

## Indonesia

### Bali International Airport Development Project(2)

Field Survey: July 2003

#### 1. Project Profile and Japan's ODA Loan



Project site location map



View of international apron / terminal from west side

#### 1.1 Background

Bali International Airport is the gateway to Bali, Indonesia's most popular tourist destination, and for foreign holidaymakers it is, in fact, the only access route to the island. The Phase I airport development project was completed under yen loan funding in October 1992; however, various problems had emerged in consequence of the fact that dramatic growth in transportation demand had exceeded the predictions made at project planning, including a lack of apron space, interference with the transitional surface<sup>1</sup> of aircraft on the aprons, and capacity deficits both in terminal buildings and the various supply equipment.

As acquisition of foreign exchange, the tourist industry was positioned as a key sector under Indonesia's sixth five-year national development plan (REPELITA VI: 1994-1998), which predicted the ongoing development of tourism in Bali and robust growth in transport demand at Bali International Airport. At the time of appraisal, it was forecast that demand for passenger services would grow from 3.96 million people in 1993 to reach 8.50 million in 2005, and there were concerns, that were infrastructure development projects not to be executed at an early stage, sooner or later demand for air transport would exceed the capacity of airport facilities by a wide margin.

<sup>1</sup> In order to ensure the safety of landing and takeoff of aircraft, all obstacles have to be removed within a fixed area around runways, the borders to this area are referred to as the transitional surface.

## **1.2 Objectives**

The project's objective was to respond to rapidly increasing demand for air traffic with improvements in safety by developing Bali International Airport, and thereby contribute to infrastructure developments and regional development targeting economic growth in Bali Province.

## **1.3 Outputs**

(1) Civil works (expansion of aprons, development of taxiway running parallel to the east side of the runway, construction of new rapid taxiway, expansion of car parking areas, development of storm water drainage, improvement of terminal roads, other works)

(2) Architectural works (expansion of international passenger terminal building, expansion of domestic passenger terminal building, construction of new domestic cargo terminal building, expansion of central refrigeration building, construction of a new main power house-2, expansion of the water supply pumping system, construction of other government buildings)

(3) Air safety facilities (ATS [Air Traffic Service] System, airfield lighting system, meteorological system)

(4) Utility works (expansion of power, water, sewage, and fuel supply systems, central information system and airport security system)

(5) Consulting services (engineering services, assistance in tendering, construction supervisory service)

## **1.4 Borrower / Executing Agency**

The Republic of Indonesia / Directorate General of Air Communications (DGAC), Ministry of Communications

## 1.5 Outline of Loan Agreement

Loan Amount	11,816 million yen
Loan Disbursed Amount	10,840 million yen
Exchange of Notes	November 1994
Loan Agreement	November 1994
Terms & Conditions	
Interest Rate	2.6%
Repayment Date	30 years
(Grace Period)	(10 years)
Procurement	General untied
Final Disbursement Date	December 2001

## 2. Results and Evaluation

### 2.1 Relevance

Given that the tourist industry had been positioned as a key sector in terms of its potential as acquisition of foreign exchange under the national development plan (REPELITA VI) that was current at appraisal, the plans to develop Bali International Airport had a high degree of relevancy. Emphasis continued to be placed on the development of tourism in Bali in the national development plan (PROPENAS) that was current at evaluation. PROPENAS also focused on the need to develop the eastern part of the country, a region that had received insufficient investment in the past, thus the project was also consistent in this respect, in that its objective was to strengthen the function of Bali International Airport as a hub linking eastern and western Indonesia.

If the relevance of the project scope is viewed in the context of demand for air traffic, on the other hand, it becomes clear that with passenger numbers at Bali International Airport having already eclipsed the predictions made during the Phase I project and increasing at an exponential rate in 1994 when the plans for this project (Phase II) were devised, there was a pressing need for early stage facilities expansions to be undertaken. Demand forecasts in 1995 projected that passengers would number 9.52 million by 2005. The final decisions on the scale of this project were based on these forecasts, and are thus considered to have been highly relevant given the circumstances at the time. However, the economic crisis of 1997 and political unrest following the collapse of the Suharto regime in 1998, resulted in a falloff in demand. In consequence, demand forecasts were revised downwards in 2000, when it was calculated that

demand would exceed the 9.52 million mark in 2015.

