

INDONESIA

Bali International Airport Construction Project (I)

Report Date: September 1998

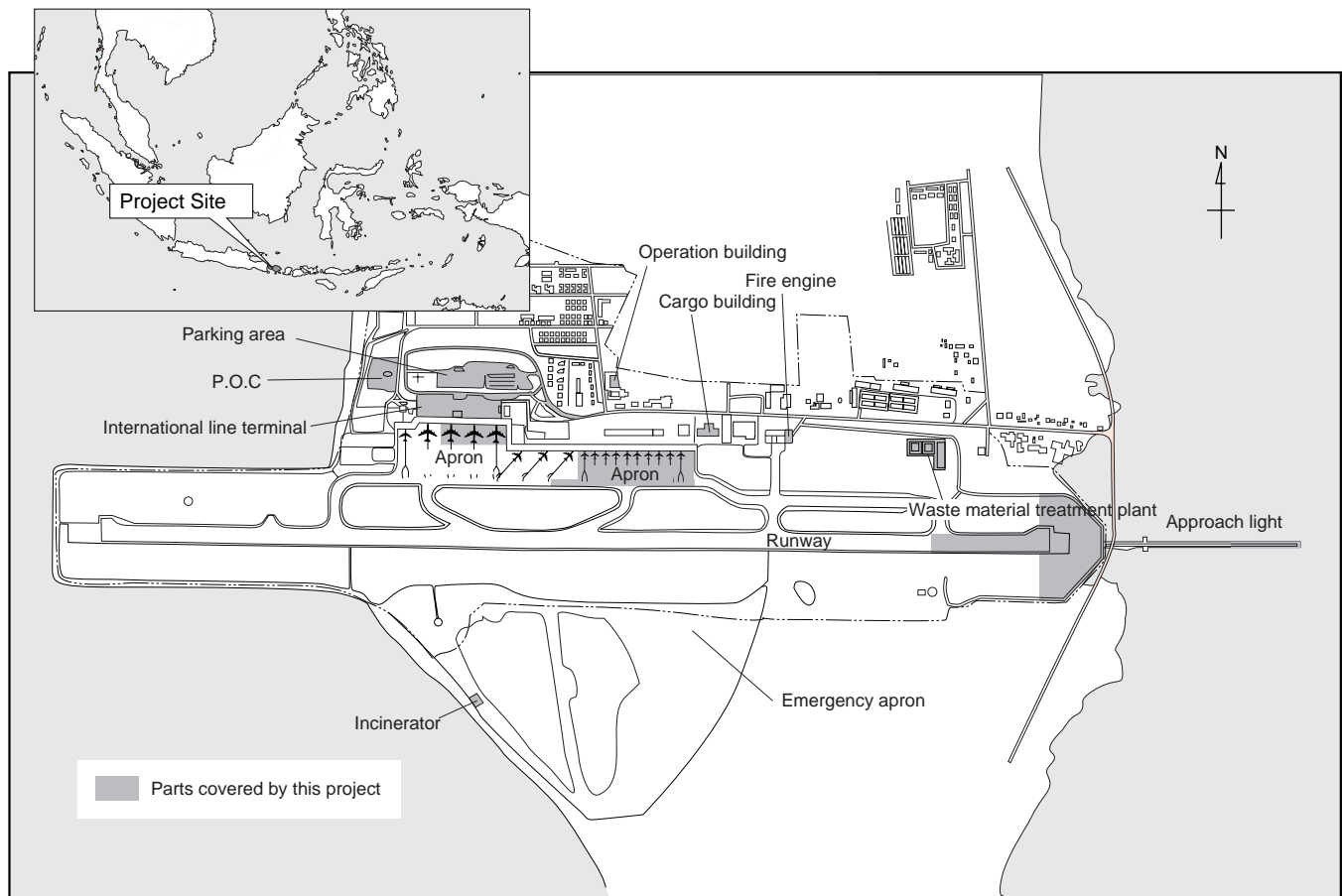
Field Survey: July 1998

1 Project Summary and JBIC's Cooperation

The Bali International Airport Construction Project is designed to expand the capacity of the airport in three phases in order to accommodate predicted future growth of demand for passenger and freight transport. The targeting years for phases 1, 2, and 3 are 1995, 2000, and 2010, respectively. The project described here is of Phase 1, and consists of civil works (runways, aprons*, taxiways), construction works (passenger terminals), construction of new air navigation facilities and renewal of existing ones, construction of new fuel supply facilities, and consulting services. The ODA loan covers the entire foreign currency and a part of local currency required for this project.

