

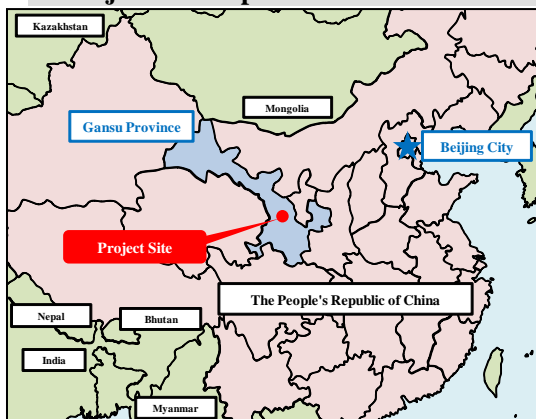
Ex-Post Monitoring of Completed ODA Loan Project

The People's Republic of China

Lanzhou Zhongchuan Airport Expansion Project

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1. Project Description



Project Location Map



Terminal building of Lanzhou Zhongchuan Airport

1.1 Project Objective

The project's objective was to newly construct a runway except for the existing runway and a passenger terminal building in the former runway area of Lanzhou Zhongchuan Airport situated 70km northwest of the urban district of Lanzhou, Gansu Province in order to cope with the predicted increase in the demand for air transport, thereby contributing to activating economic activities in the northwestern region. At the same time, the project aims to grade up the aforesaid airport serve as an emergency or alternative airport, thereby contributing to the improvement of aviation safety in the northwestern region.

1.2 Outline of the Loan Agreement

Approved Amount / Disbursed Amount	6,338 million yen / 6,299 million yen
Loan Agreement Signing Date / Final Disbursement Date	December, 1996 / June, 2002
Ex-post Evaluation	2004
Executing Agency	Gansu Airport Group Co., Ltd.
Main Contractor	Local company
Main Consultant	—

1.3 Background of Ex-post Monitoring

Gansu Province, which located in Northeastern China near Xinjiang Uygur Autonomous

Region and Central Asia, plays an important role in terms of politics and economics. Since the surrounding areas including the Tarim Basin are abundant in oil reserves, transportation of materials in the province was expected to increase when the development of oil fields started on a large scale. Lanzhou, the capital city of Gansu Province, was expected to function as a base for the transportation of resources and people, and the demand for air transport was predicted to increase, boosted by the development of energy and tourism resources. Considering that the flight routes connecting Europe and Central Asia to Central China pass mostly over mountain ranges including mountains over 8,000m as well as deserts, there was a need to develop an airport in Lanzhou at the center of China that can serve as a site for emergency landings in this region. Based on this, this project was implemented with the aim of coping with the predicted increase in the demand for air transport by constructing a new runway and passenger terminal building, thereby contributing to stimulation of economic activity in the northwestern region. At the same time, the project aimed to enable the airport to serve as an emergency or alternative airport, contributing to the improvement of aviation safety in the northwestern region.

When the ex-post evaluation was conducted in FY2004, the fiscal balance of the executing agency was in deficit and the management was required to make efforts to improve the financial situation. Since the airport was an indispensable economic infrastructure for growth of the regional economy, it was pointed out that a review should be conducted on the executing agency's management efforts and that provincial and national governments should consider offering financial support to the airport.

Therefore, this project was selected for ex-post monitoring and reviewed under each criterion with the findings from the field survey and other research activities with a final conclusion being drawn.

2. Outline of the Monitoring Study

2.1 Duration of Monitoring Study

Duration of the Study: March 2011 - October 2011

Duration of the Field Study: Not conducted

2.2 Constraints during the Monitoring Study

During implementation of this monitoring process, the process of privatization of the executing agency, which had been indicated during the ex-post evaluation, was advanced. Additional changes were made in the execution structure, and now Lanzhou Airport Co. Ltd.¹ would take charge of the operation and maintenance of Lanzhou Airport. Since there were

¹ Lanzhou Airport Co., Ltd. is a company to manage the Lanzhou Zhongchuan Airport and one of group companies of Gansu Airport Group Co., Ltd.

no personnel left at the company who had been in charge of the airport at the time of project implementation, according to the Chinese side that the company would have difficulty in accepting a field survey. Therefore the monitoring process was done through desk analysis by obtaining the minimum necessary information from Lanzhou Airport Co., Ltd. To fill the gaps in the information obtained from the company, civil aviation statistics generally available in China and other information available through the Internet were obtained and used. In addition, in an analysis of the facilities, Japanese standards which comply with the International Civil Aviation Organization (ICAO) were drawn upon.

3. Monitoring Results

3.1 Effectiveness

3.1.1 Quantitative Effects

(1) Results from Operation and Effect Indicators

The effects of the project after the ex-post evaluation were analyzed by the same indexes used in the ex-post evaluation such as aircraft and passenger traffic and cargo volume handled.