However, since 1998, Bali airport has continued to have the highest number of passengers entering Indonesia, thus the need to expand its function as an international airport is considered to have remained consistently high.

Furthermore, the project is also consistent with the direction of the regional development goals as set forth in Bali's five-year development plan (RENESTRA), namely: to stimulate the economy and reduce inter-regional gaps through the development of tourism.

**Table 1: Per Capita Gross Regional Productivity for Major Districts**

Unit: Rp thousand (Constant 1993 price)

District	1997	2001
Badung (central tourist area)	5,845	5,591
Karangasem	1,522	1,523
Buleleng	1,706	1,727
Jembrana	2,295	2,290

Source: Bali Province Statistics Office

## 2.2 Efficiency

### 2.2.1. Outputs<sup>2</sup>

#### (1) Civil Works

Slight changes were made to the appraisal plan. The west parallel taxiway was excluded from the scope due to environmental concerns because the appraisal plan included land reclamation work at Kuta Bay, which borders the taxiway on the north side. However, at the strong request of PT. Angkasa Pura I (PTAP-I), the company that manages and operates Bali International Airport, a taxiway was constructed following the coastline; no reclamation work was undertaken<sup>3</sup>.

Prior to the project, two rapid taxiways<sup>4</sup>, one for flights approaching from the west and one for flights approaching from the east, had been installed; however, the former was too close to the runway which meant that it could only be used by small to medium-sized aircraft. Accordingly, there were plans to build a new rapid taxiway in a position that was compatible with large aircraft coming in from the west; however, these were cancelled at the detailed design stage after it was judged that the improvements in efficiency that would be generated by its construction were marginal in terms of the cost involved. According to PTAP-I, the cancellation of this component has not caused any inconvenience given current numbers of takeoffs and

<sup>2</sup> The outputs of the Phase I project were the civil architectural works (runways, aprons, taxiways, etc.), architectural works (passenger terminal buildings, etc.), construction / rehabilitation of air safety and fuel supply facilities and consulting services for formulating a basic plans for the Phase II project.

<sup>3</sup> This was handled by constructing the access road that was slated to be connected to the outer edge of the taxiway in appraisal documents between the runway and the taxiway.

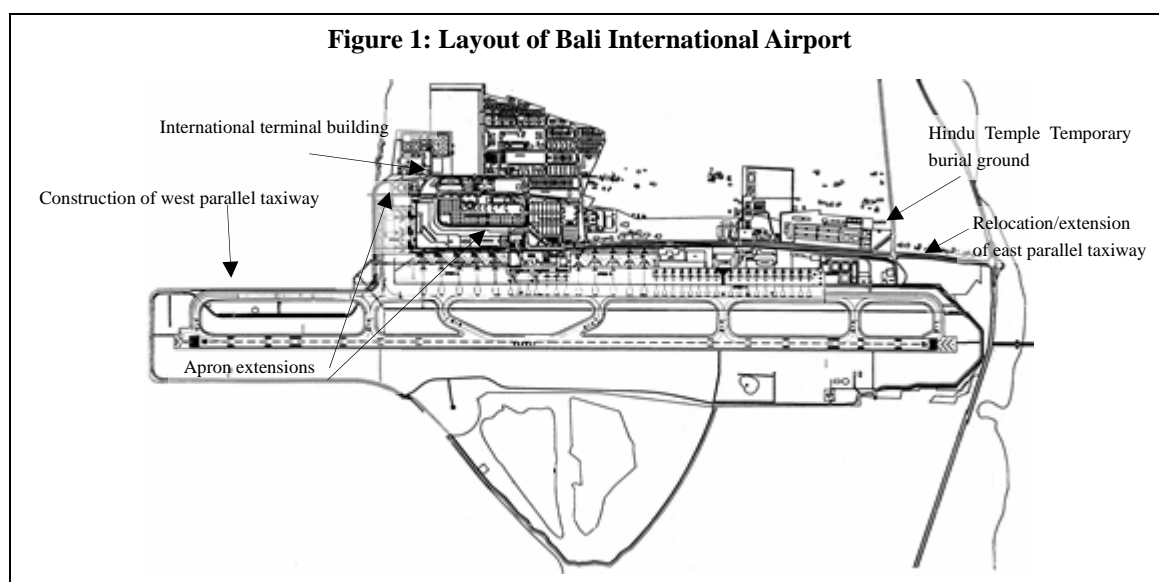
<sup>4</sup> These are taxiways attached to the runway at a shallow angle to allow incoming aircraft to exit the runway when gliding at high speed. They are designed to facilitate increases in the number of landings by shortening the time spent on the runway by incoming flights.

landings (stated later).

