China

Urumuqi International Airport Expansion Project

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Field Survey: October 2005

1. Project Profile and Japan's ODA Loan

Map of project area

Domestic Terminal at Urumuqi Airport

1.1 Background

Ever since China initiated its Open Door Policy in 1978, China's airline traffic has exhibited extraordinary growth. From 1980 to 1990, the number of passengers and the amount of cargo on average handled respectively rose 18% and 15% annually, while between 1991 and 1995, these same variables increased an astounding 25.3% and 22.3%, respectively.

The Xinjiang Uyghur Autonomous Region is located in the northwesternmost part of China. With an area of 1.66 million km^2—roughly 4.4 times the size of Japan—it is China's largest administrative district. It borders on eight Central Asian countries, including Kazakhstan and Kyrgyzstan. Because Xinjiang is rich in natural resources, including natural oil, iron, and gas from the Tarim Basin, it has become a base point of international trade to Europe, Western Asia, and South Asia. Xinjiang has a wealth for tourist attractions, including landscape, minority peoples, the Taklamakan desert (China's largest), and cultural assets and historic ruins centering on the Silk Road. Urumuqi city, the capital of the autonomous region, is expected to become a major hub for resources and transportation of commerce and travelers, and so demand for more flights was anticipated in keeping with the Great Western Development Project.

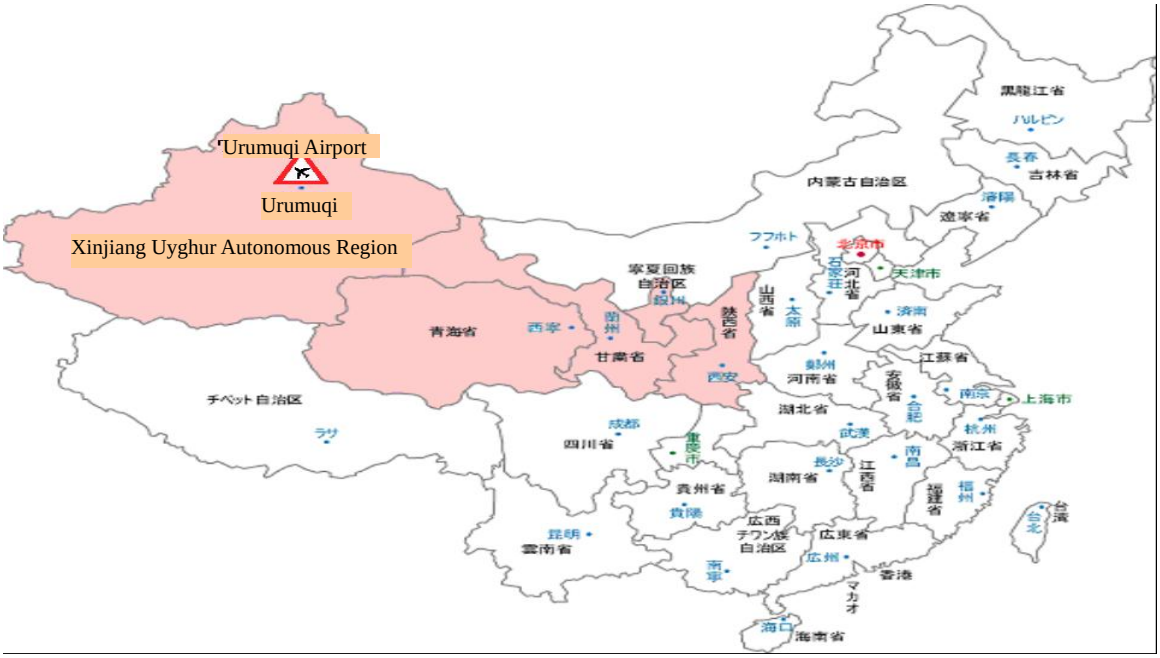
Opened in 1973, the Urumuqi-Diwopu airport is not only a major international airport for China but also the gateway to the Xinjiang Uyghur Autonomous Region. At the time of the initial appraisal, the airport facilities had deteriorated to the extent where they

jeopardized flight safety. In addition, large planes could not take off from or land on the airport's runway, and there was concern that the airport could not accommodate the rapidly increasing demand for air travel.

1.2 Objectives

By providing a passenger terminal and aviation safety facilities at the Urumuqi airport in Urumuqi city, capital of the Xinjiang Uyghur Autonomous Region, this project aims to enhance flight safety and meet rising demand for air travel in the future in the northwestern region of the country, thereby promoting sightseeing and stimulating economic activity.

Fig. 1 China's Northwestern Region



1.3 Borrower/Executing Agency

People's Republic of China's Ministry of Foreign Trade and Economic Cooperation/Civil Aviation Administration of China[1]

Executing Agencies: Urumuqi Administrative Bureau of the Civil Aviation Association of China (at the time of initial appraisal)
Xinjiang Administrative Bureau of the Civil Aviation Association of China (at the time

[1] After 1999, the borrower of the ODA yen loan to China changed to the Finance Ministry of the PRC government.

of evaluation)
Operation, Maintenance, and Management: Urumuqi Administrative Bureau of the Civil Aviation Association of China (at the time of initial appraisal)
Southern Aviation's Xinjiang Region Company Air Management Division, Xinjiang Airport Co., Ltd. (at the time of follow-up evaluation)

1.4 Outline of Loan Agreement

Loan Amount/ Disbursed Amount	4,890 million yen/3,386 million yen
Exchange of Notes Loan Agreement	December 1996 December 1996
Terms and Conditions - Interest Rate - Repayment Period (Grace Period) - Procurement	 2.3% 30 years 10 years General untied
Final Disbursement Date	March 2004 (following postponement)
Main Contractors	Local companies
Consulting Services	-
Feasibility Study (F/S) etc.	Feasibility study conducted by the Chinese government: April 1993 Basic plan designed by the Chinese government: December 1993