* The paved hardstand in front of airshed at the airport.

Borrower / Executing Agency	Government of the Republic of Indonesia / Directorate General of Air Communication, Ministry of Communications
Exchange of Notes / Loan Agreement	September 1986 / January 1987
Loan Amount / Loan Disbursed Amount	· 18,999 million (of which · 4,077 million in local currency) / · 17,057 million (of which · 3,357 million in local currency)
Loan Conditions	Interest: 3.5%, Repayment period: 30 years (10 years for grace period), General untied (partial untied for consultants)
Final Disbursement Date	January 1994



2 Evaluation Results

(1) Project Implementation

(i) Project Scope

No change was made in the project scope. However, following the start of civil engineering work and construction work, minor design changes or additions became necessary in work districts where presence of underground installations such as electric cables and fuel pipelines were made clear. On the other hand, with regard to consulting services, estimates were revised and revisions of the basic design for Phase 2 were performed in order to reflect passenger and freight transport demand exceeding estimates. These revisions can be appreciated as efforts to adapt as the occasions demanded.

(ii) Implementation schedule

The completion of the project was delayed by 2 years. The planned implementation schedule for the civil engineering and construction works was 36 months, while the actual period was 37 months, so that the construction itself progressed almost as planned. Therefore, the causes of the delay are to be traced to the stage before construction. That is, under the initial plan, the period from P/Q to conclusion of construction contract and start of construction was to take 9 months, but it actually took 27 months. The background to it was the fact that P/Q took long (1 year) and the schedule had been designed too tightly to start with.

(iii) Project cost

The loan amount, initially estimated at ¥18,999 million at the time of appraisal, turned out to be within this figure, at ¥17,040 million. The foreign currency portion of the construction turned out to be almost exactly the amount initially calculated. However, there was a local currency amount overrun, in the background of which were inflation linked to the delays in concluding the contract, and changes in civil engineering work and construction design and construction additions. Regarding consulting services, the number of M/M for foreigners slightly reduced and the number of M/M for Indonesians slightly increased, and since M/M cost for Indonesians was lower than predicted, both foreign and local currency costs in this regard were lower than initially planned.

Comparison of Original Plan and Actual

(1) Project Scope	Plan	Actual
(i) Civil engineering work		
Extension of runways	300m extension	Same as planned
Construction of new taxiways	Construction of 352m x 23m	Same as planned
Aprons: Loading	11 constructions and improvements	Same as planned
Night stay	10 improvements	Same as planned
(ii) Construction work		
Passenger terminal		
International line	Improvement of 7,700m ²	Same as planned
	Construction of 19,866m ²	Same as planned
Domestic line	Improvement of 7,012m ²	Same as planned
Cargo building	Construction of 2,160m ²	Same as planned
Control tower	Construction of 450m ²	Same as planned
Administration building	Construction of 2,390m ²	Same as planned
(iii) Air navigation facilities	Construction, renewal and transfer of radio, communication facilities, lights etc.	Same as planned
(iv) Fuel supply facilities	Construction and enlargement	Same as left
(v) Consulting service	415M/M for foreigners	401M/M (-14) for foreigners
(Note) Plan TOR consisted of bidding evaluation assistance, execution management, and training related to execution and terminal operations, with the later addition of bidding documents and contract changes and the basic design of Phase 2.	771M/M for Indonesian	927M/M (+156) for Indonesian
	Total 1,186M/M	Total 1,328M/M (+142)
(2) Implementation Schedule		
* Implementation schedule shows from the start of consulting service to completion.	December 1986 ~ September 1991 (57 months)	August 1987 ~ August 1993 (73 months)
(3) Project Cost (of which the amount covered by ODA loan)		
Foreign currency (· million)	14,922 (14,922)	13,686 (13,686)
Local currency (Rp. million)	34,282 (22,705)	49,472 (47,436)
Total project cost (· million)	21,078 (18,999)	17,184 (17,040)
Exchange rate	Rp.1 = · 0.17955	Rp.1 = · 0.07070

(2) Organization of the Executing Agency (implementation and operation/maintenance after completion)