Besides above, all other construction and procurements were executed according to the original plan, and completion was confirmed during the field survey.

#### (2) Architectural works

The extension of the east apron and the expansions to the domestic terminal building were excluded from the portion covered by the ODA loan as this work was executed by PTAP-I. Further, when the detailed design was created at the start of the project, the demand forecasts made at appraisal were revised upwards and the scale of the apron and passenger terminal buildings expanded.



#### (3) Development of air safety facilities

Since part of the air safety facilities development work was undertaken by PTAP-I, this output was excluded from the portion covered by the ODA loan.

#### (4) Utility works

This component was executed according to the plan.

### 2.2.2. Project Period

The schedule was decided and implemented with particular caution due to the fact that the work was undertaken while the airport was in operation, with each airport facility being transferred to PTAP-I as needed upon completion and put into service. Under appraisal plan, the project period was scheduled to span November 1994 through January 2001, but work was in fact

completed in June 2001.

### **2.2.3. Project Costs**

Total project costs were 11,140 million yen corresponding to around 80 percent of the amount estimated at appraisal, with the actual loan disbursement, at 10,840 million yen, also being within the loan amount (11,816 million yen). Although total project costs converted into rupiah were actually 7,957 million, which equates to an increase of close to treble the planned figure of 2,780 million, this was predominantly a consequence of the currency's collapse in the wake of the economic crisis of 1997.

## **2.3 Effectiveness**

### **2.3.1. Changes in Air Traffic Volume**

Table 2 shows the passenger numbers, cargo volumes and the takeoffs and landings numbers for Bali International Airport. As compared to their pre-project levels, passenger numbers have increased 22 percent, from 4 million (1993) to 4.84 million (2002) and cargo volumes are up 71 percent, from 41 thousand tons (1993) to 70 thousand tons (2002); however, as mentioned earlier, the figures plunged in the late 1990s against the background of the economic crisis, political upheaval and rioting, and despite having started to edge up again since 2000 they have yet to recover to the levels seen in 1997. Added to which, the terrorist bombing (November 2002) and Severe Acute Respiratory Syndrome (SARS: March – May 2003) have had a negative impact on passenger numbers.

This project has increased the maximum processing capacity of the airport's facilities to 11 million people<sup>5</sup>, from which it may be said that the project has achieved its goal of "responding to future demand for air traffic". The maximum number of takeoffs and landings at peak times based on International Civil Aviation Organization (ICAO) standards relating to the intervals between aircraft landings and takeoffs (7 miles = 2.5 minutes), was 15 times/hour with taxiways at their pre-project scale and increased to 30 times/hour after project completion; however, it is currently 16 times/hour. The facility operation rate has fallen below the forecast due to the aforementioned reason.

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<sup>5</sup> In conformity with International Air Transport Association (IATA) standards, this was calculated to be 120% of the effective processing capacity (9.25 million people based on predictions made at the detailed design stage).

**Table 2: Pre- and Post-project Changes in Passenger / Cargo Volumes / Arrivals at Bali International Airport**

Item		Unit	Pre-project (1993)	Post-project		
				Results for 2002	<i>Demand forecasts calculated at appraisal (2005)</i>	<i>Demand forecasts as amended in 2000 (2005)</i>
Passengers	Domestic	1,000 people	1,639	1,931	3,400	2,100
	International	1,000 people	2,320	2,905	5,100	4,500
	Total	1,000 people	3,959	4,837	8,500	6,600
Cargo volumes	Domestic	Tons	9,293	20,612	24,000	---
	International	Tons	31,909	49,977	63,000	---
	Total	Tons	41,202	70,589	87,000	---
Takeoffs and landing	Domestic	No.	31,251	27,841	---	---
	International	No.	17,418	18,258	---	---
	Total	No.	51,669	46,099	---	---

Source: DGAC

### 2.3.2. Improved Safety

According to PTAP-I records, there have been no accidents at Bali International Airport or on the routes within the airport's air traffic control zone since 1994.

