

# Balikpapan Airport Construction Project (1) (2)

Report Date: March 2000  
Field Survey: February 1999

## 1 Project Summary and Japan's ODA Loan

### (1) Background

Balikpapan Airport was struggling with two major problems when this project was planned in 1985; (i) the runway was not long enough to handle large aircraft and had become overcrowded with many smaller planes, and (ii) much of the equipment and facilities had become outdated. It was decided that the existing airport would need to be redeveloped by expanding the runways and modernizing equipment and facilities in order to solve these problems.

### (2) Objectives

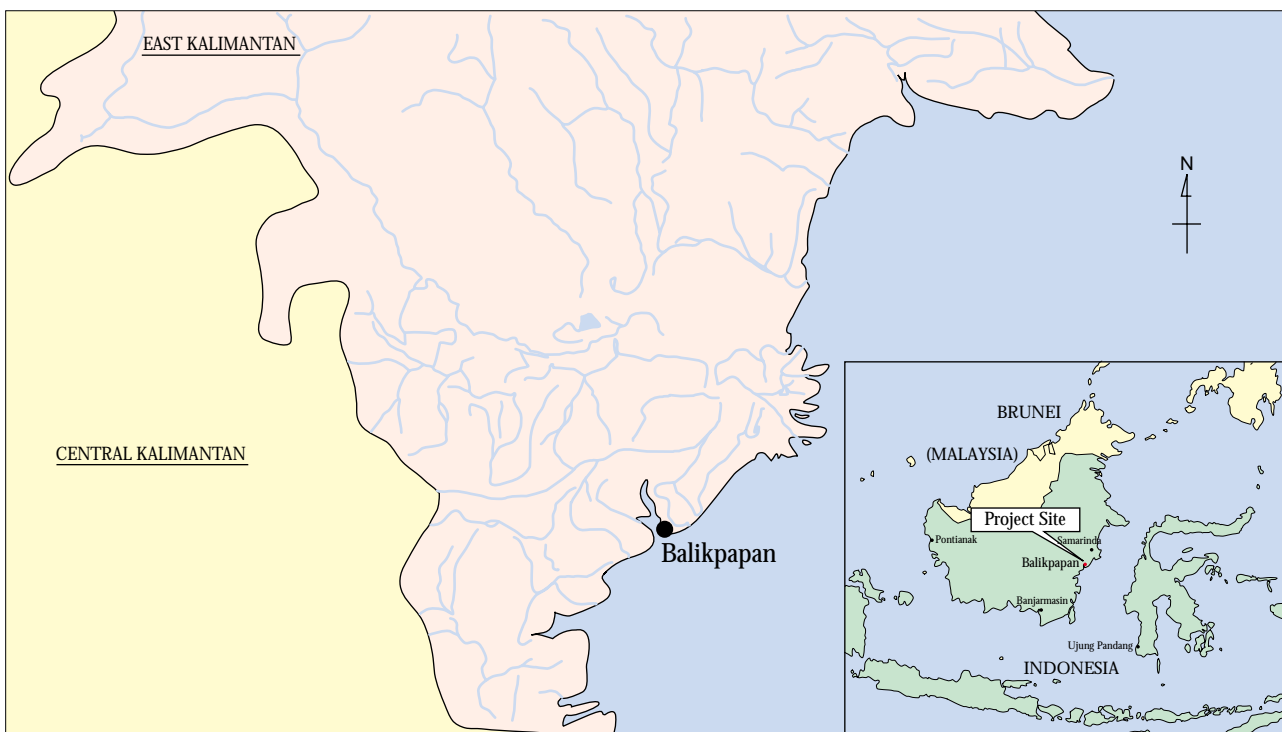
Phase I of this project aimed to expand facilities at Balikpapan Airport to handle A-300 aircraft (capable of 280 passengers) and to meet the anticipated demand for 1995 (2.1 million passengers per year). Phase II of this project focused on improving facilities such as fuel supply facilities, hangars and others that had not been covered by Phase I so that the airport could be operated in a more complete state.