2. Evaluation Result

2.1 Relevance

At the time of the initial appraisal, improving service, modernizing the airport, and ensuring the safety of private aircraft transportation were major topics of discussion in the aviation sector. China's Ninth Five-Year Plan (1996-2000) targeted the expansion and building core national and regional airports[2] and the development of 32 airports in

[2] China's airports are broadly categorized into nationwide and regional hub airports, major route airports, and local airports depending on their service role and the kind of aircraft that can land at them. As of 2003, three cities and four airports were designated nationwide hub airports—namely Beijing, Guangzhou, and Shanghai (which has two airports: Shanghai Hongqiao Airport and Shanghai Pudong International Airport). Six airports were considered major airports at the regional level: Shenyang, Wuhan, Chengdu, Xian, Kunming, and Urumuqi. In addition, there were 49 major route airports and 73 local airports.

31 provinces and autonomous regions capitals and tourist cities. In the development plan for the Xinjiang Uyghur Autonomous Region, much emphasis was laid on the provision of airport infrastructure as a means for stimulating the tourist economy in particular and the regional economy. The expansion of the Urumuqi airport was positioned as one of 28 important projects. The project entails the expansion of the Urumuqi airport, China's westernmost gateway to foreign air travel and the base airport for the autonomous region. At the time of the appraisal, relevance was deemed high.

China's 10th Five-Year Plan (2001-2005) also raised the notion of providing an aviation network through the building of regional airports in the western region and the expansion and building of core and hub airports. The Xinjiang Uyghur Autonomous Region Development Plan suggested establishing an integrated transportation system. It explicitly mentioned that in order for the Urumuqi airport to fill the functions and duties expected of an international airport connecting Europe and Asia, it is important to complete the present project. In this respect, the project is meant to help cope with the rising demand for air travel inside the country and between Europe and Asia. As such, the project's relevance is well appreciated.

2.2 Efficiency

2.2.1 Outputs

Planned output at the time of the appraisal is listed in items 1-6 below. Except for the construction of the runway, the yen loan was expected to target the entire foreign currency portion of project costs. However, in the end, the yen loan only funded construction of the passenger terminal and the provision of special vehicles. The need to build hangars, develop airline safety equipment, and install a fuel supply facilities became evident following construction of the runway, which had been prioritized and funded using domestic currency. Resulting delays in procedures by the Chinese government meant that the loan agreement did not come into effect until September 1997, and so the construction of hangers and the like was accomplished using domestic currency.

1) Runway construction
2) Construction of a passenger terminal and related facilities (passenger lodgings)
3) Hanger construction
4) Installation of air safety equipment
5) Provision of special vehicles

6) Equipment of other facilities (heating system, water supply and drainage facilities, and a fuel supply system, etc.)

As shown in Fig. 1, except for the domestically funded runway, extensive changes were made. For the most part, this was due to the fact that air travel demand rose, and to the fact that the project scale was expanded to realize multilateral customer service.

Table 1. Comparison of Planned and Actual Output

	Ouput	Planned	Actual
(1)	Runway	3,600m x 45m	3,600m x 45m
(2)	Passenger terminal Boarding bridges Related facilities	40,000m^2 expansion 7 locations (4 domestic and 3 international) Passenger lodging facilities	47,800m^2 expansion 7 locations (all domestic)
(3)	Hangar	8,000m^2	14,703m^2 An office building and an annex were additionally constructed. Total construction area 34,409m^2
(4)	Air safety equipment	Telephone switching equipment Airport communications system Voice recorders Flight assistance central surveillance system, etc.	Ground communications equipment Air traffic communication equipment Weather satellite system, etc.
(5)	Special vehicles	99 vehicles (47 types)	26 vehicles (12 types)
(6)	Other facilities	Heating facilities Water supply and drainage facilities Fuel supply facilities	Heating facilities, water supply and drainage facilities, fuel supply facilities, ticket office and attached facilities, general office building, automobile repair station, fire fighting facilities, and a cargo

			transportation storehouse, etc.

2.2.2 Project period

At the time of the appraisal, the work period was scheduled to last 25 months from December 1996 to December 1998. In fact, the project ran a total of 61 months (244% of the scheduled duration) from December 1996 to December 2001[3]. The work period was prolonged mainly for the following reasons. First, extra time was needed to complete formalities involving the Chinese government, and the time when the loan agreement went into effect was delayed. Second, the total investment amount increased on account of exchange rate fluctuations and an expansion of output targets, and so additional time was needed to procure domestic funds. Third, changes were made to the site selection as well as to the scale and standards applied to the construction work, and so while parts of the plan were being reconsidered, the construction work had to be proceeded. Fourth, a year was needed to complete validation of the execution because cavities were found in the ground. Finally, extra time was needed to procure various items because the Chinese government changed the procurement list three times.

2.2.3 Project cost

Actual project costs corresponding to JBIC-confirmed output came to 25,333 million yen (of which 3,386 million were from the yen loan). This compares with a planned figure of 17,458 million yen (of which 4,890 million was in yen loans). The loan amount was within planned targets, but overall increased 45% on a yen basis and 7% on a yuan basis. The main reasons for an increase in project costs was that the Chinese yuan plunged 35% relative to the yen from the time of appraisal, and that the scale of the passenger terminal and hangar was expanded.

The scale of the project exceeded its initial design at time of appraisal mainly on account of a rapid expansion in air travel demand. As a result, time-consuming procedures extended the project period, project costs rose, and overall project efficiency decreased.