By comparing the data from 2003 and 2009 on the number of aircraft takeoffs and landings (Figure-1), the number of passengers (Figure-2) and cargo volume handled (Figure-3), it was found that the traffic volume in all these categories grew rapidly, with aircraft traffic growing 2.1 times, passenger traffic 3.55 times and cargo volume handled 2.59 times.²

It is thought that the rise in

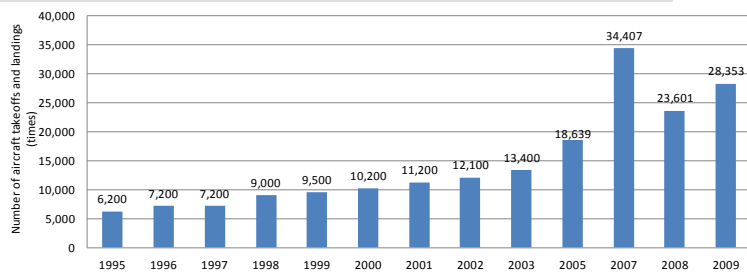


Figure-1 Changes in the Number of Takeoffs and Landings

(Source: 1995–2003 Ex-post Evaluation Report, 2009 Statistical Data on Civil Aviation of China and Lanzhou Airport Co., Ltd.—Recent operational condition (provided by the Chinese side))

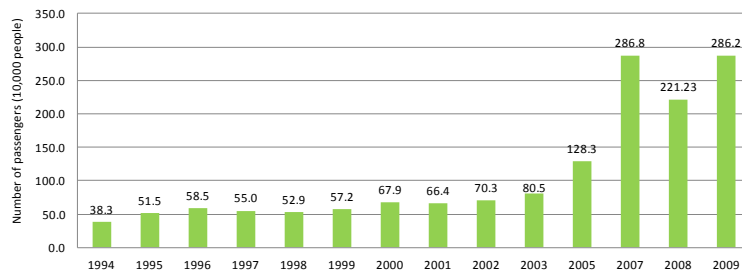


Figure-2 Changes in the Number of Passengers

(Source: 1995–2003 Ex-post Evaluation Report, 2009 Statistical Data on Civil Aviation of China and Lanzhou Airport Co., Ltd.—Recent operational condition (provided by the Chinese side))

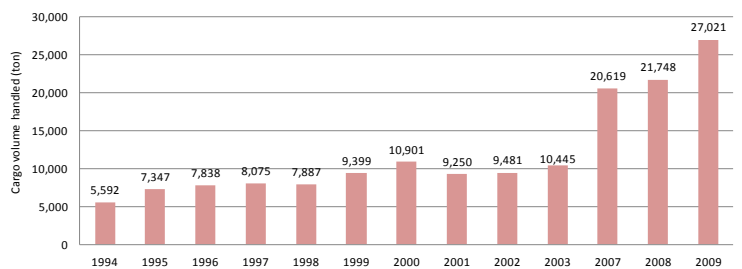


Figure-3 Changes in Volume of Cargo Handled

(Source: 1995–2003 Ex-post Evaluation Report, 2009 Statistical Data on Civil Aviation of China and Lanzhou Airport Co., Ltd.—Recent Operational condition (provided by the Chinese side))

² According to “Lanzhou Airport Co., Ltd.—Recent operational conditions” (material provided by the Chinese side), at the end of October 2010 aircraft traffic at the airport totaled 28,549 takeoffs and landings, passenger traffic totaled 3,103,500 people (a 30% increase over the same period in the previous year) and cargo traffic totaled 25,320.4t (an 18% increase), which represent the largest increase in use among the airports in the provincial capitals in the northwestern region of China.

these indexes is due to an increase in the number of flight routes. According to a document entitled “Lanzhou Airport Co., Ltd.—Recent operational conditions” (provided by the Chinese side), Lanzhou Airport Co., Ltd. launched new flight routes in 2006 connecting Lanzhou with cities such as Shenzhen, Changsha, Nanjing and Hangzhou, and in 2010, in cooperation with 12 domestic and international airlines, the company also launched 59 new flight routes connecting Gansu Province with larger cities in China including Beijing, Shanghai and Guilin as well as with 33 medium size cities. The reasons for launching new flight routes as mentioned above are seen in the fact that the aviation market in eastern China has become saturated and the aviation market in the western part of China has grown.

(2) Results of Calculations of Internal Rates of Return (IRR)

Neither the Financial Internal Rate of Return (FIRR) nor Economic Internal Rate of Return (EIRR) was calculated, because there were no data available.

3.1.2 Qualitative Effects

When the ex-post evaluation was conducted, the effects of the project were evaluated in terms of (1) the status of the airport facilities, (2) the safety of aircraft takeoff and landing and (3) the convenience of the passenger terminal building.

(1) Status of airport facilities

The airport has a runway with a length of 3,600m and a width of 45m. According to “Statistical Data on Civil Aviation in China 2009,” the area of the passenger terminal building remains at 27,500m², meaning no changes have been made since it was completed. This indicates that no expansion has been made to the cargo terminal building. It became possible to separate the flow lines of departing passengers and arriving passengers as much as possible with the development of the passenger terminal building. Therefore, it can be considered that the efficiency of movement of passengers has been promoted. In the same way in the cargo terminal building, separation of the flows of cargo and passengers has been ensured, indicating that the efficiency of cargo handling has also been promoted.

