

1. Project Profile and Japan's ODA Loan



Site Map: Ciudad del Este, Alto Paraná



Site Photo: Terminal in the Airport

1.1 Background

In the 1970's, at the time this project was in the planning stage, the Paraguayan government was aware that the country was behind on construction of infrastructure in the transportation sector and of the bottleneck effect that lag was having on economic and social development. It was then that the government began to place more emphasis on infrastructure. Due to the fact that Paraguay is a landlocked country, air travel is a major form of transportation, so the government focused on the expansion of airport facilities in order to accommodate growth that was forecast in air transportation demand.

At that time, the only international airport in Paraguay was located in the capital of Asunción. In inclement weather when international flights could not land at that airport, they were forced to return to airport from which they departed or to land at neighboring Argentina. From an air transportation safety standpoint, the construction of an alternative airport was a major issue.

The area in Alto Paraná where the new airport construction was planned is one that is rich in development potential as it has abundant agriculture, forestry, electricity, and tourism resources. After the area was designated an important region for agricultural, commercial, and tourism development, the "Alto Paraná Development Plan" was created. This project was given priority and placed at the heart of that plan.

1.2 Objectives

The goal of this project was to build an international airport that would allow for B-747 class airplanes to take off and land at a point 24 km west of Ciudad del Este (formerly Ciudad Presidente Stroessner), a major urban area in Paraguay, and to accommodate future air transportation growth.

1.3 Project Scope

This project comprises the following:

a) Civil engineering

1 runway (3,400m x 45m), 2 taxiways, 6 berth apron (46,200m²), small aircraft apron, (68,000m², sod), internal roads, access roads, parking areas

b) Buildings

Passenger terminal (8,100m²), cargo terminal (1,800m²), airport administration building, airport traffic control tower, fire station, power station, substation, navigational system facility building

c) Aviation security facilities

Air traffic control and communications equipment, navigational radio equipment, meteorological services, navigational lighting system, power service

d) Other

Fuel supply services (following revision of the scope of construction at the 1989 administration change, an agreement was made between the Ministry of Public Works and Communications and a private fuel company that fuel supply services would be provided by the private fuel company and this item was therefore removed from the scope of construction), related utilities (water supply, sewage disposal, etc.)

The target of yen loans is the external loan portion of the project scope excluding the aviation security facilities.

1.4 Borrower / Executing Agency

Government of Paraguay / MOPC: Ministry of Public Works and Communications (Ministerio de Obras Públicas y Comunicaciones)

1.5 Outline of Loan Agreement

Loan Amount	11,300 million yen
Loan Disbursed Amount	10,700 million yen
Date of Exchange of Notes	June 1980
Date of Loan Agreement	December 1980
Teams and Conditions	
Interest Rate	4.25 %
Repayment Period (Grace Period)	25 years (including 7 year grace period)
Procurement	Partial untied
Final Disbursement Date	December 1994

2. Results and Evaluation

2.1 Relevance

At appraisal time, Paraguay had only one international airport in the capital of Asunción. The construction of a new airport that would accommodate future air transportation demands was therefore given priority in the Five-Year National Economic and Social Development Plan (1977-81). The Alto Paraná Development Plan (1977-81) also included a recommendation for the timely construction of a new airport, based on this project. The project, therefore, is consistent with the National Development Plan and thus valid.

Although the plan was to accommodate growth in air transportation demand, section (3) Results of this paper shows that the actual demand was much less than originally expected. In retrospect, more careful analysis of demand should have been conducted, and careful study of the construction timeline and project scale based on that analysis was necessary. This is especially true when considering the competitive relationship with existing ground transportation and the international airports in neighboring countries of Brazil and Argentina.

2.2 Efficiency

2.2.1 Project Scope

2.2.2 Implementation Schedule

Actual construction under this project was delayed by approximately six years from the original appraisal plan from April 1982 to March 1988 for various reasons. Project costs increased as a result of the second oil shock that occurred prior to the completion of project designs. Finance agreement negotiations for the procurement of domestic funding to deal with the situation took time. Bid evaluation, approval of procurement, and a delay in budget allocation all resulted in a delay in land acquisition.

A further three-year delay occurred after construction was started, so that the actual project was completed in August 1993, nine years after the planned completion date (September 1984). This delay was caused by a loan suspension in October 1988 due to cross-default terms on financing from a private banking group for the domestic loan portion and as previously mentioned, and by the partial change to the project scope resulting from national project plan revisions accompanying the administration change.

