

## Ex-Ante Evaluation

**1. Name of Project**

Country: Lao People's Democratic Republic  
 Project: Vientiane International Airport Terminal Expansion Project  
 Loan Agreement: January 10, 2014  
 Loan Amount: 9,017 million yen  
 Borrower: The Government of the Lao People's Democratic Republic

**2. Background and Necessity of the Project****(1) Current State and Issues of the Aviation Sector in Laos**

Laos is the only landlocked country of the ASEAN member states. With nearly 80% of its territory in mountainous areas, air traffic is particularly important as a means of transportation and economic development in terms of smooth transportation of people and products, as well as connectivity to surrounding countries. Recently, air travel demand has risen rapidly on the heels of economic expansion at rate of over 8% per year.

The Vientiane International Airport (also known as the Wattay International Airport) is located in the country's capital of Vientiane and serves as a gateway to the state with 202 regular international flights and 270 regular domestic flights weekly. The airport also functions as economic center, including for sightseeing. Given these roles, the airport is an extremely important facility for the country. The number of the air passengers using the Wattay airport nearly doubled between 2000 and 2012. In 2012, the number of international passengers reached around 570,000, while domestic passengers came in at around 250,000. These figures are expected to reach 1,500,000 and 450,000 respectively by 2023.

The current international terminal at the Wattay Airport was constructed under a Japan Grant Aid program scheme called the Project for Renovation of the Vientiane International Airport (1995–1998), with a predicted number of airport users of 250,000 in 2005. However, the number of passengers in recent years has far exceeded this estimate, and is now almost double the design capacity. This means that the airport has no room to increase the number of flights at peak times, and it is nearly impossible to accept new airlines due to limited office space. Wattay's domestic terminal building suffers from obsolete facilities, with structures over fifty years old.

Japan expanded the apron and reinforced maintenance equipment at the airport under a Grant Aid program called the Project for Expansion of the Vientiane International Airport in the Lao People's Democratic Republic (2011–2013). This project helped boost capacity for dealing with an increased number of aircraft using the airport to prepare for future growth in passenger demand while improving safety. Still, passenger facilities remain a critical problem for the Laos aviation sector. Improving terminal buildings for passengers and the like at the Wattay airport has become a pressing issue if the country is to ensure that the airport has the capacity to deal with rising demand while achieving user-friendliness and efficient operations.

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

The 7th National Socio-Economic Development Plan (2011–2015) (NSED) for Laos defines connectivity enhancements to ensure a smooth flow of people and goods as a critical policy for the public works and transportation sectors. The aviation sector is defined as a critical means of transportation in order to bring in international tourists and foreign currency. With booming air transportation, the government of Laos set a goal to enhance air transportation services and achieve an 8–10% annual increase in air traffic and a 4.5–6.5% increase in the number of flights. As a part of the country's aviation projects, the government has placed priority on the private airport sector for expanding the Vientiane International airport terminal, which serves as a gateway to the country.

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

Japan defines the aviation sector as a priority area in promoting well-balanced economic growth through developing economic and social infrastructure. It is a key factor in Japan's Country Assistance Program for Laos.

Major support provided to the country's aviation sector includes: (1) improvements to the Vientiane International Airport through the Project for Renovation of the Vientiane International Airport (1995–1998) and the Project for Expansion of the Vientiane International Airport in the Lao People's Democratic Republic (2011–2013) and (2) establishment of next-generation air safety systems at the country's five domestic airports (including the Wattay Airport) through the Master Plan Study on the Development of New CNS/ATM Systems (2009–2010) technical cooperation scheme, the Technical Cooperation Project for Capacity

Development to Transition to New CNS/ATM Systems in Cambodia, Lao PDR and Vietnam (2011–2016), and the Grant Aid Project for Modernization of Equipment for Transition to New CNS/ATM Systems (2013–2014).

(4) Other Donor Activities

The Chinese government supported a facility improvement project (including apron expansion at the Vientiane International Airport), while Thailand supported a runway extension project at Pakse International Airport.

(5) Necessity of the Project

The aims of the project satisfy the development issues and policies of Lao P.D.R. as well as the assistance policies of the Japanese government and JICA. Consequently, it is highly necessary and relevant for JICA to implement this project.

### **3. Project Description**

(1) Project Objectives

This project expands the international passenger terminal building and constructs a new domestic passenger terminal building in Vientiane International Airport, located in Laos's capital city of Vientiane, to meet rapidly growing air passenger demand while improving user-friendliness, efficiency, and safety. It thereby contributes to the country's economic growth.

(2) Project Site/Target Area: Vientiane Capital

(3) Project Component(s)

- 1) Construction work: Expanding the international passenger terminal building, constructing a new domestic passenger terminal building, improving parking lots, improving roads at the airport site, improving the taxiway, establishing maintenance areas, etc.
- 2) Consulting services : detailed designs (D/D), bidding assistance, and supervision of construction

(4) Project Cost (Loan Amount)

9,703 million yen (Loan Amount: 9,017 million yen)

(5) Schedule

From December 2013 to May 2019 (total of 66 months). The project will be completed when all facilities start operation (June 2018).

