The Republic of the Philippines

Ex-Post Evaluation of Japanese ODA Loan Project
New Iloilo Airport Development Project

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0. Summary

This project aims to respond to the increase in passengers and cargo demand and also to improve the safety of airline service by constructing a new airport in the suburbs of Ilopilo city in Iloilo province. The project suits the development policies and needs of the Philippines and also the Japanese government's aid policies. Accordingly, the relevance is high. Aircraft landings and takeoffs, cargo volume and the numbers of passengers are growing steadily and passengers' satisfaction is high, which means high effectiveness. The impact on the local economy in terms of the increase of enterprises and commercial facilities has appeared.

However, as the implementation period was prolonged and the project cost slightly exceeded the plan, the project's efficiency is fair. With regard to the operation and maintenance, no major problems have been observed in terms of organization, technology and finance, therefore sustainability of the effect realized by the project is high.

In light of the above, this project is evaluated to be highly satisfactory.

1. Project Description

Project Location

New Iloilo airport (Passenger Terminal)

1.1 Background

Although the share of air transport in the entire domestic transport sector of the Philippines was relatively small, the share was steadily increasing: average annual growth rates between 1991 and 1998 were 4.7% for passenger transport and 12.5% for cargo transport. Air transport was recognized as one of the necessary conditions for economic development in terms of speed, accuracy, comfort and

so on. Furthermore, in the Philippines, a country with more than 7,000 islands, air transport was expected to play a more important role in both passenger and cargo transport in accordance with economic development and increase in income.

At the time of the project appraisal, there were 86 airports managed by the Government of the Philippines with the following breakdown: international airports: 8; arterial airports: 12; local airports: 36; and branch airports: 30. Until that time, large-scale airport development or expansion was limited to the international airports such as Manila, Cebu, and Davao. However, the government wanted to set up one airport in each of the 13 Regions[1] that meets the international standards, i.e., ICAO ones. Thus the government has conducted development and expansion of the high-ranking airports in terms of number of domestic passengers.

The existing Iloilo Airport was an arterial airport for domestic use located in Panay Island in Visayas, the middle part of the Philippines[2]. With 690,000 passengers in 1997, the airport is the fourth largest in the country next to Manila, Mactan (Cebu) and Davao in terms of number of passengers. On average from 1990 to 1997, the airport had the share of 5.0% of the total passengers and 3.3% of the total cargo of the Philippines. On average from 1991 to 1998, the annual growth of number of passengers was 8.3%, and the growth in cargo transport volume was 4.7%. Similar growth was expected in the future.

1.2 Project Outline

The objective of this project is as follows: to respond to the increase in passengers and cargo demand and also to improve the safety of airline service by constructing a new airport with a 2,500-m runway in the suburbs of Iloilo City in Iloilo province of Panay Island, thereby contributing to the sustainable economic and social development of Panay Island and its neighboring regions.

Loan Approved Amount/ Disbursed Amount	14,724 million yen / 14,322 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	August 2000 / August 2000
Terms and Conditions	(Construction) Interest Rate: 0.95% Repayment Period: 40 years (Grace Period: 10 years) (Consulting service) Interest Rate: 0.75% Repayment Period: 40 years (Grace Period: 10 years) Note: This is a special yen loan[3].

[1] Administrative unit in the Philippines. There are 17 regions in total. A region consists of provinces and there are 81 provinces.
[2] Source of information in this paragraph is the appraisal document.
[3] This project was implemented utilizing the Special Yen Loan (SYL). SYL was introduced by the Government of Japan in 1998 as one of the financial relief measures for Asian countries suffered from the Asian economic crisis. SYL was to provide

Borrower / Executing Agency(ies)	Government of the Philippines/ Department of Transportation and Communications (DOTC)
Final Disbursement Date	August 2008
Main Contractor	Taisei Corporation (Japan)・Shimizu Corporation (Japan) (JV)
Main Consultant	Japan Airport Consultants, Inc. (Japan)・Basic Technology and Management Corporation (Philippines)・Phil. Jac, Inc. (Philippines) (JV)
Feasibility Studies, etc.	JICA's Master Plan (M/P) study on the development of major local airports(May, 1996), Conducting F/S by DOTC based on the above M/P (January, 1997) Review of M/P and F/S by DOTC (December, 1999)
Related Projects	(Yen loan) "Navigation and Surveillance / Air Traffic Management (CNS/ATM) System Development"(L/A signed in March, 2002) (Technical cooperation) Master Plan (M/P) study on the development of major local airports by JICA (May, 1996), Dispatch of a JICA expert to Air Transportation Office (ATO)

2. Outline of the Evaluation Study

2.1 External Evaluator

Ryujiro Sasao, IC Net Limited

2.2 Duration of Evaluation Study

Duration of the Study: January-December 2011

Duration of the Field Study: March 29-April 18, 2011, June 8-25, 2011, September 25-October 9, 2011

2.3 Constraints during the Evaluation Study

None in particular

concessionary financial assistance for the development of infrastructures in the fields of transportation logistics, foundation for productive facilities and large-scale disaster prevention. The terms and conditions of SYL is set at greater concessionary level than standard terms and conditions of ODA loans, while the eligibility of the prime contractors under SYL is limited to Japanese nationals or judicial persons and procurement of goods and services under SYL is tied to Japanese goods and services (goods and services whose country of origin being other than Japan can be procured up to no more than 50% of the total loan amount).

