be submitted to and approved by the Professional Inspection Agency of Mongolia.

2) Promotion of Poverty Reduction: None

- 3) Promotion of Social Development: The Project as a whole is designed caring for female users, as shown in spacious nursing rooms secured in the passenger terminal to enable mothers with babies to easily access the airport. Therefore, it is categorized as an integrated gender activity project. In addition, the airport design secures the construction of toilets as well as lines of flow caring for handicapped people.
- (8) Collaboration with Other Schemes, Donors, etc.: Technical Cooperation for operation and maintenance was implemented.
- (9) Other Important Issues: Following the Phase I Project, the Project applies STEP (Special Terms for Economic Partnership).

#### 4. Targeted Outcomes

##### (1) Quantitative effects

##### 1) Operation and Effect Indicator

Indicator	Baseline (Actual Value in 2005)	Target (2019) 【Expected value 2 years after project completion】
Wind coverage ratio during the lowest months (%) <sup>1</sup>	73	98
Number of passengers per year (of this, international flights) (10,000 persons)	47(34)	165(138)
Number of foreign passengers per year (10,000 persons)	11	45
Number of takeoffs and landings per year (of this, international flights)	7,593(3,546)	22,200(14,500)
Delays and cancellations caused by weather conditions (%)	2.3	0.5

(Note: Number of passengers per year and number of foreign passengers per year represent the sum total of takeoffs and landings.)

##### 2) Internal Rate of Return

Based on the following conditions, the Economic Internal Rate of Return (EIRR) is 13.2%. The Financial Internal Rate of Return (FIRR) is not calculated.

##### 【EIRR】

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

Benefit: Income generated by foreign tourists, reduction of delays and cancellations, etc.

Project Life: 40 years

<sup>1</sup> It refers to a percentage in the minimum month of wind coverage (occurrence ratio of wind direction and wind speed considered to be possible for arrival and departure).

(2) Qualitative effects

Enhancement of safety and trust for the capital airport, as well as activation of the country's socioeconomic activities accompanied by increases in foreign direct investment and strengthened aviation transportation capacity.

**5. External Factors and Risk Control**

All of the international and domestic operations are transferred to the new airport as agreed.

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

Ex-post evaluation and other studies of the Kyrgyz Manas Airport Modernization Project have suggested that sustainable and autonomous airport facility operation by an operational organization of the airport required strengthening organizational management, human resources and technology, and budgetary capabilities. Based on this suggestion, the technical cooperation to strengthen the operational and maintenance management capacities has been implemented in the Project before the utilization of the new airport.

**7. Plan for Future Evaluation**

(1) Indicators to be Used

- 1) Wind coverage ratio during the lowest months (%)
- 2) Number of passengers per year (of this, international flights) (10,000 persons)
- 3) Number of foreign passengers per year (10,000 persons)
- 4) Number of takeoffs and landings per year (of this, international flights)
- 5) Delays and cancellations caused by weather conditions (%)
- 6) Economic internal rate of return (EIRR) (%)

(2) Timing of Next Evaluation

Two years after project completion