### 2.3.3. Improved Punctuality

It was not possible to obtain comprehensive qualitative data on the extent to which delays have been shortened; however, PTAP-I and personnel from the petroleum company responsible for fuel supplies explained that the capacity increases in the fuel tanks provided by this project and the fact that refueling can be undertaken using hydrant pipes (i.e. rendering fuel trucks unnecessary) have eliminated the delays in departures that were prevalent prior to the project. According to PTAP-I calculations made using taxiway / runway scale and the number of takeoffs and landings, maximum flight delays have been reduced by 5-minutes, from 7 minutes pre-project to 2-minutes post-project, due to reduction in the time spent waiting to land or takeoff, the cause of flight delays and punctuality has improved.

#### 2.3.4. Improved Comfort

International terminal building floor space per person is 17m<sup>2</sup> exceeding the planned 16.2m<sup>2</sup> that was calculated at appraisal on the basis of demand forecasts for 2010, and reaching international standards (17m<sup>2</sup>), and comfort has improved.

**Figure 2: Newly developed departure lobby in the international passenger terminal building**



#### 2.3.5. Calculation of Financial Internal Rate of Return (FIRR) and Economic Internal Rate of Return (EIRR)

The FIRR and EIRR of this project were recalculated using data obtained during the course of this survey. The FIRR worked out at 14.3 percent, which is on a par with the 14.2 percent estimated at appraisal; a calculation that incorporated the construction of the west parallel taxiway. The project's EIRR was not calculated at appraisal, but foreign currency spending by international tourists and time savings made by Indonesian passengers, as project benefits, were recorded in as much detail as possible to yield an estimated value of 19.3 percent. For the calculation of benefits, the results through August 2003 were used for the data on passenger numbers, with the growth rate in demand forecasts made in 2000 used to estimate the numbers thereafter. Accordingly, the impact of the terrorist bombings of October 2002 and of SARS in the early half of 2003 is reflected in the figure (for details of the assumption used in the calculation refer to the "Reference" section hereunder).



<u>[Reference] EIRR / FIRR Calculation Terms</u>	
• Project life	20 years from opening of facilities
• Fiscal year	Calendar year
• Method used for calculating constant prices	Taking the year of project completion as the base year, domestic and foreign currency costs were converted to discounted constant prices using the commodity price index (CPI). Foreign currency-denominated constant prices were converted using the exchange rate for the base year.
• Costs	Project costs, O&M costs (O&M costs for the Phase II facilities estimated using area of main facilities). NB. It was not possible to obtain data on investment amounts for individual facilities, thus percentage area ratio of facilities was used.
• EIRR benefits	(1) Amount spent by foreign tourists now able to visit Bali as the result of the project, and (2) time savings made by Indonesian passengers (substituted for domestic passengers) were incorporated into the calculation
• FIRR benefits	Airport revenues (contribution of the Phase II project estimated using area of main facilities: 39%, which is equivalent to the Phase I / Phase II investment ratio)

## 2.4 Impact

### 2.4.1. Development of Bali's Tourist Industry

The appraisal plan envisaged that the project would contribute to the development of tourism on Bali. Table 3 shows pre- and post-project transitions in the major tourist indicators obtained during this survey<sup>6</sup>. There have been major increases over pre-project levels in the numbers of tourists, hotels and restaurants, but at evaluation, these figures were declining due to the effect of the terrorist bombing and SARS. However, foreign tourist numbers have subsequently rallied, rising from around 100 thousand in May 2003 to 123 thousand in May 2004.

<sup>6</sup> Bali can also be accessed by ferry, but since ferry passengers consistently account for just 0.4% of visitors to the island, almost all tourists use the island's only airport: i.e. Bali International Airport.