Prior to the implementation of this project, only small aircrafts could take off and land at this airport. Thanks to the development of the 3,600m runway, it was found during the ex-post evaluation that large aircrafts are able to take off and land.³ In China, airports are categorized by the airport classifications (Table-2) in accordance with the ICAO airport code (Table-1). According to the airport classification, aircraft types that can take off and land at

³ With respect to services involving the arrival and departure of large aircraft, it is known that a typical large aircraft, the B747 requires a runway of at least 2,500m to accommodate landing and take-off, and more desirably, a runway of more than 3,000m should be provided for greater safety to serve aircraft taking off at the maximum takeoff weight. Lanzhou Airport, which has a runway of 3,600m, can therefore accommodate large aircraft landing and taking off.

Lanzhou Zhongchuan Airport are generally medium size aircrafts such as B767, B757, A300 and MD82.

In Japan, in the “Establishment Criteria and Description of Airport Civil Engineering Facilities” (July 2008), it states that “if any aircrafts categorized as code E (B747 and B777) are in service, it is desirable that the runway have a width of 60m for improvement of the safety of the aircrafts in service.” For example, international airports in Japan including Narita Airport have runways with a width of 60m. Lanzhou Zhongchuan Airport, however,

has a runway with a width of 45m and it will be necessary to increase the width of the runway in order to allow large aircraft to operate safely.

In summary, although the ex-post evaluation concluded that large aircrafts could serve the airport, such aircrafts do not seem to be taking off or landing at the airport at present for reasons of safety. However, since the runway is long enough for large aircrafts, the airport would be able to accommodate large aircrafts landing in an emergency. As a result, it can be said that the airport retains the capacity to act as an airport capable of accommodating large aircrafts landing and as an alternative airport to substitute for neighboring airports in the event of an emergency, as described in detail in “3.2.1 Impact” below.

(2) Safety of aircraft takeoff and landing

How to improve safety was analyzed in this monitoring, because during the ex-post evaluation, it was pointed out that the old facilities at the airport did not satisfy ICAO standards concerning the distance between the runway and the taxiway and the width of the taxiway. Also in parts of the old runway the surface had peeled off or caved in, which could cause aircraft taking off or landing to overrun the runway. Therefore, it was decided to confirm how to improve safety.

Table-1 ICAO Airport Standard Code

Code element-1		Code element-2		
Code No.	Runway length with reference to aircraft	Code	Wing span	Outer main wheel track distance
1	Less than 800m	A	Less than 15m	Less than 4.5m
2	800m – 1,199m	B	15m- 23m	4.5m – 5.9m
3	1,200m – 1,799m	C	24m- 35m	6.0m – 8.9m
4	1,800m or over	D	36m – 51m	9.0m - 13.9m
		E	52m – 64m	9.0m – 13.9m
		F	65m – 79m	14.0m – 15.9m

(Source: A System of Airport Development and Management in China, Japan’s National Institute for Land and Infrastructure Management, 2005)

Table-2 Airport Classification in China

Airport Standard Code	Aircraft Type	Number of Airports	Example of Airport (runway length x width) (m)
4F	A380	3	• Beijing Capital International Airport (2,800 x 60, 3,200 x 50, 3,800 x 60) • Shanghai Pudong International Airport (3,400 x 58, 4,000 x 60, 3,400 x 60, 3,800 x 60), etc.
4E	B747	30	• Shenzhen Bao’an International Airport (3,400 x 45) • Chengdu Shuangliu International Airport (3,600 x 45, 3,600 x 60), etc.
4D	B767 / B757 / MD82 / A300	38	• Lanzhou Zhongchuan Airport (3,600 x 45) • Jiayuguan Airport (3,000 x 60), etc.
4C	B737	77	• Dunhuang Airport (2,800 x 45), etc.
3C	Smaller than B737	17	• Qingyang Airport • Beijing Nanyuan Airport, etc.
1B	Y12	1	• Changhai Dachangshandao Airport

(Source: 2009 Statistical Data on Civil Aviation of China)

First, according to “Statistical Data on Civil Aviation in China 2009,” the surface of the runway at the airport is said to have PCN (Pavement Classification Number)⁴ “75.” ICAO also has its own standards for runway pavement (Aerodrome Design Manual Part 3 Pavements), which apply ACNs (Aircraft Classification Numbers) as shown in Table-3. With respect to the aircraft types (A300-600 and B767-300) to be accommodated at the airport, a comparison between ACNs and PCNs⁵ confirmed that some parts of the airport runway pavement exceed the ACN. This is because measurements differ in countries depending on how the PCN is calculated or on the thickness of the pavement.

