

Indonesia

New Padang Airport Construction Project

Evaluator: OPMAC Corporation

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Field Survey: September 2008

1. Project Profile and Japan's ODA Loan



Location of the project site



New Padang airport constructed under this project

1.1 Background:

At the time of appraisal (1996), Padang was ranked as the third largest city (population of 510,000) on the island of Sumatra, behind Medan (2,550,000) and Palembang (1,280,000), and it was the center of West Sumatra. In addition to its economic development through increasing direct investment from Singapore and Malaysia, the city has undergone a remarkable transformation into a tourist city, as it is located near tourist spots such as Bukittinggi. On the other hand, in spite of Tabing airport's status as an international airport, its facilities, including the airport terminal and utilities, were small, and it had safety problems, caused by the existence of a hill on the south of its runway on obstacle limitation surfaces. It was also very close to the urban area. Because of these reasons, construction of a new airport to replace Tabing airport was necessary.

1.2 Objective:

The project aims to enhance transportation capacity so as to keep up with air transport demand by constructing a new airport that enables services using DC-10 and A300 class airplanes in the coastal area of a suburb of Padang City, West Sumatra, thereby contributing to the development of the economy and commerce of the region.

Logical framework applied to the ex-post evaluation

Overall goal	To contribute to the development of the economy and commerce of the region
Project objective	To enhance transportation capacity so as to keep up with air transport demand
Output	A new airport is constructed in the coastal area of a suburb of Padang City
Input	1. Civil works (Construction of basic facilities, terminal building, air traffic control facility, and other facilities) 2. Consulting services (Plan: project cost: 21,338 million yen/Project period: November 1996 – March 2003)

1.3 Borrower/Executing Agency:

Republic of Indonesia / Directorate General of Air Transportation (DGAT), Ministry of Transportation

1.4 Outline of Loan Agreement:

Loan Amount/Disbursed Amount	16,004 million yen/10,328 million yen
Exchange of Notes/Loan Agreement	December 3, 1996/December 4, 1996
Terms and Conditions -Interest rate -Repayment period -Procurement	2.7% p.a. (2.3% p.a. for consultants) 30 years (including a grace period: 10 years) General untied
Completion date of loan	January 22, 2007
Main contractors (Above 1 billion yen per contract)	Shimizu Corporation (Japan), PT. Adhi karya (Indonesia), Marubeni Corporation (Japan) (JV)
Consulting Services (Above 1 million yen per contract)	Pacific Consultants International (Japan)/PT. Dacrea Acia (Indonesia)/PT. Singgar Mulia (Indonesia) (JV)
Feasibility Study (F/S), etc.	Feasibility study for the Padang airport development (F/S by JICA in 1982)

2. Evaluation Results (Rating: B)

2.1 Relevance (Rating: a)

This project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation, from the viewpoint of coherence with regional development policies and of providing safe and reliable transportation services that can cope with the increase in air transport demand.

2.1.1 Relevance to Indonesia's development policy

Many of the airports in Indonesia were constructed during World War II and had become extremely obsolete at the time of appraisal. Measures to meet air transport demand and cope with the larger size of equipment and materials were delayed, and the fact that the facilities were so cramped had become an issue. The Project Completion Report (PCR) submitted by the Indonesian side after the project completion expected Padang Airport constructed under this project to meet the growth of air transport demand, facilitate the economic and commercial development of the West Sumatra region, and promote international tourism. The report also expected the airport to lead to the development and regulation/supervision of a safe and reliable international/domestic aviation infrastructure in the country. In addition, Indonesian national policy (RPJM: Rencana Pembangunan Jangka Menengah, or National Medium Term Development Plan for 2004 – 2009) points out the improvement of efficiency, reliability, quality, safety, and affordability by enhancing transportation services, the establishment of a national transportation system consisting of several transportation modes and integrating with regional development, and the provision of benefits to the people as a distribution system. Therefore, the relevance of this project to the development policy has been confirmed.

Near the new airport, improvement of the access road connecting the Padang bypass with the new airport (construction of a flyover, work to widen the bridge over the Anai River) is in progress. In Pariaman Regency (Kabupaten Pariaman), where Padang Airport is located, nine strategic zones or areas have been chosen for promotion of regional development.¹

2.1.2 Relevance to needs

The old Tabing Airport was classified as a Class 2 international airport at the time of appraisal. However, there were problems regarding navigation, stemming from various factors, such as the hill on the south of the runway. Also, the facilities, including the terminal and

¹ For one of the strategic zones, for example, a strategy is set to establish a central business district in front of the airport area to meet investors' needs as well as to provide services such as hotels and storages. Thus, a regional development policy strategically including Padang new airport has been formulated.

utilities, were small, but expansion was difficult since the airport was close to the urban area.² In addition, the need to improve the drainage of the airport and the issue of airplane noise were pointed out. The new airport is located in a suburban area, and noise and vibration are periodically monitored. In this location there is room to expand facilities when future development requires, and improvements in terms of safety have been made because the relocation of the airport solved the issue of obstacles (to navigation).