2.2.3 Project Cost

Yen-loan financing was intended to facilitate the construction of a runway, access roads, parking areas, a passenger terminal building, a cargo terminal building, an airport administration building, an airport traffic control tower, a fueling facility, and related facilities (facilities for water supply and drainage, etc.).

As a result of the administration change in February 1989, national projects were revised resulting in a scale-down of the project that would not interfere with its operation. Along with the change in scope of the project, the U.S. Dollar – Yen – Guaraní exchange rates fluctuated greatly between the time of the appraisal (1980) and the beginning of actual construction (early 1990's), frustrating the comparison of planned versus actual results. However, the yen loan-related portion of the planned project cost was ¥17.8 billion and actual costs were just two-thirds of that, at ¥11.4 billion.

2.2.4 Others

This project was implemented by the Directorate General of Public Works under the direction of MOPC, along with the support of consultants. There were no concerns about the ability of the Directorate General of Public Works to implement this project, as it is experienced in implementing road projects and has airport project experience gained from the expansion construction of the Asunción Airport. Review of the project indicates that timely implementation of bid evaluation and land acquisition and quick decision-making were necessary.

2.3 Effectiveness

① Passenger statistics

Ciudad del Este International Airport passenger statistics and aircraft takeoff and landing figures are shown below in Tables 1 and 2. In the past five years, the actual numbers of passengers who utilized the airport reached a peak in 1996 as shown in Table 1 and have since declined. This is a result of the difference in forecast passenger figures (expected to be 325,000 international and 214,000 domestic in 1994) and actual passengers (less than 1/20 of the forecast for international, less than 1/5 of the forecast for domestic), as mentioned earlier.

The large disparity between forecast and actual figures is mainly due to the fact that the forecast figure of economic growth (6%) was the basis for predicting future demand, but in fact, due to the serious long-term economic stagnation experienced by Paraguay and other countries in Central and South America during the 1980's, average actual figures for the 1980's were much lower than the forecast, at only 3.1%.

In addition, regular domestic flights from Ciudad del Este Airport currently only provide service

between Ciudad del Este and Asunción. Gradual improvements to the national highway between Ciudad del Este and Asunción (roughly 300 km) were made after the planning of the project, resulting in the highway offering more convenience than air transportation. Moreover, within a 50 km radius of the Ciudad del Este Airport in Brazil and Argentina there are already international airports (Foz do Iguazu Airport and Puerto Iguazu Airport) that are more convenient and have better lodging facilities than the Ciudad del Este Airport. Consumers in Ciudad del Este, in the border region of these three countries, choose the most economical and effective airport. The Ciudad del Este Airport ranks behind the Brazil and Argentina airports because the large number of takeoffs and landings these airports offer makes them very convenient.

At the time of planning, the Ciudad del Este Airport was expected to provide regular international service to Buenos Aires, Sao Paulo, Rio de Janeiro, Lima, and Madrid, but in fact is only providing regular service to Sao Paulo. This is largely due to the fact that the sale of the national airline resulted in sluggish growth of service routes and numbers of flights.

Table 1: Change in passenger numbers (Ciudad del Este Airport)

	1996	1997	1998	1999	2000
International passengers (persons)	15,171	12,640	12,723	10,734	13,718
Domestic passengers (persons)	43,870	36,482	34,408	37,022	34,161

Table 2: Aircraft departures and arrivals (Ciudad del Este Airport)

	1996	1997	1998	1999	2000
International departures and arrivals	720	1,002	1,007	1,264	1,134
Domestic departures and arrivals	4,685	3,980	3,584	5,547	5,596
Total	5,405	4,982	4,591	6,811	6,730

Note: Departures and arrivals are the total number of takeoffs and landings (including cargo flights)

Source: DINAC (National Directorate of Civil Aviation: Dirección Nacional de Aeronáutica Civil)

② Cargo transport statistics

At the time of appraisal, the forecast cargo transport volume was 5,000 tons (1994), and as Table 3 shows, actual results to date are close to that figure. This is thought to be due to the fact that once the project was completed, the large number of duty-free shops in Ciudad del Este chose the Ciudad del Este Airport as their import route for goods that had previously been imported through Asuncion Airport or Brazil's Foz do Iguazu Airport. However, it should be noted that following a peak in transport volume in 1998, the figure has been decreasing against the backdrop of a sudden worsening of the entire South American economic situation.