2.3 Effectiveness

2.3.1 Handling the rising demand for air travel

2.3.1.1 Airport facilities

[3] This was the work period up to the completion of the passenger terminal. The locally financed ticket office and annex facilities are still under construction.

Table 2 compares the main facilities at Urumuqi airport before and after project execution. The passenger terminal prior to project execution combines a domestic terminal built in 1973 and an international terminal built in 1995. The terminal's total floor area was 14,000m^2. The total floor area of the domestic passenger terminal was 61,800m^2, 4.4 times the size prior to project execution. The number of domestic airline check-in counters increased from 13 to 40, and are now able to accommodate the number of passengers at peak times. Whereas before there was only one boarding bridge for international airlines, now seven new boarding bridges have been added for domestic airlines. Because of the limited pavement strength of the runways, the largest aircraft that could land at the airport was an Ilyushin 86 (350 passengers); after the project, however, Boeing 747-700 jumbo jets were able to land. As described above, the airport facilities were greatly expanded, and its capacity, convenience, and safety was improved.

Table 2. Comparison of Main Facilities Before and After Project Execution

	Pre-Project Facilities	Post-Project Facilities
Surface area of the terminal	14,000m^2	61,800m^2
No. of check-in counters	13 for domestic airlines 5 for international airlines	40 for domestic airlines 5 for international airlines
Runway	3,200m x 50m	3,600m x 45m
Largest aircraft capable of landing at the airport	IL-86	B747-700
Boarding bridges	One bridge for international airlines	1 for use by international airlines 7 for use by domestic airlines

Source: Japan Bank for International Cooperation (JBIC) study data, and the Xinjiang Airport Co., Ltd.

Boarding Bridge

Departure Lobby

2.3.1.2 Number of arrivals and departures

The number of arrivals and departures at Urumuqi airport was 12,012 in 1997. Following the completion of the new runway, this figure rose to 14,278 in 1998, and then fell slightly to 14,134 in 1999. This drop is attributed to the fact that in 1999, Xinjiang Airlines Company, which bases its operations in the airport, had to retire 154 of its Tupolev airliners, resulting in a loss in transportation capacity. Against this backdrop, whereas 25,792 arrivals and departures were planned for the year 2000, only about 60% that many flights (15,360 in all) actually took place. However, following the end of 2001, the airline market was liberalized, and the number of arrivals and departures suddenly rose. In 2004, flights reached 44,102, exceeding the 2005 target of 39,832; and in 2005, there were a total of 47,394 flights. Among the 26 airports in the northwestern region, over the 10-year period from 1994 to 2003 30% of total increases in all departures and arrivals were at Urumuqi Airport, second only to Xian airport (35%). Thus, Urumuqi airport's important role in the region is well recognized.

The number of airline companies that use the Urumuqi airport increased from 28 in 1992 to 39 in 2005. The number of domestic airline flights increased by nearly 1.75 times, from 44 routes and 199 flights per week in 1994 to 77 routes and 1,820 flights per week in 2005. In addition, the number of routes of periodic flights for international airlines rose from two countries two routes[4] two flights per week in 1996 to 13 countries, 14 routes[5], 54 flights per week in 2005.

[4] Almaty, (Kazakhstan), Tashkent (Uzbekistan).

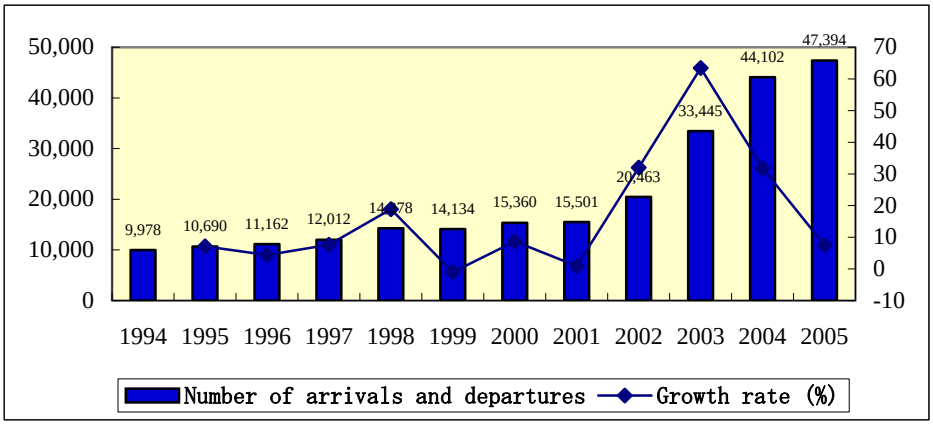
[5] Almaty, (Kazakhstan), Tashkent (Uzbekistan), Ashgabat (Turkmenistan) Dushanbe (Tajikistan), Bishkek (Kyrgyzstan), Baku (Azerbaijan), Moscow, New Siberia (Russia), Islamabad (Pakistan), Tehran (Iran), Sakya (United Arab Emirates), Kabul (Afghanistan), Seoul (Korea), Frankfurt (Germany).

Table 3. Number of arrivals and departures at Urumuqi airport

No. arrivals and departures	1997	1998 Runway completed	1999	2000 Terminal completed	2001	2002	2003	2004	2005
Target	-	-	-	25,792	-	-	-	-	39,832
Actual	12,012	14,278	14,134	15,360	15,501	20,463	33,445	44,102	47,394

Source: Xinjiang Airport Co., Ltd.