### (3) Project Scope

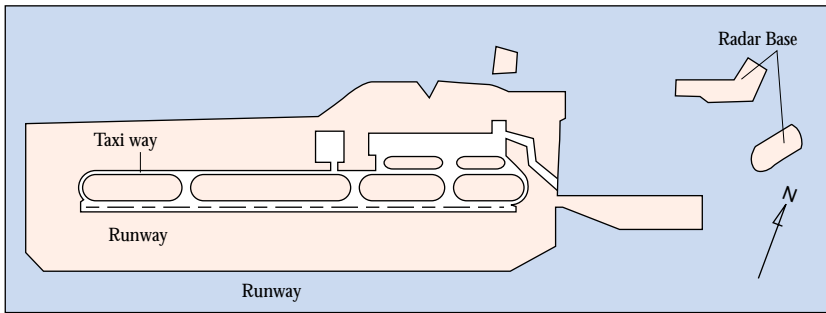
This project covered the extension of the runway from 1,800m to 2,500m and the modernization of the terminal building and other facilities. The ODA loan covered the entire foreign currency portion and local currency portion.

### (4) Borrower/Executing Agency

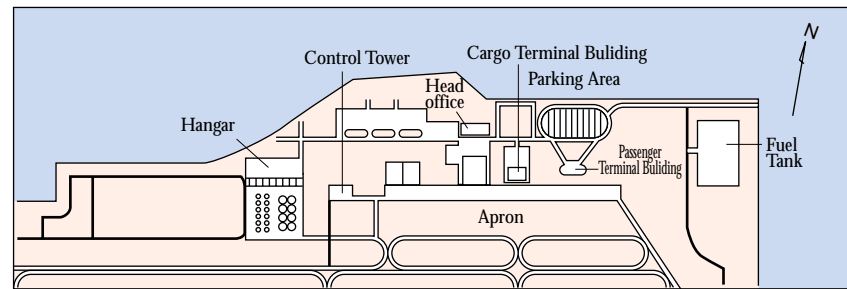
Republic of Indonesia / Directorate General of Air Communications (DGAC)



## 1. Facilities of the Airport



## 2. Main Facilities except Runways



## (5) Outline of Loan Agreement

	Phase 1	Phase 2
Loan Amount	¥17,255 million	¥4,354 million
Loan Disbursed Amount	¥13,737 million	¥4,279 million
Date of Exchange of Notes	June 1985	June 1991
Date of Loan Agreement	December 1985	September 1991
Loan Conditions		
Interest Rate	3.5%	2.6%
Repayment Period (Grace Period)	30 years (10 years)	30 years (10 years)
Procurement	Partial Untied	General Untied (Partial Untied for consulting portion)
Final Disbursement Date	December 1994	August 1998

## 2 Analysis and Evaluation

### (1) Project Scope

The project was carried out basically in line with the scope of the original plans, with only minor changes and fund transfers.

### (2) Implementation Schedule

There were major delays for both Phase I and Phase II of the project. Delays in Phase I were due to a review of the project scope that became necessary following a revision of demand forecast. However, in the end, the changes made to the project scope were limited to minor ones. Execution of Phase II of the project was pushed back due to delays in evaluating bids and negotiation of contracts.

### (3) Project Cost

The total project cost for Phase I was under the planned budget by ¥6,303 million, or roughly 20%. The total cost of Phase II construction was basically in line with the planned budget.