At the time of appraisal, Padang was located in IMS-GT (Indonesia-Malaysia-Singapore Growth Triangle), so there were large inflows and outflows of tourists and goods from Singapore and Malaysia, and the city received a lot of direct investment from overseas (e.g., in rubber and palm oil plantations). At the time of ex-post evaluation, Padang is still positioned as a gateway to IMS-GT and the network of wider areas, and it plays the role of a hub airport for the region, so the project's relevance is high.

2.2 Efficiency (Rating: b)

The project took 49% longer than originally planned to complete, due to political and economic turmoil following the resignation of President Soeharto, a design change, and an earthquake. The project cost decreased to 55% of the original plan, mainly owing to the devaluation of the rupiah and a decrease in the tender price. As for major outputs, facilities almost the same as those planned at the time of appraisal have been built. During the construction period, the design of the terminal was changed, after taking the opinion of PT. Angkasa Pura 2 (PTAP 2), the operator, into consideration. This user-oriented approach is also evaluated well.

2.2.1 Outputs

There were several changes, including an extension of the runway and the layout of the passenger terminal, but the main equipment and facilities have been installed and completed, for the most part, as planned and within the scope formulated at the time of appraisal, as shown in Table 1.

Table 1: Comparison of Planned and Actual Outputs

Item	Plan	Actual
(a) Civil Works	(1) Basic facilities: Construction of a runway (2,500m) and taxiways (2) Terminal: Construction of new aprons (including passenger terminal apron 37,800m ²), new passenger terminal (12,570m ²), and new cargo terminal	(1) Basic facilities: Construction of a runway (2,750m) and taxiways (2) Terminal: Construction of new aprons (including passenger terminal apron 37,800m ²), new passenger terminal (12,300m ²), and new cargo terminal

² The largest airplane that could land was of B737 class, and larger airplanes had difficulty in landing due to the short length of the runway.

	(1,850m ²) (3) Air traffic control: Renewal of equipment and facilities (4) Other facilities: Construction of air navigation facilities and utilities	(1,344m ²) (3) Air traffic control: Renewal of equipment and facilities (4) Other facilities: Construction of air navigation facilities and utilities
(b) Consulting Service	Assistance for tender, supervision of construction, etc. Foreign (Professional A): 344 M/M Local (Professional B and Professional C): 684 M/M	Assistance for tender, supervision of construction, etc. Foreign (Professional A): 381 M/M Local (Professional B and Professional C): 808 M/M

Note: Actual figures are from the Project Completion Report (PCR). The man-months for the consulting service, however, are estimates based on available data.

The extension of runway and changes to related facilities are due to the upgrading of the airplane type, carried out to enable direct flights from the new Padang airport for pilgrimages to Mecca. The change in the layout of the passenger terminal building is in response to the increase in the number of airline companies from 4 to 12, requested by PTAP 2, which was scheduled to be in charge of airport management after the completion of construction. Regarding the air navigation system, the project scope was changed to allow the use of the latest technology, and fuel supply and fire fighting facilities were changed in accordance with the changes in the type of airplane used.

2.2.2 Project implementation period

Completion of this project (end of guarantee period) was delayed three years and two months compared with the original plan, which means the project duration was 49% longer than planned.

Table 2: Comparison of Planned and Actual Project Period

Item	Plan	Actual
1. Signing on L/A	November 1996	December 1996
2. Employment of consultant	July – December 1996	July 1996 – July 1997
3. Procurement of contractor	December 1996 – May 1998	October 1997 – December 2001
4. Civil works	June 1998 – March 2001	April 2002 – June 2005
5. Guarantee period	April 2001 – March 2002	June 2005 – June 2006
Opening	2001	July 2005
Project period	November 1996 – March 2003 (6 years and 5 months)	December 1996 – June 2006 (9 years and 7 months)

Source: PCR

Several factors can be pointed out as reasons for the project delay. At the procurement stage, the procurement of a contractor was interrupted for some time, following the resignation of President Soeharto (1998) until the audit was completed (18 months later). According to the executing agency (DGAT), as a result of the audit by several organizations, including the

BPKP (Badan Pengawasan Keuangan Dan Pembangunan, or Indonesian Finance and Development Surveillance Agency), a minor fault was discovered in a tenderer, so discussions were held on whether or not to call a retender. Furthermore, the economic crisis, reformation of governmental organizations, and the replacements of the Minister for Transportation became obstacles to the smooth progress of the procurement process.