Table-3 Example of ACN of ICAO DM3 (asphalt pavement)

Aircraft type	Roadbed Design CBR (%)			
	13 or over	8 – 12	4 – 7	Less than 4
B747-400	58	64	80	102
A300-600	49	56	68	84
B767-300	43	47	56	76

(Source: Material of Japan’s National Institute for Land and Infrastructure Management No. 604)

With regard to facilities to prevent overrun such as an overrun area, landing strip and runway end safety area, they were confirmed by using Japanese standards, “Establishment Criteria and Description of Airport Civil Engineering Facilities (July 2008)⁶”, because China has not established particular standards for installing such facilities. It can be said that the airport is of a structure to satisfy the standards and it is prepared for incidents such as overrun, as shown in Figure-4.

Table-4 Standards for Overrun Area and Others in Japan

Item	Standard
Overrun area	In principle, the length of the overrun area should be 60m or over and the width should be the same as that of the runway.
Landing strip	The length of the landing strip should be that of the runway plus 60m on each side except for landing strips approved as having special reasons not to have such length. The width of the landing strip should comply with the standard for the strip grade except for landing strips approved as having special reasons not to have such width. If precision approach is made (for instrument landing) on a runway with a length of over 1,280m, the distance between the centerline in the lengthwise direction and the longer side of the landing strip should be over 150m.
Runway end safety area	In principle, the length of the runway end safety area should be between 40m (general rule) and 120m (standard) for non-instrument landing on a runway with a length of less than 1,200m and between 90m (general rule) and 240m (standard) for instrument landing on a runway with a length of over 1,200m. In principle, the width of the runway end safety area should be the same as that of the landing strip.

(Source: Establishment Criteria of Airport Civil Engineering Facilities and the Descriptions” (July2008)

Moreover, the aviation security-related radio facilities were introduced by this project such as an Instrument Landing System (ILS) and Non-Directional Radio Beacon (NDB). According to the “Statistical Data on Civil Aviation of China 2009,” a VHF Omnidirectional Range (VOR) Beacon, Distance Measuring Equipment (DME) and

⁴ PCN values for airports around the world indicate to what extent the airport pavement can endure the aircraft load. The values are indicated for each type of aircraft taking into account the impact of the aircraft on the pavement.

⁵ When reviewing pavement strength, ACN and PCN established for each aircraft type should be compared. In case of $ACN \leq PCN$, the pavement can be deemed to be strong enough for the aircraft type.

⁶ As Japanese standards comply with ICAO standards, it can be deemed that an airport largely complies with ICAO standards to the extent that it complies with Japanese standards.

Secondary Surveillance Radar (SSR) were also installed. By introducing them, takeoff and landing from both north and south became possible at the airport and reduced the risk caused by the weather and ensured safe takeoff and landing.

Based on the above, it is considered that the situation at the airport does not pose a threat to the safety of aircraft takeoff or landing or of aircraft services.



Figure-4 Status of Airport Facilities (created based on data from Google Earth)

(3) Convenience of the Passenger Terminal Building

There seem to be no significant changes in the facilities themselves. Since the flow lines of departing and arriving passengers are separated as much as possible to further promote efficiency and safety of movement, it is deemed that the convenience and safety of airport users are ensured.

In summary, in terms of the airport's effectiveness, the number of aircraft takeoffs and landings as well as the number of passengers and cargo volume handled are increasing and that the airport facilities ensure the safety of aircraft takeoff and landing.

3.2 Impact

3.2.1 Intended Impacts

During the ex-post evaluation, the followings were mentioned: (1) aviation safety was ensured in the northwestern region of China and (2) the economy of the northwestern region has been stimulated.

(1) Ensurement of Aviation Safety in the Northwestern Region

As mentioned above, the runway at Lanzhou Zhongchuan Airport is long enough to accommodate large aircrafts taking off and landing. When looking at neighboring airports in the region, Lanzhou Zhongchuan Airport is found to be relatively large in terms of runway

standard and airport code, too. As shown in Figure-5, relatively large airports located close to Lanzhou Zhongchuan Airport include Urumchi Airport (4E), Xian Airport (4E) and Chengdu Airport (4E) and other surrounding airports are 4D or smaller.

Based on the above, it is considered that the airport can function as an emergency airport to accommodate landings by large aircrafts and as an alternative airport to substitute for surrounding airports in an emergency.