**Table 3: Transitions in Major Tourist Indicators**

Item		1994	1998	2000	2001	2002
Holidaymakers bound for Bali	Foreign (1,000 people)	1,031	1,178	1,413	1,359	1,287
	Local (1,000 people)	-	-	-	-	-
	No. of foreign passengers as percentage of national total	-	25.58	27.90	26.36	-
Type of accommodation	No. of hotels	86	87	113	126	-
	No. of rooms	13,945	16,371	-	-	-
	Occupancy rate (%)	60	54	56	57	-
No. of restaurants		505	593	726	762	-
No. of travel agencies		179	263	-	-	-
Trip duration (days)	Foreign tourists	3.9	4.5	4.2	4.3	-
	Domestic tourists	3.3	4.4	3.5	3.3	-
Daily expenditure per passenger (US\$/day/person)		-	20.47	22.10	-	-

Source: Bali Province Statistics Office

Bali's GDRP (Gross Domestic Regional Product) increased 6.1 percent during 1997 through 2002 as compared to GDP for the entire nation, which fell 1.5 percent during the same period.

#### 2.4.2. Consideration on social aspect

This project involved the relocation of a temporary burial ground<sup>7</sup> belonging to a Hindu temple, which was situated on the site slated for development of the east parallel taxiway. This development was originally planned to be undertaken during the Phase I project; however, as the burial ground is collectively owned by a community of 650 people and it was necessary to obtain the signatures of all members of the community in order to go ahead with the relocation, the work was shelved based on the judgment that it would be impossible to complete the relocation process within the timeframe of the Phase I execution schedule. The chief priest of the temple reports that there was conflict with PTAP-I when the relocation process was initiated (in the late 1980s) because the company only offered pecuniary compensation without offering to provide an alternative area of land. However, as the result of subsequent negotiations, PTAP-I accepted all the requests made by the temple: i.e. a cost package to cover the funeral (cremation / scattering of ashes), expenses of the dead and the relocation of the site (Rp. 400 million), the construction of temple facilities as a compensatory measure, and so forth. Thus, with all members of the community agreeing to the relocation, the process was completed in 2000. The project had a positive impact in that it provided airport jobs formore than 200 residents of the community (Banjar village) that collectively owned this land.

<sup>7</sup> In the Bali Hindu religion, the dead are cremated and their ashes scattered in the ocean; however, if the family is unable to cover the cost of this ceremony, the ashes are buried in a temporary burial ground until such time as the family can raise the necessary funds.

**Fig. 3: The pre-project site of the temporary burial ground connecting to the east parallel runway (left photo; the trees on the left are in the current grounds of the Hindu temple) and the burial ground after relocation (right photo)**



### **2.4.3. Environmental Impact**

No land acquisition was occurred at the implementation of project except that of the above mentioned temporary burial ground of a Hindu temple. The land acquisition was implemented after reaching an agreement with all members of the community. No negative impact on the neighboring people and area were observed, and no land resettlement was occurred.

Regarding influence on environment, PTAP-I explained that no complaints such as noise were raised. Influences on a surrounded ocean were concerned for the development of the west taxiway at the time of appraisal, but there was no big problem because it was developed without land reclaiming<sup>8</sup>. According to the measurement results by such as the Ministry of Health laboratories, contaminated level of waste water from the airport and soil of the airport premises were under the standard level regulated by the province. It is necessary to consider regional social and natural environment well in conducting civil works for expanding the airport in the future<sup>9</sup>.

## **2.5 Sustainability**

### **2.5.1 Executing Agency**

#### **(1) Technical Capability / Operation and Maintenance System**

The operation and maintenance of radar and electrical equipment is performed by the Electronics Department (78 staff)<sup>10</sup>; with the exclusion of major breakdowns, the operation and

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<sup>8</sup>Some airlines saw it as a problem that a main wing of running air plain protrudes over the seashore because the taxiway was developed close to seashore. PTAP-I responses it by building a fence horizontally to the sea front from the taxiway.

<sup>9</sup>According to the executing agency, they changed their strategy to optimal use of acquired land and equipment, and review a business plan, because the Bali provincial government opposes strongly against the land expansion including reclaiming seashore of the Phase 3 project or later.