### Comparison of Original Plan and Actual

Item	Plan	Actual
1. Project Scope		
• Phase 1		
Expansion of runway	From 1,800m × 30m to 2,500m × 45m	Same as left
Passenger terminal building	7,100m <sup>2</sup>	8,786m <sup>2</sup>
Cargo terminal building	5,600m <sup>2</sup>	4,697m <sup>2</sup>

Renovation of air traffic services system etc.	ILS-CAT1 etc.	As planned
Consulting Services	357M/M	325M/M
• Phase 2		
Fuel supply facilities building	Storage facilities × 3 etc.	As planned
Expansion of hangar	Aircraft hangar × 2 etc.	As planned
Consulting Services	43M/M	95M/M
<b>2.Implementation Schedule</b>		
(Start of constructing service to completion of consulting service)		
• Phase 1	October 1986 to July 1990	November 1987 to February 1995
• Phase 2	September 1991 to February 1995	August 1992 to March 1998
<b>3.Project Cost</b>		
• Phase 1		
ODA loan portion	¥17,255 million	¥13,737 million
Total	¥31,028 million	¥24,725 million
Exchange Rate	¥1 = Rp4.32	¥1 = Rp14.15
• Phase 2		
ODA loan portion	¥4,354 million	¥4,279 million
Total	¥5,123 million	¥4,788 million
Exchange Rate	¥1 = Rp14.67	¥1 = Rp24.61

#### (4) Project Implementation Scheme

The executing agency for this project was the Directorate General of Air Communications (DGAC). DGAC has total control over aeronautics administration in Indonesia and is in charge of planning and constructing facilities at all airports in the country. Except for the delays with the bidding, it can be said that DGAC successfully served its role as the main executor of this project without any major problems. For Phase I DGAC used a short-list method to hire Japanese and local consultant J/Vs. The same J/Vs were also hired for Phase II. No particular problems were reported with the performance of these consultants. In terms of the contractors, international bidding with P/Q was conducted and orders were placed with Japanese and local J/Vs (not the same J/Vs). This was a difficult construction project due to the fragile construction foundation and the fact that the airport remained in use during the construction. Still, the performance of the contractors was reported to be very satisfactory for both Phase I and II.

#### (5) Operational Scheme

DGAC directly operated and managed airports in Indonesia up until 1964. However, the Airport Public Corporation was established in 1962 to improve the efficiency of airport operations, and the operations of the more profitable airports were gradually transferred to this public corporation. From 1992 this corporation became a publicly listed company, and was responsible for operating and managing 21 of Indonesia's largest airports as the First Airport Company (PTAP I) and the Second Airport Company (PTAP II). PTAP I was placed in charge of operating Balikpapan Airport.

#### (6) Operations and Maintenance Scheme

There were no problem involving the maintenance and management of the modernized facilities provided by this project as maintenance was carried out in accordance with the maintenance manual. An adequate budget was allocated for operations and maintenance and therefore no particular problems were reported in these areas.

#### (7) Effects on the Environment

As this project was an expansion of the existing airport, there are no particular negative impacts on the environment except for noise problems. The results of a hearing showed that the current noise level is with a range that is acceptable by the local residents (with the exception of a local technical high school). There is a possibility that noise countermeasures may be needed in the future if increased use of the Balikpapan Airport results in a noise level beyond the range tolerable by the local community. It is therefore expected that DGAC, the executing agency, and PTAP I, the operator of the airport, will conduct regular monitoring including the noise level, to duly confirm that there are no significant noise-related impacts on the environment.