Even after the construction work began, changes in the layout of the passenger terminal building, construction work delay (about two months), and an earthquake (April 2005, about two months delay due to damages) caused further delay. Regarding the contractor's claim on the construction cost, the final disbursement date was extended for a second time until the payment based on the arbitration of BANI (Indonesia National Board of Arbitration) was settled.³

2.2.3 Project cost

The project cost (plan cost) was 21,338 million yen (out of which, 16,004 million yen was to be covered by ODA loan), but actual amount was 11,787 million yen (10,328 million yen was covered by ODA loan)—a decrease to 55% of the plan. The main reasons for the decrease are the devaluation of the rupiah and a decrease in the tender price.

Although the project cost was smaller than planned, the project period was 49% longer than that of the plan; therefore the evaluation for efficiency is moderate.

Table 3: Comparison of Planned and Actual Project Costs
(Plan) (Actual)

Unit: million yen

Item	Foreign currency	Local currency	Total
	JICA	GOI	
Civil works	9,642	6,954	16,596
Consulting	1,385	329	1,714
Physical contingency	723	521	1,244
Tax		1,784	1,784
Total	11,750	9,588	21,338
JICA sub-total: 16,004			

Source: Appraisal documents

Note: Exchange rate: Rp1 = JPY 0.046

Price contingencies: Foreign currency 2.0%/year,

Local currency 2.0%/year

Physical contingencies: 7.5%

Base year for cost estimation: April 1996

Unit: million yen

Item	Foreign currency	Local currency		Total
	JICA	GOI		
Civil works	8,514	436	1,327	10,277
Consulting	1,078	300	0	1,378
Tax	0		133	133
Total	9,592	736	1,459	11,787
		2,195		
JICA sub-total: 10,328				

Source: PCR and loan disbursement data of JICA

Note 1) Exchange rate: Rp1 = JPY 0.013 (Weighted average rate from 1997 to 2006)

Note 2) In addition to the above, 2.36 billion Rp was reported as the cost used for land acquisition from 1985/86 to 1992/93.

³ Points in dispute include the validity of the contractor's request for payment, a payment requested because of a delay in preparing and agreeing on shop drawings resulting from the change in design, the contractor's request for payment due to inappropriate construction management by the consultant, and a dispute between the consultant and the contractor caused by imperfect tender documents. As a result of arbitration, it was decided that half of the amount requested by the contractor was to be paid. (DGAT is obligated to pay the contractor.)

2.3 Effectiveness (Rating: a)

2.3.1 Overall trend in the number of passengers and cargo volume

At the time of appraisal, the size of the necessary facilities under this project (phase 1) was determined by forecasting the number of passengers (576,000 for domestic flights and 24,000 for international flights) and a cargo volume of 7,100 tons in 2000. In terms of actual figures, both the number of domestic flight passengers and the cargo volume did not reach the planned values for 2000, but in 2002 and later, the numbers of passengers and cargo volume increased remarkably. The number of domestic flight passengers in 2003 exceeded the value planned for 2000.⁴ As of 2007, the number of domestic flight passengers is 1,637,000 and that of international flight passengers is 115,000 — domestic flight passengers exceeded the number planned for 2010 (Domestic: 1,159,000; International: 126,000). The prominent increase in the number of domestic flight passengers may have been chiefly due to economic recovery after the Asian currency crisis and the relaxation of regulations in the aviation sector.⁵ Considering the limited capacities of the old Tabin Airport (415,000 domestic flight passengers, 34,000 international flight passengers, and a cargo volume of 3,849 tons, as of 1995), this project is evaluated to have been effective in alleviating congestion caused by increasing passenger numbers and enhancing airport use. It is thought that the number of passengers will increase in the future, and the project can be positioned as phase 1 of the new airport construction project, with an eye to future increases in demand.