Fig. 2 Number of arrivals and departures at Urumuqi airport and growth rate



2.3.1.3 Number of passengers

As shown in Table 4, the number of passengers at Urumuqi airport in the year 2000 was 1,598,000 or 61% of the target figure of 2,600,000. From 1996, the time of the appraisal, to 2005, the average growth rate was 14.9%, exceeding the predicted rate of 12%, though it was affected temporarily by the Asian economic crisis of 1997. Around the time of 11 September in 2001, repeated terror incidents dampened the number of travelers once again, especially for international airlines. Following 2002, the number of flights increased as momentum rose above expectations: in 2004 there were 3.89 million passengers (105% of target), and 2005 saw 4.42 million passengers, 109% above the initial target of 4.05 million. Both the Great Western Development Project and

liberalization of airfares that was accompanied by intense competition among airlines are thought to have contributed to the decrease in airfares, thereby increasing the number of passengers.

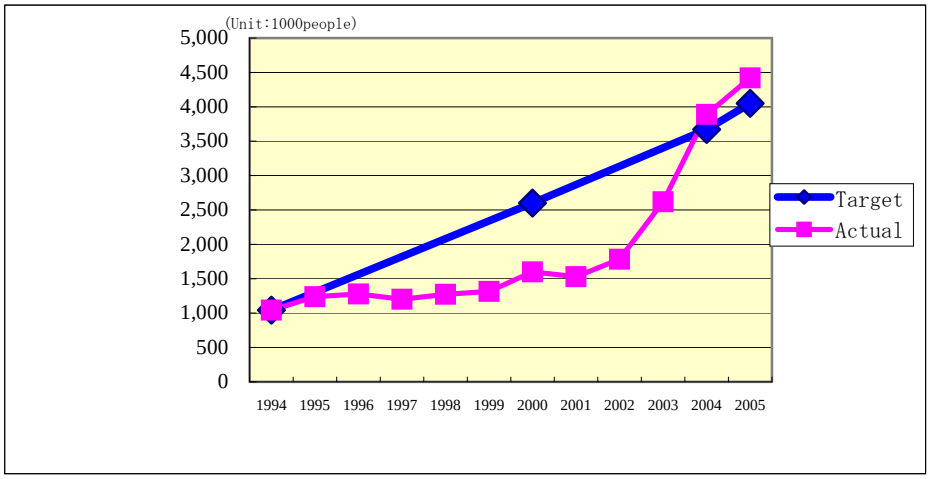
Table 4. Change in the Number of Passengers at Urumuqi Airport

(Unit: 1000 people)

No. of Passengers	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Target	-	-	-	-	-	-	2,600	-	-	-	3,670	4,050
Actual	1,043	1,238	1,278	1,201	1,274	1,315	1,598	1,530	1,784	2,619	3,890	4,421

Source: JBIC study data, Xinjiang Airport Co., Ltd.

Fig .3 Target and Actual Number of Passengers in Urumuqi Airport



2.3.1.4 Volume of cargo handled

The rise in average annual volume of cargo handled was expected to be 12%. In 2000, 23,000 tons of cargo were expected, and in 2005, 41,000 tons of cargo were anticipated. In fact, the average annual increase from 1996 to 2005 was actually 14.9%, surpassing expectations. In the year 2000, 37,980 tons of cargo were transported (165% of the target). In 2001, on account of the terrorism incidents surrounding 11 September, the amount of cargo transported fell temporarily, but in 2004 cargo volume was 45,995 tons (128% of targets), in 2005 it was 61,617 tons (150% of target), well above hoped for initial target figures. Cooperation in regional economic trade was strengthened between various Central Asian countries and the Xinjiang Uyghur Autonomous Region, and the fact that cargo charter flights increased is a primary factor for the increase in the volume of cargo.

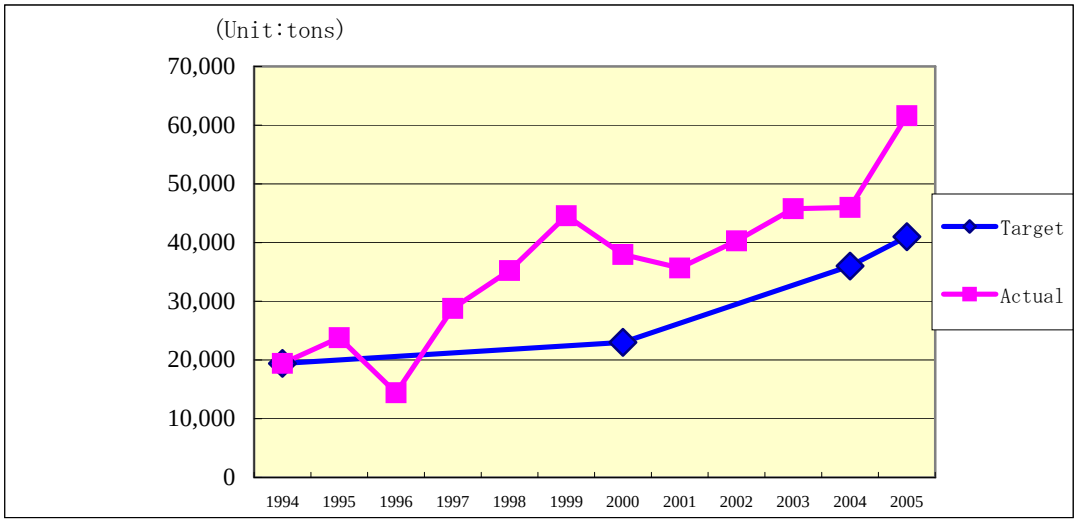
Table 5. Changes in the Volume of Cargo Handled at Urumuqi Airport

(Unit: tons)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Target	-	-	-	-	-	-	23,000	-	-	-	36,000	41,000
Actual	19,412	23,804	14,409	28,782	35,239	44,564	37,980	35,672	40,286	45,755	45,995	61,617

Source: JBIC study data, Xinjiang Airport Co., Ltd.