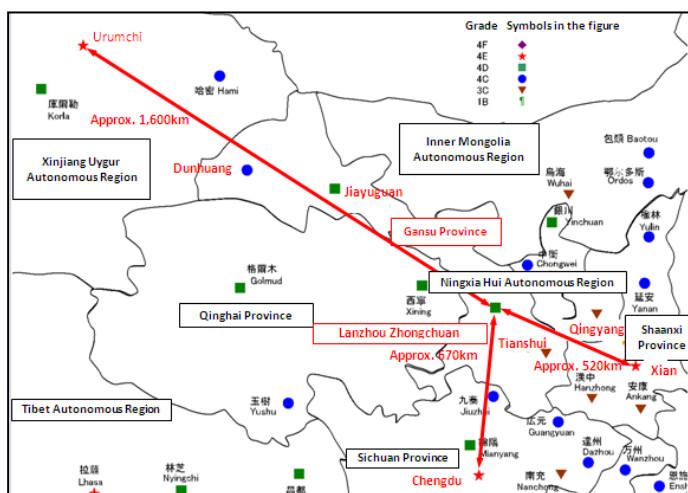


Figure-5 Airport Located around Gansu Province

Table-5 Size of Airports in the Neighborhood of Lanzhou Zhongchuan Airport

Airport Name	Province/ Autonomous Region	Airport Standard Code	Runway: Length x width (m)
Lanzhou Zhongchuan Airport	Gansu Province	4D	3,600 x 45
Jiayuguan Airport		4D	3,000 x 60
Dunhuang Airport		4C	2,800 x 45
Qingyang Airport		3C	Unknown
Tianshui Airport		3C	Unknown
Xian Airport	Shanxi Province	4E	3,000 x 45
Chengdu Airport	Sichuan Province	4E	3,600 x 45, 3,600 x 60
Urumchi Airport	Xinjiang Uygur Autonomous	4E	3,600 x 45
Xining Airport	Qinghai Province	4D	3,000m x 45

(Source: 2009 Statistical Data on Civil Aviation of China)

(2) Stimulation of the economy in the Northwestern Region

1) Economic trends in the northwestern region

Changes in the number of domestic travelers in Lanzhou, the capital city of Gansu Province, located adjacent to the airport, are shown in Figure-6 and changes in GDP in Figure-7. It can be seen that the number of domestic travelers has increased 2.0 times from 2006 to 2009, while GDP (regional gross domestic product) has also grown 1.5 times during the same period. As mentioned earlier, it is known that the number of passengers and aircraft takeoffs and landings and cargo volume handled are growing, while both the number of travelers and GDP in the region are also increasing following this trend.

One of the reasons for such trends toward economic growth is the growth of tourism and promotion of the use of airports.

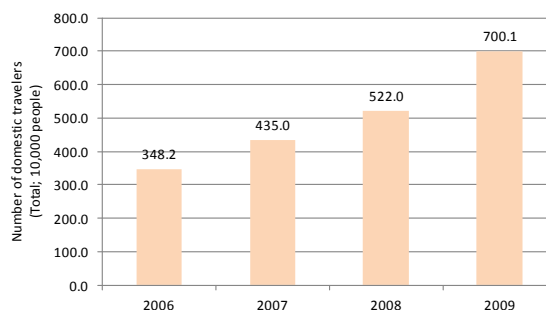


Figure-6 Changes in Domestic Travelers in Lanzhou City (Source: Searchina (Internet website))

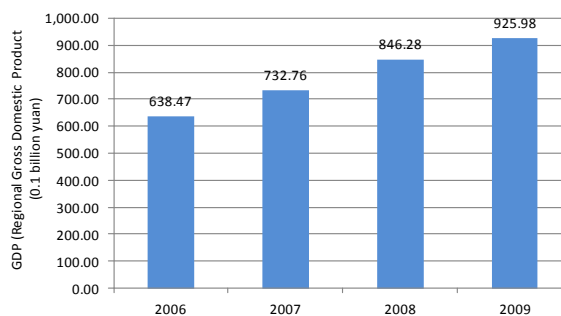


Figure-7 Changes in GDP of Lanzhou City (Source: Searchina (Internet website))

2) Trends in tourism

In Gansu Province, there is a wealth of tourism resources, including Dunhuang (Mogao Caves) which was designated as a World Heritage Site, and tourism plays an important role in the region's economy. It is thought, therefore, that changes in the number of travelers are closely connected with the state of the regional economy and that there is a close relationship between changes in the number of travelers and changes in airport-related indexes such as the number of passengers using the airports.

Based on this, it is highly possible that the development of the airport, which is the traffic hub for the region, has impacted on regional tourism and contributed to stimulation of the regional economy.

3) Promotion of the use of airports

According to the document entitled "Lanzhou Airport Co., Ltd.—Recent operational conditions" (provided by the Chinese side), as the flight routes have expanded, the airport market in Gansu Province has been stimulated and hence convenience for business and pleasure trips has been enhanced. In addition, in order to attract a greater number of travelers and passengers, in January 2010, operation of a limousine bus service⁷ was launched by Baiyin Longxin Automobile Transport Co., Ltd. connecting the central area of Baiyin City and Lanzhou Zhongchuan Airport, thereby improving accessibility to the airport. In 2007, through cooperation with the "Gansu Year Campaign" held by Hainan Airlines Group, the airport also contributed to the development of the aviation market in the region.

From these circumstances, it is understood that the use of the airport has been promoted by placing importance on collaboration with outside entities while actively taking advantage of a range of incentive schemes and supporting airlines' PR programs to contribute to a significant increase in air traffic.

⁷ Following the start of the limousine bus operation, on October 18, the Hainan Airlines Lanzhou Airport Baiyin City Air Terminal was opened in the West Station of Baiyin Longxin Automobile Transport Co., Ltd. to operate the first city air terminal in Gansu Province.