<sup>10</sup> PTAP-I employs a total of 859 staff.

maintenance of electrical and electronic equipment is performed in-house; however, it is hoped that improvements will be made to training (between 1-5 staff members from each department receive training over a period of several days per year) and manuals.

### (3) Financial Status

In terms of finances, aside from this project, PTAP-I is also financing facilities expansion projects on a demand-responsive basis, and the company is believed to be highly competent in project execution. Added to which, Bali International Airport is proving to be the most profitable of all thirteen airports under PTAP-I management (its cost recovery ratio for 2002 was 285%<sup>11</sup>), and there are not considered to be any major problems from a budgetary perspective<sup>12</sup>.

## 3. Feedback

### 3.1 Lessons Learned

**For projects involving land acquisition, work plans must incorporate considerations for the relocation schedule.**

This project involved the relocation of a temporary burial ground belonging to a Hindu temple, which was situated on the site slated for development of the east parallel taxiway. This development was originally planned to be undertaken during the Phase I project; however, as the burial ground is collectively owned by a community of 650 people and it was necessary to obtain the signatures of all members of the community in order to go ahead with the relocation. Thus, the work was shelved based on the judgment that it would be impossible to complete the relocation process within the timeframe of the Phase I execution schedule. The relocation of the temporary burial ground was successfully accomplished under this project because a dozen years or so was devoted to obtaining the agreement of all community members and no hard-line measures were adopted; however, for projects such as this that involve land acquisition, work plans must be determined in consideration of the relocation schedule and plenty of leeway given.

### 3.2 Recommendations

Nothing.

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<sup>11</sup> Defined as operating income / operating expenditure × 100 (%).

<sup>12</sup> For example, according to DGAC, if operation and maintenance costs for the new facilities (including personnel expenses, light, fuel and water costs, etc.) are calculated as 1% of construction / installation costs (5% for equipment) this works out at a budget of around Rp16.3 billion a year; however, in 2002 PTAP-I allocated Rp100 billion to operation and maintenance costs.

### Comparison of Original and Actual Plan

Item	Planned	Actual
1. Outputs		
1. Civil works		
1) Expansion of aprons	West side: 15,600m <sup>2</sup> Center: 25,800m <sup>2</sup> East side: 19,710m <sup>2</sup>	West side: 21,897m <sup>2</sup> Center: 19,884m <sup>2</sup> East side: cancelled
2) Development of parallel taxiways	East side: 14,710m <sup>2</sup>	East side: 18,924m <sup>2</sup> West side: 22,047m <sup>2</sup>
3) Construction of rapid taxiway	10,145m <sup>2</sup>	Cancelled
4) Expansion of car parking	18,500m <sup>2</sup>	27,085m <sup>2</sup>
5) Upgrade of storm water drainage	Air side: 2,320m <sup>2</sup> Land side: 3,670m <sup>2</sup>	Air side: 2,940m <sup>2</sup> Land side: 2,807m <sup>2</sup>
6) Improvement of terminal roads	12,720m <sup>2</sup>	6,614m <sup>2</sup>
7) Other works	Air field service roads, fences, etc.	Almost as planned
2. Architectural works		
1) Expansion of international passenger terminal building	New construction: 22,060m <sup>2</sup>	New construction: 24,950m <sup>2</sup> Rehabilitation: 10,166m <sup>2</sup>
2) Expansion of domestic passenger terminal building	9,180m <sup>2</sup>	448m <sup>2</sup>
3) Construction of domestic cargo terminal building	1,710m <sup>2</sup>	2,418m <sup>2</sup>
4) Expansion of central refrigeration building	261m <sup>2</sup> (incl. equipment, etc.)	403m <sup>2</sup> (incl. equipment, etc.)
5) Construction of main power house-2	1,080m <sup>2</sup> (incl. equipment, etc.)	1,693m <sup>2</sup> (incl. equipment, etc.)
6) Expansion of water supply pumping system	2 locations, total: 87m <sup>2</sup>	2 locations, total: 155m <sup>2</sup>
3. Air safety facilities		
1) ATS system	VOR, FDP, CVCF, ER-VHF TX/RX, wireless links, RDARA & MWARA, AFTN interface	Generally as planned
2) Airfield lighting system	Taxiway edge lights, apron flood lights, CCT	As planned
3) Meteorological system	Relocation of field equipment	As planned