Fig. 4 Planned and Actual Cargo Volume Handled at Urumuqi Airport



2.3.2 Enhancement of safety in takeoffs and landings through improved airport facilities

The former runway built in 1973 was 50m wide and 3,200m long. In principle, were it not for the frozen conditions and other climate conditions, that runway would have been long enough to permit a Boeing 747 to land. However, the thickness of the pavement was 32cm, and its pavement classification number (PCN) strength was 52, meaning that the runway was only strong enough to land this type of aircraft. In addition, the distance between the runway and the taxiway that ran parallel to it did not meet the ICAO standard of 182.5m, leading to concerns about safety for both takeoffs and landings. Through this project, a new runway was built roughly 270m away from the old one. The new runway is 3,600m long, its pavement is 38cm thick, and it has a PCN strength rating of 74. Large aircraft can land on this new runway, and by using the old one as a taxiway, the distance between the runway and parallel taxiway meet the ICAO standard. Landings and takeoffs of aircraft are now said to be safer as a result.

2.3.3 Reductions in peak hour congestion and enhancements in convenience at the

passenger terminal

At the time of the preliminary appraisal, the passenger terminal was extremely crowded during the early morning time slots when many flights were set for departure, and late night time slots when the greatest number of flights arrived. Among the measures taken to address the issue, only ticketed passengers were allowed to enter the departure lobby. Regardless of whether there was a stack of departures to execute, there was only one departure gate, and it was characterized by unreasonable passenger lines and poor guidance information for passengers. After the project was completed, as stated above, the number of domestic airline check-in counters went from 13 to 40, and the number of carry-on baggage conveyors increased from one to four, thus helping to alleviate congestion. In the results of a questionnaire submitted to 30 airport employees on the convenience of the terminal building, 82.5% stated that convenience had improved for the elderly and handicapped, 87.5% said that congestion at peak hours had been alleviated, and that handling carry-on luggage was now easier to handle. All in all, various responses confirmed that the convenience of using terminal facilities had increased.

Security Check

Check-in Counter

2.3.4 Recalculation of the Financial Internal Rate of Return (FIRR)

Assuming a project life of 20 years, the Financial Internal Rate of Return (FIRR) for this project was recalculated to be 9.8%, exceeding the 4.9% estimate made at the time of the appraisal. Costs were calculated based on the project costs and operation and maintenance costs submitted by the executing agency at the time of the present assessment. Benefit calculations were tabulated using airport business revenue data, including landing fees, passenger service fees, ground transportation fees, parking lot

fees, advertising fees, passenger carry-on baggage handling fees, and terminal building rental fees. The FIRR was calculated based on the difference between the profit “related to the project” and the profit “unrelated to the project.” The main reasons that the FIRR was so much higher than predicted at the time of the appraisal was that the unit costs of airport business income sources such as landing fees and facility usage fees rose from their initial levels.

Given the above, the number of departures and arrivals, the number of passengers, and the volume of cargo handled all exhibited solid growth, and because the internal rate of return was likewise admirable, the effectiveness of this project is considered high.

2.4 Impact

2.4.1 Securing the safety of air travel in the northwestern region

As described in 2.3.2, through this project the runway was improved, and the safety of the aviation district improved.

2.4.2 Stimulation of economic activity in the northwestern region

One of the ways that airport construction contributed to economic activity is the increase in tourists. As China’s westernmost quadrant, the Xinjiang Uyghur Autonomous Region is one of the most landlocked locations on earth. A wealth of culture heritage, both Eastern and Western, continues to lie along three of the Silk Road’s branches in the area. There are numerous natural resources such as the Pamir plateau, which has been called the roof of the world, the Taklimakan desert, which has been called a dead sea, the Tianshan mountain range, which extends to Kyrgyzstan, and Tianchi lake, which is famous for a natural landscape. Looking at the change in the number of tourists to the autonomous region, the number of foreign tourists is a lowly 1-20th the number of domestic tourists. While 2003 witnessed a drop in tourism on account of SARS, the number of visitors did rise by a factor of approximately 1.6 between 1996 and 2002, from 180,000 annual visitors to 280,000. As shown in Fig. 6, there is a correlation between the number of foreign tourists and corresponding foreign currency revenue. This project can thus be said to have contributed to a certain extent to the stimulation of the regional economy.

Fig. 5 Annual No. of Tourists Visiting the Xinjiang Uyghur Autonomous Region

(Unit: 10,000 people)