As of the time of ex-post evaluation (September, 2008), about 15 flights per day arrive at the airport⁶, although this number varies depending on the day. Arrivals and departures are concentrated during 12:30–13:30 and 16:00–18:30, when the passenger terminal is very crowded, while there are few arrivals and departures during other times. Spreading arrival and departure times more evenly is an issue that remains to be addressed. In addition, regarding scheduling, it was explained that many arriving/departing flights are delayed due to the way the airline companies operate.⁷

In addition, although it was assumed in the project objective that services using DC-10 and A300 class airplanes (capacity of about 300 passengers) would be provided, most of the airplanes arriving at and departing from the airport at the time of ex-post evaluation were

⁴ The number of international flight passengers reached the planned value before 2000, but it was lower than the value in the plan in 2002 and exceeded it again in 2004. As for cargo volume, it almost reached the planned value in and after 2003, but did not exceed the planned value until 2006.

⁵ 2001 Ministerial Decree KM 11 (Decree of the Minister of Transportation on air transportation arrangement). This ministerial decree enabled foreign capitals, such as Indonesia AirAsia (Malaysian capital) and Tiger Airways (Singaporean capital) (according to an interview with DGAT staff), to enter the aviation sector. Specifically, it can be pointed out that the introduction of cheaper airfares caused improvement in price competitiveness against long-distance buses and made it easier also for comparatively low-income earners to fly.

⁶ Including one daily flight from Kuala Lumpur and three weekly flights from Singapore.

⁷ According to an interview at Minangkabau International Airport with PTAP 2, which is the airport's operator (September, 2008).

A319/320 and B737 class airplanes (capacity of about 150 passengers), whose seating capacities are less than those of A300 class airplanes..

Table 4: Trend of the number of passengers at Padang Airport

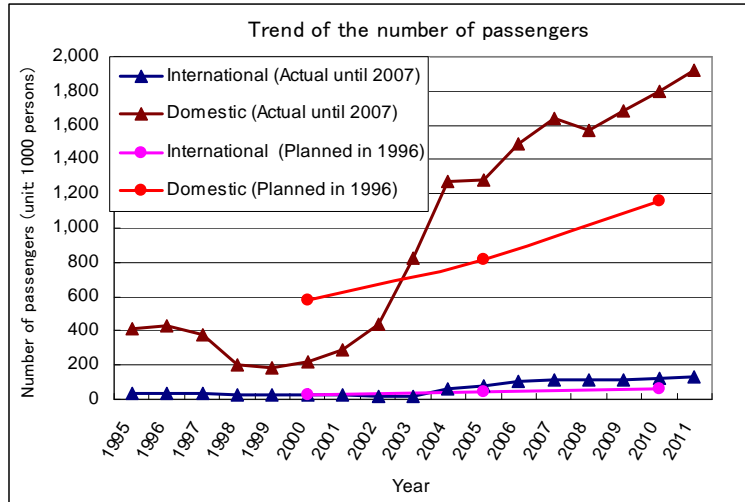
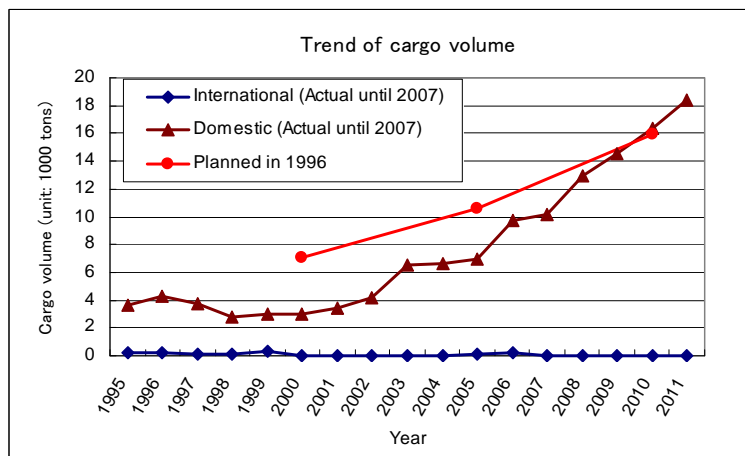


Table 5: Trend of the cargo volume at Padang Airport



Source: PTAP 2

Note: Actual figures until 2007 and estimates for 2008 and later. The new airport opened in July 2005, so the figures before that time are from the data of the old Tabing Airport.