3.2.2 Other Impacts

(1) Natural environment, relocation of residents and land acquisition

Since documents and materials related to environmental standards and the status of waste disposal in China were not available, the situation surrounding air pollution and waste disposal is not known. As far as understood from Figure-8, although residential districts are scattered around the airport, there are mainly agricultural fields to the east and in the mountainous areas to the west. Therefore, it is thought that there are not many areas or entities that

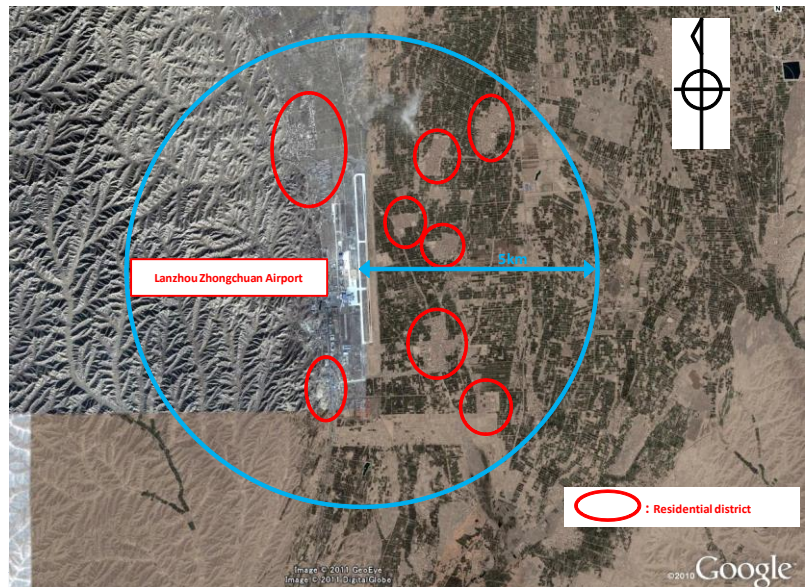


Figure-8 Condition of the Surrounding Area
(created based on data from Google Earth)

are affected by aircraft noise. In addition, relocation is considered completed since there are few residential districts or agricultural land in the vicinity.

(2) Others (disaster-relief assistance)

According to “Lanzhou Airport Co., Ltd.—Recent operational conditions” (provided by the Chinese side), when disasters occurred in a row such as the earthquakes in Sichuan and Yushu and mudslide in Zhouqu, Lanzhou Airport Co., Ltd. immediately offered assistance for relief goods and workforce as emergency measures. Lanzhou Airport fulfilled its role for emergency relief transport assistance: a total of 69 relief planes were accepted, supporting the transportation of 454 relief workers, 186 injured people, 167 attendants to the injured and 108t of relief goods.

In this way, it is known that the airport can function in the emergency assistance system not only as an alternative airport but also as a priority “disaster relief” center for disaster relief transportation.

Based on the above, the airport not only functions as an alternative airport to ensure aviation safety in the northwestern region but also contributes to the stimulation of the regional economy, for example, in the tourist industry.

3.3 Sustainability

3.3.1 Structural Aspects of Operation and Maintenance

Since there were no detailed materials available on the operation and maintenance of the

airport facilities, the detailed status of operation and maintenance could not be grasped. However, judging from the fact that the name “Lanzhou Airport Co., Ltd.” is found in the “financial data” (provided by the Chinese side) and from “Lanzhou Airport Co., Ltd.—Recent operational conditions” (also provided by the Chinese side), efforts to make each airport a subsidiary company have been made in accordance with the policy established during the ex-post evaluation. The organizational structure is considered to have been established already, by making “Gansu Airport Group Co., Ltd.” the parent company and by establishing and controlling subsidiary companies under the group, including Lanzhou Airport Co., Ltd., Dunhuang Airport Co., Ltd., Qingyang Airport Co., Ltd. and Jiayuguan Airport Co., Ltd.

According to “Lanzhou Airport Co., Ltd.—Recent operational conditions” (provided by the Chinese side), Gansu Airport Group Co., Ltd. has made efforts to promote corporate governance by allocating personnel appropriately, streamlining the personnel system and promoting management efficiency after coordinating and reorganizing the management framework and organization. As a result, the scope of the group’s services was expanded, the management level of related operations was improved, and streamlining of organization was promoted. In addition, Gansu Airport Group is further promoting corporate governance through business collaboration with Hainan Airlines Group,⁸ improving the management of business operations, administration, financial matters, projects management and service standards.

3.3.2 Technical Aspects of Operation and Maintenance

Although detailed data on technical aspect of operation and maintenance were not available, according to “Lanzhou Airport Co., Ltd.—Recent operational conditions” (provided by the Chinese side), it is known that Lanzhou Airport Co., Ltd. has been promoting various programs such as “Safe Operation Month,” “Safe Operation Risk Roller Campaign” and “Special development of control area certificate documents” in order to further develop a sound safety management system. In 2007, Lanzhou Airport passed the safety review and national aviation security examination of the Civil Aviation Administration of China (CAAC), further enhancing the level of safety management. It also obtained safety titles such as “Organization that Successfully Passed the Safety Evaluation” from the CAAC Northwest Regional Administration, while being designated as a “national model of a reliable air transport sales agency” for the second year in a row.