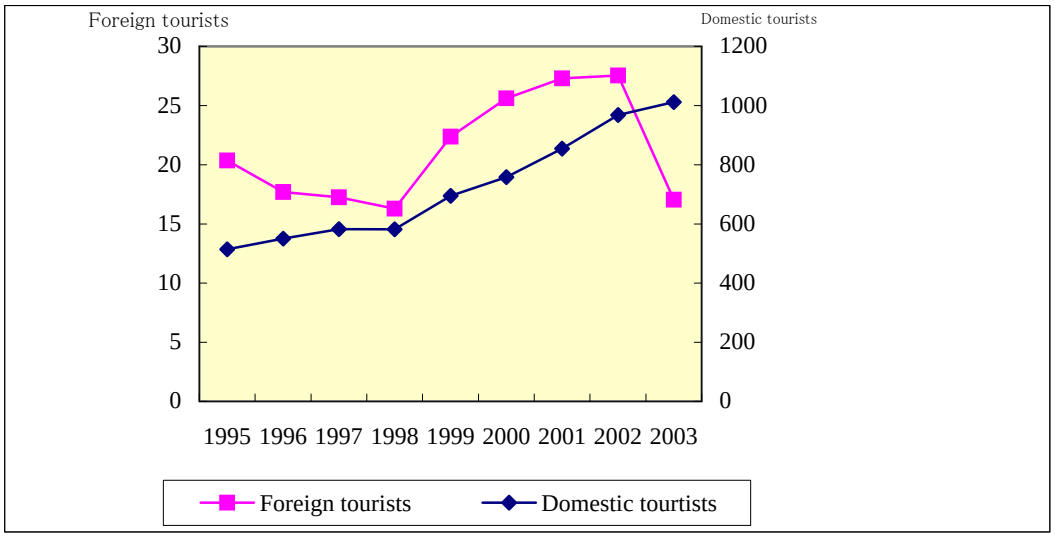
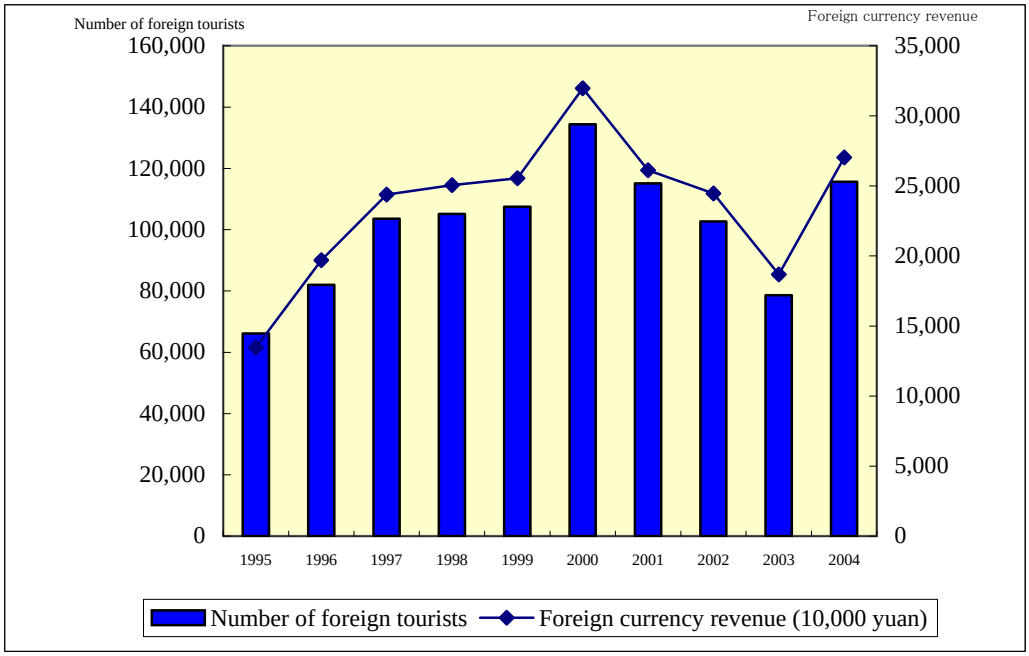


Fig. 6 Number of Foreign Tourists Visiting Urumuqi City and Corresponding Foreign Currency Revenue



2.4.3. Impact on the environment and on the resettlement of residents

2.4.3.1 Resettlement and compensation of residents

The land acquisition area initially planned for the project was 155.8ha, for which the compensation was to be 106.71 million yuan. The actual figures were nearly as planned,

coming to 137.6ha at a cost of 107.05 million yuan. Before the runway was used, 371 local resident households who were expected to be affected by noise from aircraft were relocated. According to the Xinjiang Administration Bureau of the Civil Aviation Association of China, the resettlement was conducted in accordance with land management laws, and there were no problems with the undertaking.

2.4.3.2 Environment

At the time of the initial appraisal, environmental policy items included noise, drainage, waste treatment and disposal, and greening of the environment. Because no environmental data was obtained to measure noise, water quality, or the atmosphere in the airport vicinity, there is no way to get to the truth of the matter. However, according to the executing agency, environmental measures were implemented as planned, and as of the present time no problems have come to light. Moreover, conditions after project completion in 2001 were as follows.

1) Noise

As mentioned in 2.4.3.1, local residents who were expected to be affected by noise from aircraft were resettled. Soundproofing devices were installed for a boiler, one of the major sources of noise, thus helping to keep noise levels down below 65dB. To further reduce noise, trees were planted near the factories on the western side of the airport, and the effect on neighboring areas was thus negligible.

2) Drainage water

The drainage water consists of wastewater from the boiler, effluent from daily living (from bathrooms, kitchens, etc.), and runoff from the car wash and aircraft service station. All sewerage except that derived from daily living is treated in a sedimentation basin and the airport’s main sewage disposal plant and is then discharged into the municipal sewer system. Daily living effluent, by contrast, is discharged directly into the municipal sewer system. Both pH and COD values are within the general wastewater effluent standards, and there are no concerns about groundwater becoming contaminated.

3) Treatment and disposal of solid waste

Garbage from aircraft and coal ash from the boiler are being appropriately disposed of in the garbage incineration facilities built within the airport grounds, whereas garbage from daily living is being transported to the Urumuqi incineration plant.

4) Greening of the environment.

8% out of a planned 25% of the runway area has been greened.

2.4.4. Other

In the departure lobby of the passenger terminal, a copperplate engraving displays a list of what was constructed through the ODA yen loan associated with this project. A stand providing information about the yen loan has also been placed in the lobby entrance. It was confirmed that the Chinese government also took into account the public relations .

2.5 Sustainability

2.5.1 Executing agencies

2.5.1.1 Technical capacity

Operation and maintenance of the passenger terminal is being conducted by the terminal administrative department of the interim production assurance department of Xinjiang Airport Co., Ltd. The terminal administrative department is housed in three business and technical offices and incorporates seven centers, including an electricity control center, power assurance center, mechanical electricity assurance center, community management center, and so forth. Counting both regular and temporary personnel, there are some 146 people on the staff. Of those, 39 employees are professional technicians with specialized skills. These technicians oversee quality control, manage baggage transport and facilities, operate and maintain strong and weak electricity and service air conditioners, elevators, and boarding bridges.