Table 6: Number of arrivals and departures in 2007 by type of airplane

Type of airplane	Number of arrivals and departures	%	Number of passengers per airplane
B737/300	4,490	32.1%	About 150 persons
B737/400	3,484	24.9%	About 150 persons
B737/200	2,269	16.2%	About 130 persons
A319/320	1,640	11.7%	124/150 persons
MD82	1,235	8.8%	172 persons
Others (C212, F50, etc.)	876	6.3%	
Total	13,994	100.0%	

Note: Based on PTAP 2 data

The old Tabin Airport site, for which redevelopment was planned at the time of appraisal, is still used by the air force. A policy to maintain the airport together with the new Padang Airport has been proposed in preparation for an emergency.⁸ However, the opening of the new airport is considered to have contributed to alleviating noise around the old airport close to the city and improving safety, as the hill at the south of the runway of the old airport was a safety concern.

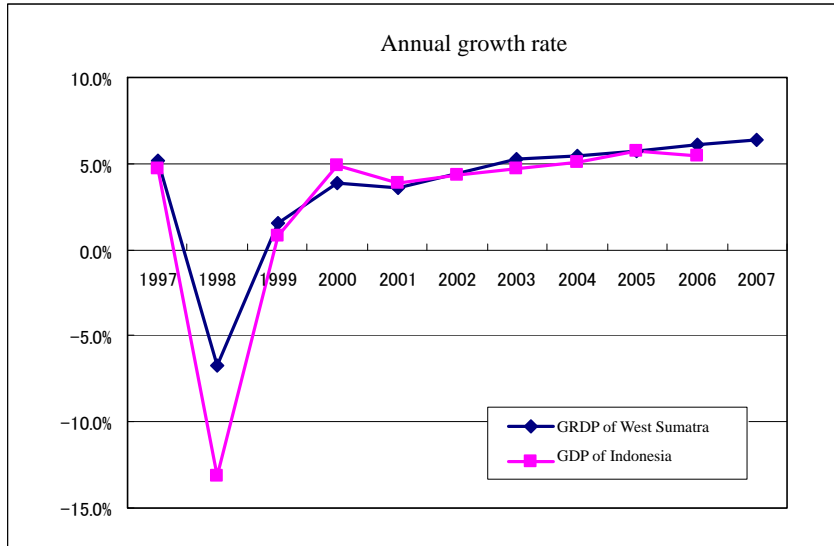
2.3.2 Contribution toward local economy

Although reliable statistical data could not be obtained about the number of tourists in West Sumatra, it is said that the number of Indonesian tourists has been showing an increasing trend since around 2003. As for foreign tourists, it is considered that the number declined sharply after the Asian currency crisis but has been increasing since around 2003, just like the number of Indonesian tourists. The increasing trend began before the opening of the new Padang airport, and a major factor of this trend may be the influence of the relaxation of regulations in the air transportation sector, but the opening of the new airport is thought to have driven and accommodated the increase.

Below is the GRDP growth rate of West Sumatra. After the Asian currency crisis, GRDP continuously increased for four years during the period from 2002 to 2006, of which the annual average was 5.7% in real terms. It is slightly higher than the real annual average of the country's GDP of 5.2% for the same period.

⁸ According to an interview at the Regional Development Planning Agency (BAPPEDA) (September, 2008).

Table 7: Comparison of annual growth rate (GRDP) of West Sumatra and annual growth rate (GDP) of Indonesia



Source: Statistics Office of West Sumatra Province, Badan Pusat Statistik (BPS-Statistics Indonesia)

2.3.3 Beneficiaries' perception of project effect

According to a beneficiaries' survey on passengers at the passenger terminal⁹, an increased number of airline companies gave passengers a wider range of choices regarding flight times and airfares, so convenience has increased.¹⁰ It is pointed out that the following matters need to be further improved.

- Increase the number of check-in counters and improve punctuality concerning the opening times of check-in counters
- Repair and improve toilet facilities, waiting rooms, and prayer rooms
- Increase the number of monitors for information on arriving and departing flights

In the interviews with airline companies, the absence of an information center was pointed out. Various issues, including the following, were also pointed out in the interview with the company that provides ground support services: more thought should have been given to the location of taxiways when considering airplane flight operation; there are not enough boarding bridges and not enough care is taken for their operation and maintenance (O&M); the passenger terminal and airplane aprons are too small; there are not enough conveyor belts in the luggage collection areas; there is a further need for the O&M of the air navigation system; access by people with physical disabilities should be improved; there is a need for more signs, such as those indicating the emergency evacuation routes in consideration of convenience for users.

2.3.4 Calculation of economic internal rate of return

The economic internal rate of return (EIRR) was calculated at 16.7% at the time of appraisal, by considering the benefit provided by accommodating overflowing passengers and cargoes, the benefit provided by use of larger airplanes, the negative benefit from increased access time to the new airport and so on, and by considering the costs such as the construction cost, costs for the O&M and access from Padang City to the new airport.