4. Utility Works		
1) Expansion of power supply system upgrades	2 generators, power distribution system, etc.	As planned
2) Expansion of water supply system	2 water pumps, reservoir, distribution system	As planned
3) Expansion of sewage system	Piping, aeration pond, etc.	As planned
4) Expansion of central information system	Control panels, AV equipment, etc.	As planned
5) Expansion of airport security system	Control panels, CCTV, etc.	As planned
6) Expansion of fuel supply system	3 tanks, hydrants, pipings, etc.	As planned
5. Consulting services	Total: 163MM	Total: 757MM
2. Project period		
1. Consulting services		
1) Contract	July 1995	March 1995
2) Service provision	August 1995 – January 2001	April 1995 – June 2001
2. Construction		
1) P/Q, tender, contract	November 1995 – May 1997	November 1996 – December 1997
2) Implementation	June 1997 – January 2000	February 1998 – March 2001
3. Warranty period	January 2001	June 2001
3. Project costs		
Foreign currency	5,968 million yen	8,910 million yen
Local currency	7,933 million yen (158,658 million rupiah)	2,230 million yen (160,483 million rupiah)
Total	13,901 million yen (278,020 million rupiah)	11,140 million yen (795,714 million rupiah)
ODA loan portion	11,816 million yen	10,840 million yen
Exchange rate	Rp1 = 0.05 yen (as of November 1994)	Rp1 = 0.014 yen (average from March 1995 – December 2001)

## **Third Party Evaluator's Opinion on Bali International Airport Development Project (II)**

Dr. Bambang Permadi Soemantri Brodjonegoro  
Head of Department of Economics, Faculty of Economics  
University of Indonesia

### **Relevance**

Tourism industry was one of key sectors in the sixth five-year national development plan (REPELITA VI 1994-1998) and Bali is the most popular destination for tourism sector in Indonesia. The main gate to access Bali is the airport which is accounted for as many as 95% of total visitors. The project was intended to respond to rapidly increasing demand and to improve safety. Considering the situation when the plan of project was made in 1994, demand for air traffic to and from Bali had doubled during the two previous years; the project was expected to answer urgent need of improving the airport. Evaluator agrees that regarding to future demand in tourism sector, the response done is correct.

On the other hand, there were significant deviations from the projected air passenger demand due to Asian economic crisis, SARS epidemic, and terrorist bomb in Bali. Those circumstances had strong impact in plunged number of actual visitors. However, nobody was expecting or could forecast that beforehand. Furthermore compare to how other regions in Indonesia recovered from the first two circumstances mentioned above, Bali's response was among the best: since 1998 the number of passengers through Bali airport has been achieving the highest number. For these reasons, Evaluator believes that the project has high degree of relevance.

Related to previous project, i.e. Phase I airport development project which was completed in 1992, Phase 2 also addresses the problem of significantly increasing demand of air passengers exceeding what had been forecasted in planning of Phase 1. By completing Phase 2, the unsolved problems of Phase 1 can be addressed. This puts the realization of Phase 2 project necessary.

### **Impact and Sustainability**

Impact on general economic development of Bali can be seen in increasing number of foreign tourists visiting Bali post-project implementation. Even though the report does not show the amount of benefit in terms of percentage of GDRP, we know that aside of direct effect, such as airlines, hotel, and restaurant's profits, the sector also generates indirect effects, backward and forward linkages, such as for industries which support or are influenced by these trade and services sectors. The evaluation report quotes that GDRP of Bali increased 6.1 percent as compared to Indonesian GDP which fell 1.5 percent during the span of 1997 to 2000; however we cannot say that it was affected solely by this project, there were certainly other factors inducing the performance.

The sustainability of project seems to be financially secured and no major problems in on-going management of executing agency. The issue of land acquisition which was involving burial ground belonging to a Hindu temple carried from Phase I, finally could be addressed in this Phase, giving the lesson that consideration about schedule time should be carefully given to the case of sensitive land acquisition. Even though the report does not clearly explain the types of airport job provision for more than 200 residents in the community whether it is permanent or temporary job, it also could be considered positive impact.