In keeping with directives to strengthen safety consciousness and safety management, the terminal administrative department formulates yearly education plans through which every employee receives two full days of safety training per year. Generous guidance based on a combination of class work instruction and on-the-job training is provided for roughly a year to all new employees. Once new employees have proved by passing the company exam that they are capable of handling emergency situations, they are thrown into the real work on-site. No problems are seen either with the technical skill level of employees or the training system employed.

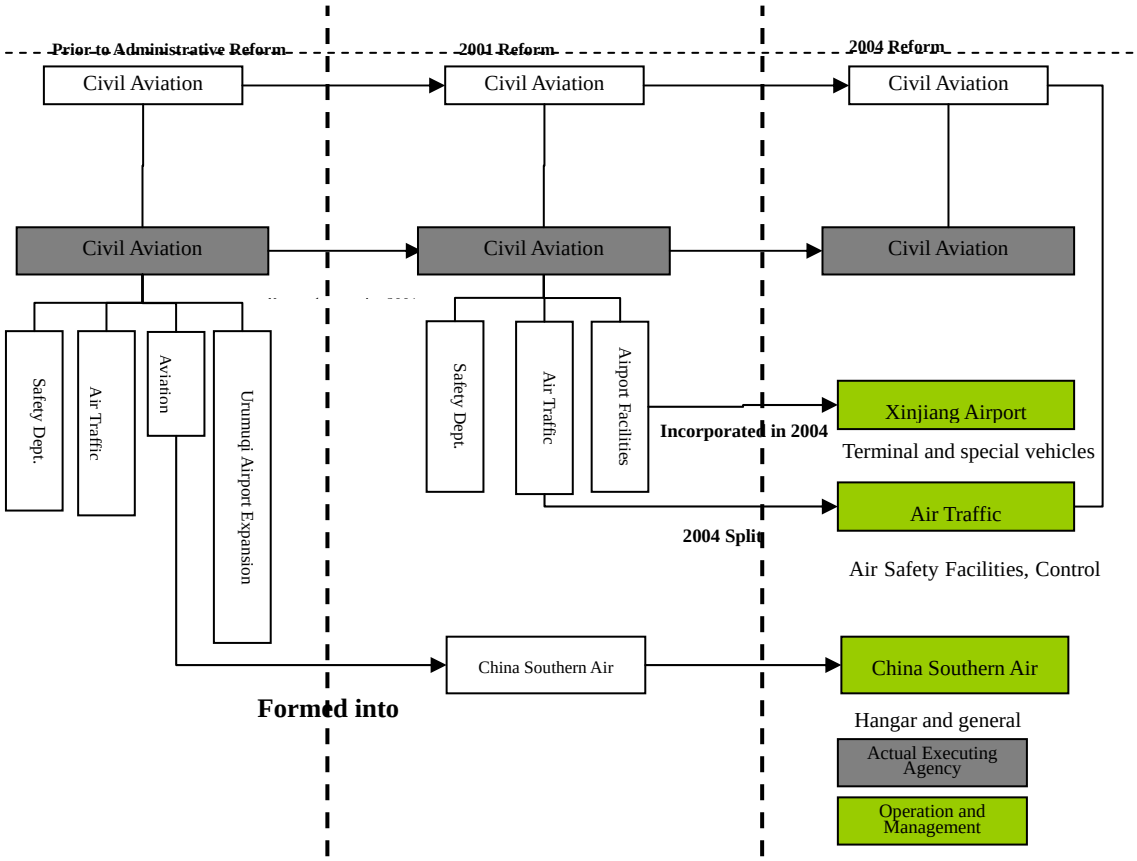
2.5.1.2 Structure

At the time of the preliminary appraisal, the executing agency was the Civil Aviation Administration of China's State Council of the People's Republic of China, and the airport's administrative authority was the Urumuqi Administrative Bureau of the Civil Aviation Association of China, which is under the direct control of the Civil Aviation Administration of China.

Through a process of aviation administrative reform, the Civil Aviation Administration of China which had been established at the central, local, and provincial levels has now become bi-level management system operating at the district and central levels. At the same time, the Urumuqi administration bureau's name was changed to the Xinjiang Administration Bureau. At the same time, the aviation sector was partitioned, and the Southern Aviation's Xinjiang Reagion Company was born. In 2004, the Airport Facilities Management Department became independent from the Xinjiang Administration Bureau and was incorporated as the Xinjiang Airport Co., Ltd. At the same time, the Air Management Division, which is the department responsible for route safety, was separated. It came to operate as a supervisory task under the direct supervision of the Civil Aviation Administration of China. Moreover, the Xinjiang Autonomous Regional Government is taking change of the management of assets management for the office. In this way, the management of the airport, supervisory tasks, and assets management duties have been completely divided. As a result of administrative reform, the various facilities built under this project are operated and maintained under several organizations as shown in Table 7.

The Xinjiang Airport Co., Ltd, which manages the special vehicles and the passenger terminal, was the target of the yen loan. The company is a state-owned enterprise with 1,300 employees in 10 airports (including the Urumuqi Airport) within the Xinjiang Autonomous Region, and comprises ten management departments, seven interim production assurance departments, two centers, and one police station.