When recalculating EIRR, the number of passengers in 2004 — the year before the new

⁹ The beneficiaries' survey was conducted from November 11 to 13, 2008, in the waiting room of the departure lobby in the passenger terminal of the new Padang airport. Eighteen passengers (including five going on international flights) in the passenger terminal cooperated for the interview. The sampling method was not random selection. In the interview, questions were mainly about convenience, based on the fact that the construction of the airport facilities was made possible by ODA loan.

¹⁰ The increase in servicing airlines was due in great part to the relaxation of regulation in the aviation sector, and the improvement of airport facilities did not promote an increase in the number. However, it is considered that convenience was enhanced by taking measures to cope with growing demand, including increasing the number of check-in counters, during the implementation period of this project.

airport was opened — was thought to be the capacity that the old airport could handle.¹¹ Furthermore, operation cost of airplanes for the increased number of flights was further added in recalculation, and as a result, the EIRR became 13.6%.

Considering the above, this project has largely achieved its objectives, and its effectiveness is high.

¹¹ In the economic analysis, the incremental benefits are examined by comparing the “with-project case” with the “without-project case.” At the time of appraisal, the benefits of the with-project case were calculated as the benefits realized by accommodating passengers and cargoes that exceeded (overflowed) the capacity of the old Tabing Airport. However, the old airport was handling a number of passengers that exceeded its capacity until the new airport opened in 2005, so the number of the passengers in 2004 — the year before the new airport was opened — was assumed as the capacity the old airport could accommodate.

2.4 Impact

2.4.1 Benefit for target area and beneficiaries

According to Pariaman regency, where the airport is located, the local government of the regency has arranged with PTAP 2 for residents of the regency to be employed in airport-related services on a priority basis. However, problems, minor ones at the current stage, have been pointed out that the disparity between the people benefiting from the operation of the airport and those who are not is widening. It is also noted that land prices have gone up. During interviews with the residents near the airport,¹² while positive influences, such as an increase in employment opportunities and an increase in the number of customers for existing businesses, were pointed out, negative effects, such as a decrease of agricultural land and frequent traffic accidents, were also pointed out.

Because the site of the new airport is on low marshy land at the mouth of the Anai River, the influence of flooding, etc. was a concern at the time of appraisal. For this reason, coordination with related organizations was needed to ensure that the airport would function. At the time of ex-post evaluation (September, 2008), a flood control project was planned near the airport, and it is thought that the project will protect the airport from flooding when it is completed.¹³

2.4.2 Impact on natural environment

During the construction period, environmental monitoring was performed on air quality, noise, vibration, dust, and water quality, but no particular negative impact has been reported to the executing agency.¹⁴ In addition, PTAP 2 Minangkabau International Airport, which conducts the O&M of the project, and the government of the West Sumatra Province have made monitoring reports biannually since 2006. The subjects of the monitoring are air quality, noise, vibration, water quality, etc. According to a report obtained in the latter half of 2007, the values were lower than the standard for environmental pollution set by the State Ministry of Environment as a whole¹⁵, but that of water quality is higher¹⁶. Therefore, improvement is required for the management of water treatment.

¹² Held in November 2008.

¹³ Padang new airport is located at the west of the irrigation area of Batang Anai Irrigation Project. According to BAPPEDA of West Sumatra, the flood control project near the region was scheduled to start in 2008 under financing by a governmental fund (according to an interview in September, 2008). An ODA loan may be used for the project, but the details of the time and the target area were not clear at the time of ex-post evaluation. If the flood control project is implemented with the airport being one of the beneficiary areas, the function of the new airport will be enhanced.

¹⁴ According to the consultant's Supervision Report in August, 2006

¹⁵ Such as the Regulation of the State Ministry of Environment No. 112 (2003)

¹⁶ TSS (Total suspended solids: Quantity of particles suspended in water, including soil, sand and organic substances, that make water cloudy.) The cause is considered to be wastewater from the tenants of the airport and the buildings surrounding the airport.

2.4.3 Impact on land acquisition and resettlement

Land acquisition of about 391 ha (including 267.8 ha state land) was conducted from 1985/86 to 1992/93 and 478 people were affected. The cost of land acquisition during the time was 2.36 billion Rp. A committee was formed for land acquisition, of which the chairman was the head of the regency office of the National Land Agency, and the members include heads of sub districts and villages. It is considered that the land acquisition for the first phase of this project is complete. However, part of the land acquisition necessary for future runway extensions and for the land near the airport where commercial development is planned, remains to be completed.