#### (8) Project Effects and Impacts

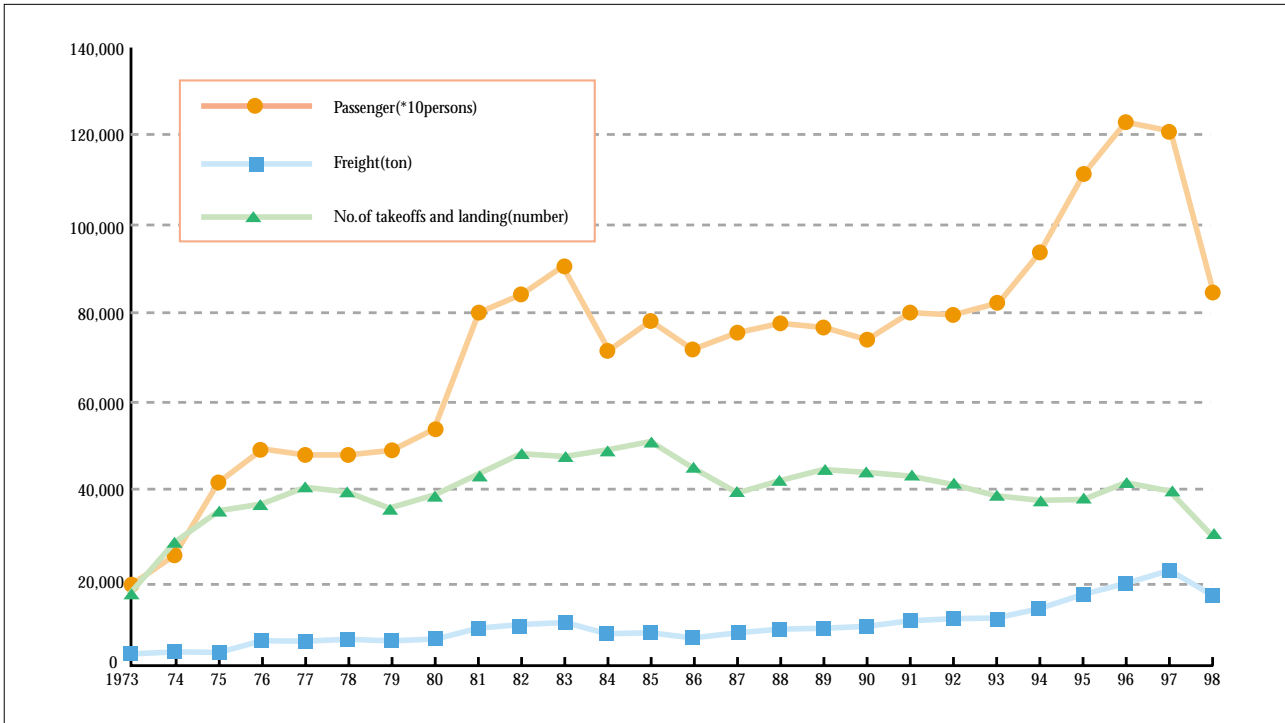
##### (i) Quantitative Effects

##### (a) Increase in Number of Passengers / Amount of Freight, and No Marked Fluctuations in Takeoffs and Landing

As shown in Figure 1, the number of passengers and the amount of freight increased vastly after the completion of Phase I except the consulting service in 1994 (there was a reduction in 1998 due to the economic crisis). However, the number of

takeoffs and landing during this time remained roughly the same, a clear result of the airport's improved capabilities for handling larger aircraft. This increase in passengers and freight while the number of takeoffs and landing remained unchanged is considered as a direct result of this project.

Figure I Changes of Number of Passengers etc. at Balikpapan Airport



Source: Prepared from executing agency materials

(b) Economic Internal Rate of Return (EIRR)

EIRR was 12.6% at the time of appraisal for Phase II, but an EIRR of 20.1% was obtained at a later recalculation. The two main reasons for the higher EIRR are (a) a reduction in total project costs and (b) the demand exceeding the forecast at the time of the appraisal for Phase II.

(ii) Qualitative Effects

(a) Improved Safety

Airport safety was improved through the addition of aeronautical safety equipment.

(b) Transfer of Technology

By participating in the designing and construction of this project, technicians with DGAC were able to expose themselves to many advanced technologies.

(c) Noise Reduction

Since the extension of runway enabled the Balikpapan Airport to accommodate larger aircrafts such as A300s with a lower level of noise than the previous ones, it is considered that the project has contributed to noise-reduction in the surrounding areas to a certain extent.

(d) Employment Creation

This project created new jobs, with as many as 1,300 people being hired during the busy periods.



Inside of the New Control Tower



New Passenger Terminal Building



Hearing from the Local Residents