Table 3. Amount of cargo handled (Ciudad del Este Airport)

	1996	1997	1998	1999	2000
Cargo handled (tons)	5,702	8,956	10,218	5,877	3,992

③ Internal rate of return

The economic internal rate of return (EIRR) at the time of appraisal was calculated at approximately 10%, with the expectation that the main benefits would be a time-savings mainly for international passengers and an increase in foreign currency earnings from foreign passengers. Based on this

assumption, it was expected that the passenger figures of 325,000 international travelers and 214,000 domestic travelers in 1994 would continue to grow steadily. However, as indicated above the actual figures were less than 1/20 of the forecast international figure and less than 1/5 of the forecast domestic figure. Under these conditions, even if the EIRR were recalculated now, it would be difficult to obtain meaningful results.

2.4 Impact

2.4.1 Economic impact

The project is considered to be contributing to the economic activities of Ciudad del Este, in that it has nearly met with the original planned figure for air cargo transportation. However, since the actual number of airline passengers is substantially less than expected, the primary goal at the beginning of the project that was to contribute to regional economic and tourism growth has not been fully achieved.

2.4.2 Environment

According to airport administration, this airport is near farmland and forest lands. There have been no reported ambient noise-related problems, and the sewage created by facilities at the airport is processed at an osmosis type sewage treatment facility within the airport. Therefore we see no impact to the surrounding environment.

2.5 Sustainability

2.5.1 Operation and Maintenance

The National Directorate of Civil Aviation (Dirección Nacional de Aeronáutica Civil: DINAC¹) maintains and manages the Ciudad del Este International Airport under the jurisdiction of the Ministry of National Defense. MOPC constructs facilities and installs equipment at the Asunción and Ciudad del Este Airports, and the maintenance and management is performed by DINAC. The facilities of both airports should be shifted to DINAC as assets, and procedures for such transfer are currently underway.

The General Affairs Office of DINAC comprises a Navigation Division, Airport Division, and a Meteorology and Hydrology Division, with the Ciudad del Este International Airport belonging to the Airport Division. The Airport Division also directs the maintenance and management of the Asunción International Airport. The approximately 80 employees and 50 contract workers that make up the Ciudad del Este International Airport Maintenance and Control Section are divided into five divisions: Operations, Maintenance, Management, Control, and Air Cargo. At present, there seem to be no difficulties with airport maintenance and management.

2.5.2 Financial Status

The two international airports of Asunción and Ciudad del Este maintained and managed by DINAC are each recording a profit. However, that does not mean that they are operating under financial autonomy. Ciudad del Este International Airport's revenue comes mainly from commercial airlines and airport use fees and transit fees paid by passengers. Expenses are mostly payment of personnel costs under contracts.

According to DINAC's profit and loss statement (see Table 4 below), as of 2000, revenue has only grown 3%. At the same time, personnel costs increased by 9%, and current net earnings dropped 53% over 1999 and remain at 2.3 billion guaraní. The increase in personnel costs was due to a pay increase for senior level employees who had previously been paid the same as lower level employees. Non-personnel costs also increased 34% over the previous year, but this was due mainly to an increase in the maintenance

¹ At the time of appraisal DINAC was ANAC (established 1951) under the Ministry of National Defense, and was responsible for airport maintenance and management with financial autonomy. In addition, the DGAC (Directorate of Civil Aviation, Dirección General de Aeronáutica Civil: established 1950) under the Ministry of National Defense was responsible for airport administration and management. In 1990 at the time of implementation of this project, these two organizations merged and became DINAC. DINAC has corporate status and has financial autonomy, however, in reality it is a public corporation.

and management costs of airport-related equipment and a request in 2000 from the government to improve basic service. Fees of commission paid increased 8% year-on-year. This included contributions to international organizations and a variety of other projects, payment to the Trust Fund of Ministry of Finance, and compensation to voluntary retirees.

Table 4: DINAC Financial Data (Profit and Loss Statement)
(Unit: million guaraní)

	2000	1999	% change
Revenue			
Operating Revenue	1,729	1,653	5%
Air transit fees*	15,683	13,969	12%
Cargo airport usage fees	16,245	16,501	-2%
Passenger fees	6,551	5,833	12%
Apron service	2,113	1,985	6%
Parking fees	499	509	-2%
Commercial facility revenue	2,848	2,454	16%
Other revenue	759	777	-2%
Financial revenue	2,980	3,332	-11%
Foreign exchange gains and losses	1,897	2,892	-34%
Total revenue	51,304	49,905	3%
Expenses			
Personnel costs	32,556	26,883	21%
General management fees	5,414	4,044	34%
Material fees	1,936	2,409	-20%
Commission paid fees**	1,555	1,437	8%
Taxes	1,674	3,427	-51%
Cargo handling fees	5,766	6,569	-12%
Extraordinary loss	100	192	-48%
Total expenses	49,001	44,961	9%
Net Current Earnings	2,303	4,944	-53%