2.5 Sustainability (Rating: b)

2.5.1 Executing agency and O&M agency

Although DGAT has the right of ownership of the equipment and facilities installed/constructed under the project, the responsibilities of O&M have been transferred to various different organizations, depending on the characteristics of the respective equipment and facilities.¹⁷ Specifically, the responsible organizations are: PTAP 2, for airport-related facilities; Pertamina (a state owned oil and gas company), for the fuel supply system; BMKG (Badan Meteorologi, Klimatologi dan Geofisika, or Agency for Meteorology, Climatology and Geophysics), for the meteorological observation system; and the local government, for access roads. Minangkabau International Airport, which belongs to PTAP 2, performs the O&M of the airport. Minangkabau International Airport has 242 staff (as of September 2008), but according to calculations¹⁸ 286 people are required.

2.5.2 Technical capacity for O&M

During the construction period, factory training and on-site training were provided respectively at factories of manufacturers and airport facilities. During the six-month period before the opening of the airport, OJT (On-the-Job) training was given by staff dispatched from Soekarno-Hatta International Airport in Jakarta, which PTAP 2 controls. According to the Project Completion Report (PCR) as of the end of August 2006, however, sufficient educational training had not caught up with the needs for the O&M. It was reported that there were not enough staff members for computer operations or trainers for networking, programming, software and IT applications to operate Padang International Airport, which was newly equipped with many computerized equipment and facilities. According to the interviews

¹⁷ It was heard from PTAP 2 Minangkabau International Airport that the ownership of the airport-related equipment and facilities, the O & M of which PTAP 2 is responsible for, would be transferred to PTAP 2 at the end of 2008, but the transfer has not been decided yet as of November 2008. For accounting, however, they are recorded as the assets of PTAP 2.

¹⁸ The number of staff considered to be necessary for the work volume of respective posts is summed up.

held at the time of ex-post evaluation, it was considered that educational training and assignment of human resources to keep up with the O&M needs had remained to be an issue.¹⁹ When the PCR was made, re-training of the staff regarding computers, system application, and basic IT was envisaged²⁰.

2.5.3 Financial conditions for O&M

In and after 2006, net profits have been in the red due to the big amount of depreciation, but revenues have been increasing with the growing number of passengers. PTAP 2 expects the passenger increase to continue and also expects more than 2 millions passengers in 2011 (including the ones on international flights).²¹ Revenue sources are divided into aeronautical and non-aeronautical, and slightly less than 80% of the revenues are from aeronautical services. It is considered important to maximize non-aeronautical revenues to improve profitability. Such revenues come from rental fees from airline companies, travel agencies and tenants, and revenues from advertisement.

Table 8: Profit and loss statement of Minangkabau International Airport

Unit: Million Rp

Item	2004	2005	2006	2007
Operating revenues				
Aeronautical	18,309	24,913	32,890	37,787
Non-aeronautical	3,669	6,805	8,470	9,827
Total operating revenues	21,978	31,718	41,359	47,613
Non-operating revenues	1,814	559	991	317
Total revenues	23,792	32,277	42,350	47,930
Operating expenses				
Personnel expenses	11,454	13,321	17,817	18,806
Maintenance & inventory expenses	1,777	2,475	3,585	4,152
Rent expenses	1,164	3,395	5,015	5,253
General expenses & asset expended	784	2,056	4,384	4,824
Doubtful expenses ^{Note}	20	84	281	475
Depreciation & amortization expenses	989	856	48,237	48,506
Total operating expenses	16,188	22,187	79,318	82,016
Non-operating expenses	463	506	479	287
Total expenses	16,651	22,693	79,797	82,303
Profit and loss	7,141	9,583	(37,447)	(34,373)

Source: PTAP 2

Note: Details are unknown

2.5.4 Conditions of O&M of equipment and facilities

¹⁹ During the interview at the technical unit responsible for the O&M of electronic equipment, a lack of professional engineers for IT and networking, a lack of staff for a variety of equipment, including security check equipment, and the issue of securing spare parts stock were pointed out.

²⁰ At the time of ex-post evaluation, a concrete educational training plan for the future could not be confirmed at the PTAP 2 headquarters.

²¹ The airport facilities are being used more and more, and PTAP 2 was planning to extend the passenger terminal using its own funds in three phases from 2008. The floor area of the passenger terminal is 12,300m² and about 6,600m² is scheduled to be added. At the time of ex-post evaluation, bidding for the first phase construction was underway (September, 2008).