(6) Project Implementation Structure

- 1) Borrower: The Government of the Lao People's Democratic Republic
- 2) Executing Agency: Department of Civil Aviation, Ministry of Public Works and Transport (DCA, MPWT)
- 3) Operation and Maintenance System: The Lao Airport Authority (LAA) takes overall responsibility for airport operation. Currently, operation and maintenance of the international terminal building is outsourced to a joint corporation whose investors are the government of Laos and a Japanese company, while a company jointly established by the government of Laos and a private company in Laos has been entrusted to operate and maintain the domestic terminal building.

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

1) Environmental and Social Considerations

- i. Category: B
- ii. Reason for Categorization: This project does not target the large sectors specified in the JICA Guidelines for Environmental and Social Considerations (established in April 2010) within the airport sector, and unfavorable environmental impact is considered minor. At the same time, the project targets areas other than those vulnerable to the features and impacts defined in the guidelines. Therefore, the project was categorized as a B.
- iii. Environmental Permits: Preparation of an Environmental Impact Assessment (EIA) Report and Initial Environmental Examination (IEE) Report for this project is not required under domestic law. However, the IEE was carried out by DCA MPWT.
- iv. Anti-Pollution Measures: All waste generated during the construction period will be properly disposed of within the airport.
- v. Natural Environment: Adverse impact on the natural environment is expected to be minimal because the project sites and peripheral areas are located outside of national parks.
- vi. Social Environment: This project reconstructs and renews existing facilities and not involves land acquisition or resettlement.
- vii. Other/Monitoring: During the construction period, the project management unit established in the DCA will monitor air quality, water quality, noise, waste, and the

like. After the handover, the DCA will carry out monitoring.

- 2) Promotion of Poverty Reduction: None in particular
- 3) Promotion of Social Development (e.g. Gender Perspectives, Countermeasures for Infectious Diseases Including HIV/AIDS, Participatory Development, Consideration for Persons with Disabilities etc.): For this project, external labor forces other than local residents are likely to come to the construction site. To mitigate the risk of HIV/AIDS at the project site, the project will include preventative measures.
- (8) Collaboration with Other Donors: None in particular
- (9) Other Important Issues: This project was recognized as a case of public-private partnership (PPP) project by the Japanese government. The Japanese company has participated in the operation of the international passenger terminal building, and is currently negotiating with the government of Laos to extend its joint venture agreement.

#### **4. Targeted Outcomes**

- (1) Quantitative Effects
  - 1) Operation and Effect Indicator

Indicator	Baseline (Actual Value in 2012)	Target (2020) Expected value two years after project completion:
Annual number of international passengers (thousands of passengers)	577	1,184
Annual number of domestic passengers (thousands of passengers)	247	391
Annual amount of international cargo handled (ton)	2,008	4,001
Annual amount of domestic cargo handled (ton)	632	1,008

- 2) Internal Rate of Return

EIRR: 16.3%

Cost: Project costs, operation & maintenance costs (including utility costs, labor fees, and maintenance expenses), etc.

Benefits: Reducing travel time, consumer surplus, and revenue from foreign tourists

Project Life: 35 years (30 years after handover)

FIRR: 5.5%

Costs: Project costs, operation & maintenance costs (including utility costs, labor fees, and maintenance expenses), etc.

Benefits: Passenger service fees, landing and parking fees, fees for rented space, parking fees, advertising fees, etc.

Project Life: 35 years (30 years after handover)

- (2) Qualitative Effects

Improving user-friendliness and the efficiency of the airport, facilitating tourism by air transportation, enhancing capacity and functions as a gateway airport

#### **5. External Factors and Risk Control**

None in particular

#### **6. Lessons Learned from Past Projects**

- (1) Evaluations Results of Similar Past Projects

In the ex-post evaluation of the Bangkok International Airport Expansion Project for Thailand, expanding airports while using the existing airport requires complicated process planning and design. Therefore, it is necessary to carefully determine a detailed design period while ensuring the safe operation of aircraft as well as usability.

- (2) Lessons for the Project

This project also carried out construction while continuing operation of the existing passenger building. Based on the lessons learned above, the term of detailed design was carefully studied and coordinated with operators of existing facilities from the beginning. At the same time, the project includes support for coordination efforts with operators and existing facilities by hiring a construction monitoring consultant.

## **7. Plan for Future Evaluation**

- (1) Indicators to be Used
  - 1) Number of international passengers per year
  - 2) Number of domestic passengers per year
  - 3) Volume of international cargo handled (tons per year)
  - 4) Volume of domestic cargo handled (tons per year)
- (2) Timing
  - Two years after project completion