* Air Transit Fees: Navigational system facility usage fees collected from aircraft passing through Paraguay's airspace

** Commission paid fees: Contributions to international organizations, etc.

In summary, while the project is profitable and in an overall good condition, since the average collection period of 30% of sale proceeds exceeds 90 days, and 70% exceeds 180 days, accounts receivable collection is not going well. From a balance-base standpoint, at the end of 2000 the accounts receivable balance was approximately 41% of the total of air transit fees and airport usage fees. It is imperative that these conditions be improved. As shown in the balance sheet of Table 5 below, DINAC's debt ratio is low and much of its assets are in cash equivalent, so the situation is comparatively sound. This is due to the fact that DINAC does not hold the airport's assets (Asunción, Ciudad del Este)², and therefore does not have a long-term debt burden.

In this respect, while there is some room for improvement in DINAC's financial situation, it is at present relatively sound and there are enough financial resources to

² The costs of the investment and loans to build the airport are covered by MOPC's regular budget.

perform maintenance and management. However, in the future when airport assets are transferred, if one of the terms of such is that the obligations of fixed asset taxes³ and repayment of the debt and financing costs are to be borne by DINAC, the financial situation would be different from the current one, making a new analysis necessary.

Table 5: DINAC's Financial Status (balance sheet) (Unit: million guaraní)

	2000		2000
Assets		Liabilities	
Cash equivalent	25,034	Loans	2,095
Accounts receivable	13,140	Other liabilities	828
Inventory	9,025	Contract guarantee	1,140
Fixed assets	21,426	Loan loss reserve	8,209
Deferred assets	229	Total liabilities	12,273
Other assets	10,104	Capital	
		Assets	24,143
		Capital reserve	14,255
		Earned surplus	563
		Retained earnings	25,423
		Current profit	2,300
Total assets	78,957	Total liabilities and capital	78,957

3. Lessons Learned

Plans such as this project that are based on an assumed increase in new demand, involve a high degree of uncertainty. Factors that might affect demand forecasts should therefore be considered carefully, and the timing of implementation as well as the scope of projects should be carefully investigated prior to undertaking a project.

4. Recommendations

N/A

³ DINAC has the obligation to pay taxes and is actually paying taxes as indicated in Table 4.

Comparison of Original Plan and Actual Scope

Item	Plan	Actual
1. Project Scope (Target of yen loans)	<p>Civil engineered facilities</p> <ul style="list-style-type: none"> • 1 runway 3,400 m x 45 m • 2 taxiways 1,400 m • 7 berth apron • Parking areas • Access roads • Traffic/maintenance roads <p>Architectural facilities</p> <ul style="list-style-type: none"> • Passenger terminal/administration building (13,000 m²) • Cargo terminal (1,600 m²) • Traffic control tower • Fire station <p>Air navigation aids</p> <ul style="list-style-type: none"> • Air traffic control and communication facility • Air lighting facility <p>Other related facilities</p> <ul style="list-style-type: none"> • Air fuel storage facility • Water supply and drainage facility • Waste disposal facility <p>Consulting Services</p>	<ul style="list-style-type: none"> • Runway shoulder - cancelled • Each shortened to 1,300 m • Reduced to 6 berth • Area reduced to 60% of planned • As planned • Maintenance roads reduced to approx. 1/3 <ul style="list-style-type: none"> • Area reduction (9,400 m²) • Area reduction (1,200 m²) • Reduction to 1,600 m² • As planned <ul style="list-style-type: none"> • Change to radar facility • As planned <ul style="list-style-type: none"> • Cancelled • Change to design, route, etc. • Cancelled <p>Unknown</p>
2. Implementation Schedule	Apr 1982 through Sept 1984	Mar 1988 through Aug 1993 (9 year delay in completion of construction vs. planned)
3. Project Cost	(Portion associated with yen loans)	
Foreign Currency	US\$47.3 million (11,300 million yen)*	10,800 million yen
Local Currency	US\$26.9 million (approx. ¥6,500 million yen) *	533,000 million yen 11,400 million yen
Total	US\$74.2 million (approx. 17,800 million yen)*	10,700 million yen
ODA Loan Portion	¥11.3 billion	¥1 = 2.076 guaraní
Exchange Rate	US\$1 = 240.00 yen (1980 exchange rate)	(weighted average)

*The yen loan amount (external financed project fees) was established in yen terms at ¥11.3 trillion, while the domestic financed project fees were planned in dollar terms. Figures for domestic financing and the total project fees that have been converted to yen are shown in this table for reference only.