(i) Implementation scheme

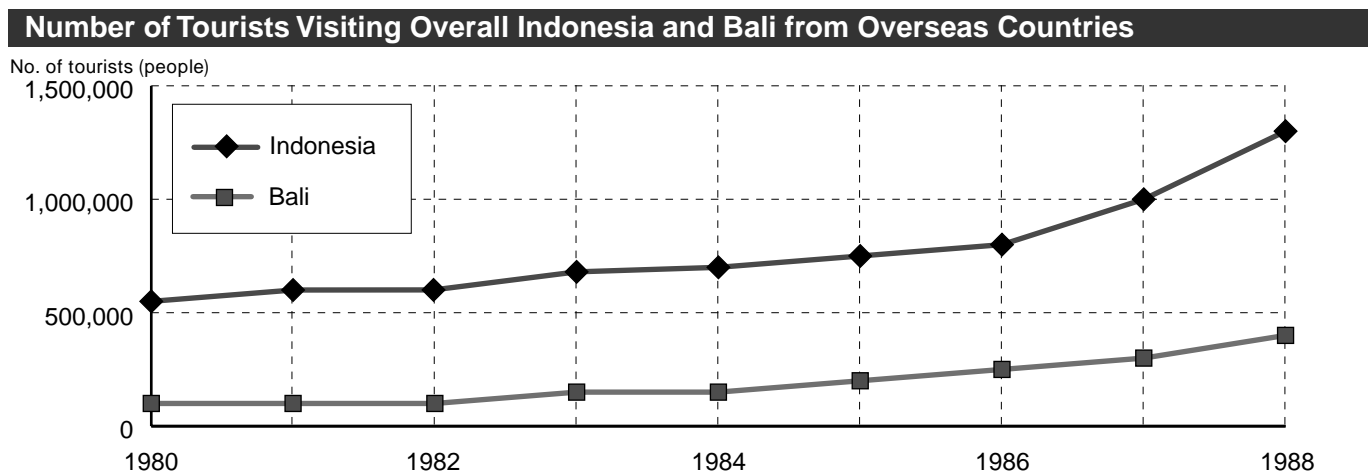
The local project team belonging to the Directorate General of Air Communication, Ministry of Communications, the executing agency, performed construction management in coordination with consultants and contractors. The consultants skillfully coordinated four contracts each involving a different type of construction. The contractors too also showed satisfactory performance insofar that constructions were completed within the planned implementation schedule. Maintenance for this project was handled by the PT. Angkasa Pura I (PTAP I) and the fact that members of this company were also part of the above mentioned project team is considered to have contributed to the smooth delivery of facilities.

(ii) Operations and maintenance scheme

The major civil engineering facilities (runways, aprons, taxiways), passenger and freight terminals, and air navigation facilities are managed and maintained by the PT. Angkasa Pura I (PTAP I) and fuel supply facilities are managed and maintained by the Indonesian Oil Public Corporation. Although it was reported that there were no special problems regarding facilities maintenance, the field survey found aprons and passenger terminals to be too small for the rapidly growing volume of passenger and freight traffic.

(3) Project Effects and Impacts

Among the direct project effects and impacts that can be mentioned are increase in the number of passengers, volume of freight, and number of departures and arrivals. Revenues greatly exceeded predictions at the time of appraisal due to larger than expected passenger and freight volumes, and the rate of return of the airport has improved. Moreover, expansion of the landing areas and extension of the length of runways and parallel taxiways have improved the safety of the airport. Weight limitations for the landing of B747s en route to Tokyo have been removed for the extension of runways.



(Source) Statistics Indonesia 1991, Statistics Bali 1991

Utilization Status of Bali International Airport Facilities

Item	Initial Plan	Actual (FY95)
Total number of passengers (1,000 people)	2,450	4,491
No. of passengers on the domestic line (1,000 people)	1,360	1,874
No. of passengers on the international line (1,000 people)	1,090	2,617
Total volume of cargo handled (ton)	7,400	69,846
Domestic line (ton)	3,000	22,425
International line (ton)	4,400	47,421
Total number of departures and arrivals (time)	25,700	56,751
Domestic line	17,000	36,085
International line	8,700	20,666

(Source) Directorate General of Air Communication, Ministry of Communications

3 Lessons Learned

Nothing in particular.



International Line Apron, Boarding Bridge and Runway (for arrival flights)