Fig. 7 Organization Chart Prior to and After Administrative Reform



2.5.1.3 Financial status

Business revenue in 2004 for the Xinjiang Airport Co., Ltd was 286.7 million yuan, but operating expenses exceeded revenue, coming to 319.83 million yuan. Gross operating losses were 42.75 million yuan, net losses were 126.78 million yuan, distributable profit came to –235.7 million yuan. Return on assets was –7%, the gross margin ratio was –15%, the net profit ratio was –44%, and thus overall profitability was low. This is thought to be due to the fact that the company possessed nine airports, other than the Urumuqi airport, whose profitability was low, and because it built three new airports in Kalamay, Nalati, and Kenasi, resulting in high management and financial expenses. It was clear that the turnover of total capital was extremely low at 0.16 times and capital was not being used effectively. Unless the profitability of airports other than Urumuqi airport improves, it will be difficult to raise profitability. The swelling of distributable profit and loss stemmed from the fact that adjustments in gains and losses were carried out prior to administrative reform and are thought to be a temporary matter. On the other hand, the current ratio was 132% and capital adequacy ratio was 64%, and

so no problems with the ability to make payments is seen. Because the autonomous regional government is compensating for deficits, there are no impediments to sustainability. Even if the project were considered to be beneficial to the public, one would like to see efforts to manage it in a way that safeguards profitability.

Table 6. Xinjiang Airport Co., Ltd. Financial Indices (2004)

(unit: million yuan)

Total assets	1,842	Profit ratio of total capital (%)	-7%
Current assets	307	Ratio of gross profit on sales (%)	-15%
Current liabilities	232	Ratio of net profit to net sales (%)	-44%
Capital	1,172	Turnover of total capital (times)	0.16
Operating revenue	287	Current ratio (%)	132%
Gross loss	-43	Capital adequacy ratio (%)	64%
Net loss	-128		

2.5.2 Operation and maintenance

As mentioned above, Xinjiang Airport Co., Ltd., which was the target of the ODA yen loan, is carrying out the operation and maintenance of the passenger terminal and special vehicles. It has been decided that large-scale inspections of the passenger terminal will be performed twice a year, whereas monthly, weekly, or daily inspections are conducted depending on the facilities and equipment involved. Following national standards, elevators and escalators are entrusted to an outside party for inspection two to three times a month. Daily inspection forms have been created for each facility, but process documents are still in draft form. As for special vehicles, based on the Safety Management Regulations of the Civil Aeronautic Urumuqi Administration Bureau and the Driver Traffic Law Violation Punishment Regulations, concrete vehicle management regulations for assurance department have been established, and a daily operation, management, and maintenance handbook that clarifies worker duties and operating procedures has been prepared. In accordance with vehicle usage cycles, periodic repairs and inspections are conducted four times a year in spring (March and April) and fall (October and November). In this way, a system that ensures the bare minimum in operation and maintenance is provided, and no problems are seen.

Although the Xinjiang Airport Co., Ltd. is a fledgling company, it appears to have no major problems with technology, organization, or operation and maintenance. And while financially it has been running in the red, there are no concerns over sustainability thanks to the fact that the government is expected to make up for any deficits.

3. Feedback

3.1 Lessons Learned

Japan Bank for International Cooperation

Because of the need to respond to social needs to provide welfare facilities for airport-related employees and the rapid increase in demand for air travel, the scale of this project surpassed initial projections at the time of the appraisal. Efficiency declined because of increased project expenses, significant extension of the project period, and procedural delays on the part of the PRC due to the project scale expansion. It is hoped that based on this experience the JBIC will participate in project plans that look toward the future, and will cooperate in flexible oversight of the work.

3.2 Recommendations

Chinese Government

As a result of administrative reform, three separate institutions were made responsible for operation, maintenance, and management. It is difficult to grasp how the project is doing overall, as it is hard to tell how it is being conducted, whether facilities are well managed after project completion, what kind of effect the project has had and how it affects the environment. It is hoped that by ensuring close communication among the various institutions and by gathering information for those in management positions, the government will work to grasp the overall state of affairs surrounding the project.

Comparison of Original and Actual Scope

Item	Plan	Actual
(1) Project scope Runway	3,600m x 45m	As planned.
1) Passenger terminal and related facilities	40,000m^2 expansion (54,000m^2 total)	47,800m^2 expansion (61,800m^2 total)
Boarding bridges	7 (3 international, 4 domestic)	7 (7 domestic)
2) Hangar	8,000m	14,703m ^{2} Total floor area 34,409.26m^2 (additional construction for office building and annex)
3) Aviation safety facilities	Telephone switchboard, airport communications system, voice recorders, flight assistance central surveillance system, etc.	Ground communications facility, flight communications facility, weather satellite system, etc.
4) Special vehicles	99 vehicles (47 different types)	26 vehicles (12 different types)
5) Other facilities and equipment	Heating equipment, water supply and drainage facilities, fuel supply system, etc.	Heating equipment, water supply and drainage facilities, fuel supply system, ticket office and related facilities, general office building, fire fighting equipment, cargo transport and storage facilities, etc.
(2) Project Period Runway Passenger terminal Hangar Aviation safety equipment Provision of ground support vehicles Other facilities	 Dec. 1996-Dec. 1998 (25 months) July 1994-Dec. 1997 January 1997-December 1998 October 1995-March 1998 April 1994-December 1997 January 1997-December 1997 April 1994-December 1998	 Dec. 1996-Dec. 2001 (61 months) April 1994-August 1998 September 1998-December 2000 September 1995-August 1998 September 1995-June 1996 June 1998-August 2000 (The ticket office and annexed facilities are still under construction.)
(3) Project Cost Foreign currency Local currency Total ODA Loan Portion Exchange rate	 4890 million yen 12,568 million yen (1,047 million yuan) 17,458 million yen 4,890 million yen 1 yuan = 12 yen	 3,386 million yen 21,947 million yen (1,601 million yuan) 25,333 million yen 3,386 million yen 1 yuan = 15.821 yen