Most of the airport equipment and facilities are utilized, but the field survey has revealed that some are not used and some have problems. For example, an incinerator was installed by this project but is not used due to expensive operation costs, so the local government garbage collection service is used. The hanger (airplane shed) is not used, because airline companies are not using it.²² Although not written in the PCR, cracks on the edge of the runway were reported during the field survey. PTAP 2 is taking measures like injection of asphalt and also checking the runway three times a day.

Maintenance is done on daily, weekly, and monthly basis. The PCR pointed out that the maintenance system was not functioning on a satisfactory level. As a reason, it was pointed out that the technical staff was not skilled enough to provide high-quality equipment maintenance. An educational training course is considered to be necessary to upgrade the technicians' qualification.

As stated above, the sustainability of this project is recognized: however enhancement of training for the operation and maintenance of computerized and other kinds of equipment should have been started before the transfer to the new airport from the old airport. Therefore, the sustainability of the project is fair.

3. Conclusion and Lessons Learned/Recommendations

3.1 Conclusion

In the turmoil after the resignation of President Soeharto, project completion was delayed, but outputs almost the same as those in the original plan have been achieved. Passenger demand has been increasing dramatically thanks to the economic recovery after the Asian currency crisis and the relaxation of regulations, and the airport newly built in the suburban area is considered to have produced the effect of relieving congestion and increasing the use of safe aviation services. Educational training and appropriate assignment of the staff for airport management and O & M are the issues to be addressed from now on.

3.2 Lessons learned

None

3.3 Recommendations

It is recommended that the technical assistance from an external organization be extended during the project implementation period by keeping in mind that the O&M agency enables

²² It was heard from PTAP 2 Minangkabau International Airport that, although they had asked airline companies to use the hanger at the airport, the companies prefer to conduct airplane maintenance at their respective home bases. The hanger of this airport is not used, since no airline company has adopted them as a maintenance base for airplanes.

smooth transfer and dissemination of procedures and technologies within their organization in order to operate and maintain the equipment and facilities provided under the project.

Comparison of Major Plan and Actual

Item	Plan	Actual
<p>1. Outputs</p> <p>(a) Civil works</p> <p>(b) Consulting Service</p>	<p>(1) Basic facilities: Construction of a runway (2,500m) and taxiways</p> <p>(2) Terminal: Construction of new apron (including passenger terminal apron 37,800 m²), new passenger terminal (12,570 m²), and new cargo terminal (1,850 m²)</p> <p>(3) Air traffic control: Renewal of equipment and facilities</p> <p>(4) Other facilities: Construction of air navigation facility and utilities</p> <p>Total: 1,028 M/M</p> <p>a) Foreign: 344 M/M (Professional A)</p> <p>b) Local: 684 M/M (Professional B and C)</p>	<p>(1) Basic facilities: Construction of a runway (2,750m) and taxiways</p> <p>(2) Terminal: Construction of new apron (including passenger terminal apron 37,800m²), new passenger terminal (12,300m²), and new cargo terminal (1,344m²)</p> <p>(3) Air traffic control: Renewal of equipment and facilities</p> <p>(4) Other facilities: Construction of air navigation facility and utilities</p> <p>Total: 1,189 M/M</p> <p>a) Foreign: 381 M/M (Professional A)</p> <p>b) Local: 808 M/M (Professional B)</p>
<p>2. Period</p> <p>Employment of consultant</p> <p>Procurement of contractor</p> <p>Civil works</p> <p>Guarantee period</p>	<p>November 1996 – March 2002 (6 years and 5 months)</p> <p>July – December 1996</p> <p>December 1996 – May 1998</p> <p>June 1998 – March 2001</p> <p>April 2001 – March 2002</p> <p>Opening of the airport in April 2001</p>	<p>December 1996 – June 2006 (9 years and 7 months)</p> <p>July 1996 – July 1997</p> <p>October 1997 – December 2001</p> <p>April 2002 – June 2005</p> <p>June 2005 – June 2006</p> <p>Opening of the airport in July 2005</p>
<p>3. Project cost</p>		

Foreign currency	11,750 million yen	9,592 million yen
Local currency	9,588 million yen (208,435 million Rp)	2,195 million yen (168,846 million Rp)
Total	21,338 million yen	11,787 million yen
ODA loan portion	16,004 million yen	10,328 million yen
Exchange rate	1 Rp = 0.046 yen (As of 1996)	1 Rp = 0.013 yen (Weighted average rate of 1997 – 2006)