In summary, it is presumed that a certain level of education, training and maintenance is in

⁸ The official name is Hainan Airlines Co., Ltd. based at Haikou Meilan International Airport located in Haikou City, Hainan Province. On November 29, 2007, China Xinhua Airlines, Chang An Airlines, Shanxi Airlines and Grand China Express Air merged with the company to establish Grand China Air. Following the merger, the group positioned itself as the 4th largest airline company in China after China Southern Airlines, Air China and China Eastern Airlines.

place at the company.

3.3.3 Financial Aspects of Operation and Maintenance

As shown in Figure-9, when looking at the financial status of Lanzhou Airport Co., Ltd. in 2005 and later, sales have grown while the deficit in net profits has decreased.

As shown in Figure-10, the company's financial status was extremely poor from 2005 to 2007, which cannot be deemed a healthy situation. In 2008, although the company's assets exceeded liabilities at a rate of over 100%, in 2009, again liabilities exceeded assets, lowering the airport's liquidity ratio to 87.5%.

In terms of business management, although the

number of takeoffs and landings has increased and it is expected that the principal source of income, such as landing fees and airport charges collected from airlines, will increase, the airport is tending to spend more because operating, financial and administrative costs have not declined.

When looking at the budget related to maintenance, according to "Financial data: List of major operating costs of Lanzhou Airport" for 2007 (provided by the Chinese side)", the major operating costs in 2007 amounted to 83,786,002 yuan, of which 3,381,091 yuan were accounted for as "maintenance costs" (4.0% of the operational costs). The ratio is not very high.⁹

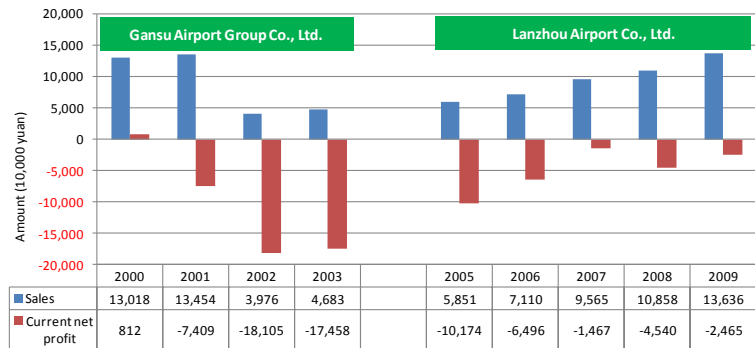


Figure-9 Changes in Sales and Net Profit

(Ex-post Evaluation Report and material provided by the Chinese side)

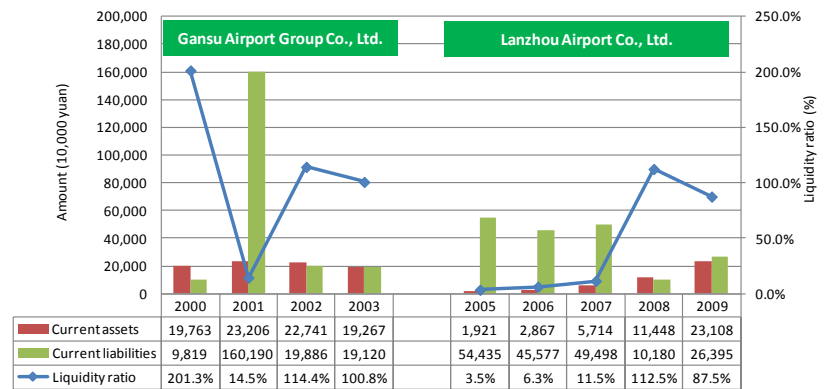


Figure-10 Changes in Liquidity Ratio

(Ex-post Evaluation Report and data provided by the Chinese side)

⁹ To compare the maintenance budget with that of Narita Airport by referring to Narita Airport's "FY2010 Financial Report," about 13% of total operational costs (107,839 million yen) is accounted for as "repair and maintenance costs" (13,833 million yen) at Narita Airport. Because the scale of the two airports is significantly different, the comparison should not be made lightly, but it shows that the figure of 4% at Lanzhou Zhongchuan Airport cannot be deemed high.

3.3.4 Current Status of Operation and Maintenance

When the ex-post evaluation was conducted, it was reported that daily maintenance was performed in accordance with the procedure manuals developed based on rules. In this monitoring study, however, the status of maintenance could not be confirmed because the procedure manuals could not be obtained.

Since the runway is maintained in a good condition such as not to hinder takeoff or landing of aircrafts and the aviation security-related facilities are operated in an appropriate manner, it can be presumed that the number of takeoffs and landings at the airport is on the rise as mentioned above.

Based on these conditions, it is considered that daily maintenance is performed in accordance with the procedure manuals.

In summary, with respect to sustainability of the project, when looking at the airport's financial and management conditions, it is still recording losses although sales are rising. In terms of operation and maintenance, it is presumed that maintenance is performed, because the airport is in an appropriate condition as not to hinder aircraft traffic.

3.4 Others

During the ex-post evaluation, it was pointed out that Lanzhou Airport Co., Ltd. (Lanzhou Zhongchuan Airport) recorded losses. Therefore, it was suggested that the executing agency should make efforts to improve its financial status, while financial assistance should be provided by the provincial and national governments. The policies of such governments were not known in detail since detailed data were not available to know financial assistance by the provincial and national governments. However, judging from the airport's financial status, in which liabilities and negative balance have not been eliminated, it can be presumed that no assistance has been provided by the governments.

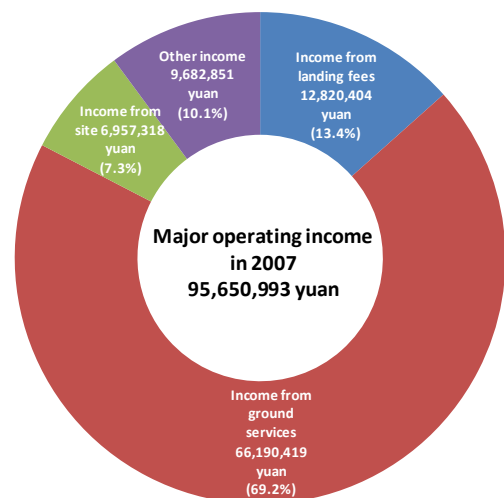


Figure-11 Operating Income of Lanzhou Airport Co., Ltd.

(Data provided by the Chinese side)

Details of the major operating income of Lanzhou Airport Co., Ltd. in 2007 are shown in Figure-11. About 70% of the operating income comes from ground service operations, which includes income from airport charges collected from airlines and apron service operations. Other non-aviation related income includes franchise business, which corresponds to just 0.5% (441,530 yuan) of total operating income. Since there is only a small income from

non-aviation related business, it can be presumed that efforts to diversify airport business have not progressed significantly.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

- Thanks to the expansion of the airport, the number of aircraft takeoffs / landings and passengers, and volume of cargo handled have increased. Coupled with this positive trend, the regional economical indexes (the number of travelers and GDP) are also on the rise, and as a result the project is considered to contribute to the growth of the regional economy.
- The airport has a role as an alternative airport for surrounding airports and as an emergency landing airport. In terms of safety, it is deemed that the airport is in an important position.
- With regard to the executing agency, Lanzhou Airport Co., Ltd., a member of Gansu Airport Group Co., Ltd., the company has not been able to eliminate its deficit although sales have increased since 2005.

4.2 Recommendations

- China has implemented necessary measures to develop and maintain airports and perform aviation operation and maintenance in accordance with ICAO standards. While the airport was placed under the control of a private airport company, it continues to be developed, managed and maintained in accordance with ICAO standards. In addition, it plays an important role as it is positioned to function as an alternative airport for surrounding airports as well as an emergency landing airport, which means it should be always maintained in a good condition. Therefore necessary measures should be continuously taken to perform regular maintenance of the major facilities, such as the runways, and to secure the budget and organizational structure to perform the maintenance successfully.
- When looking at the financial status, the airport has not eliminated its deficits since 2005, although sales have increased. As the number of aircraft takeoffs and landings increases, income from landing fees and from ground service operations such as passengers' airport charges is expected to increase. However, it is expected that the airport will make further efforts to increase non-aviation related income as diversification of airport operations has not progressed.

4.3 Lessons Learned

None.

Comparison of the Original and Actual Scope of the Project

Item	Original	Actual
1. Project Outputs 1) Basic facilities Runway Parallel taxiway Apron 2) Passenger terminal building 3) Cargo terminal building 4) Control tower 5) Hangar 6) Aviation security facilities 7) Other facilities	3,600m x 45m 3,600m x 23m Loading 71,400m ² Night stay: 54,800m ² 25,000m ² 2,000m ² 4,000m ² 4,000m ² Instrument Landing System (ILS): 1 unit Non-Directional Radio Beacon (NDB) 4 units Water and sewage system, fuel supply system, etc.	As planned As planned As planned As planned 27,495m ² 3,328m ² As planned As planned As planned As planned As planned
2. Project Period	December 1996 – February 2000 (38 months)	December 1996 – August 2001 (56 months)
3. Project Cost Amount paid in Foreign currency Amount paid in Local currency Total Japanese ODA loan portion Exchange rate	6,338 million yen 7,379 million yen (in local currency: 615 million yuan) 13,717 million yen 6,338 million yen 1 yuan = 12 yen	6,299 million yen 14,033 million yen (in local currency: 926 million yuan) 20,332 million yen 6,299 million yen 1 yuan = 15.155 yen