3. Results of the Evaluation (Overall Rating: A[4])

3.1 Relevance (Rating: ③[5])

3.1.1 Relevance with the Development Plan of the Republic of the Philippines

At the time of the appraisal, the "Medium-Term Philippine Development Plan 1993-1998" aimed at the establishment of transport infrastructure and the modernization of facilities and, ultimately, economic growth through export promotion through the use of airports. The Philippine government adopted a liberalization policy for the airline industry and aimed to expand the air routes by having companies other than Philippine Air participate in the domestic airline business in places where Philippine Air had been dominant. At the time of the ex-post evaluation, in the "Medium Term Philippines Development Plan (2004-2010)", with regard to the airport sector, the following policies are raised.

- To give priority to the airport projects that improve access to regional core cities and major sightseeing spots.
- To improve the sustainability of airport business by securing a certain seat occupancy rate level and by fully recovering the costs of investment to the airport and also for various kinds of service.

At the time of the appraisal, it was deemed necessary to improve the airports from the point of view of policies targeting economic growth. At the time of the ex-post evaluation, better access to local core cities and major sightseeing spots was needed and the new Iloilo Airport project met this need.

As discussed above, not only at the time of the appraisal but also at the ex-post evaluation, the importance of airport improvement in the national development plans remains strong. Accordingly, its relevance is high.

3.1.2 Relevance with the Development Needs of the Republic of the Philippines

The existing Iloilo Airport is the fourth biggest airport in the Philippines. Its annual growth rate of passengers was 8.3% and cargo was 4.7% on average from 1991 to 1998[6]. A similar growth was expected in the future. Due to the expected future growth in demand, major airliners using the Iloilo airport such as Philippine Air were considering the introduction of the Airbus – A 330 and similar-sized airplanes into service. According to the ICAO standard, a 2,500m long runway was needed to introduce such airplanes. However, the length of the previous runway was only 2,100 m. Although the expansion of the existing airport was studied, there were roads and construction in the north of the runway and the south faced a river. Thus the expansion of the existing airport was physically difficult, and the construction of a new airport elsewhere became necessary.

Actual number of passengers and delivered cargo volume in 2010 are, respectively, 1.57 million

[4] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[5] ③: High; ②: Fair; ①: Low
[6] Source: Appraisal documents

and 11,820 tons[7]. These are much bigger than the forecasted 1.22 million and 11,500 tons for the same year and the needs bigger than the one projected at planning stage are well confirmed.

As mentioned above, the development needs at the appraisal were confirmed by the statistics retroactively. Air transport of this scale may not have been realized without the spacious new airport and there were certain needs for the project.

3.1.3 Relevance with Japan's ODA Policy

The Japanese government has provided the Philippines' airport sector with support for the improvement of international and arterial airports and the corresponding security facilities by yen loan. JICA's Overseas Economic Cooperation Policy at the time of appraisal also gave priority to this sector.

This project belongs to the prioritized airport sector and is in line with the Japanese government's aid policy for the Philippines.

In light of the above, this project has been highly relevant to the country's development plan, development needs, as well as to Japan's ODA policy. Therefore its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

The project consists of 1) civil works and the procurement of equipment and 2) consulting services.

The outline of each item is as follows.

(1) Civil works and the procurement of equipment (Map of the airport is shown below.)

a. Runway (2,500 m), taxiway, apron and so on: Implemented almost as planned. With regard to passenger loading aprons, those for large planes was increased from 2 to 3 while those for medium size planes were decreased from 4 to 1[8]. The total area space was increased.
b. Construction of a passenger terminal building and control tower: The passenger terminal building was expanded. The control tower, which was supposed to be a part of the passenger terminal building in the original design, became independent.
c. Airport security systems (radio and navigation aids, airfield lighting and so on): Implemented as planned.
d. Other facilities (e.g., access roads): Access roads were constructed as planned but gutters were added. Aviation fuel facility was cancelled from the scope[9].

(See the Appendix for details).

[7] Source: Iloilo airport office

[8] Forecast of demand for the air transport changed after D/D. In other words, at the time of detailed design airline companies planned to use bigger planes more as compared with the appraisal time.

[9] Hydrant system was expected as the method of fuel supply to aircraft but it became possible to change the method to so called "Refyura" method based on the revised forecast of fuel consumption. In that case a private company (Petron) instead of the airport itself was able to install fuel supply facilities.

In total, eight items out of 21 were changed in detailed specifications. However, these changes were mostly increases in the capacity of facilities, equipment and space. They were necessary for full realization of the functions of the airport and all contribute to the project purpose.

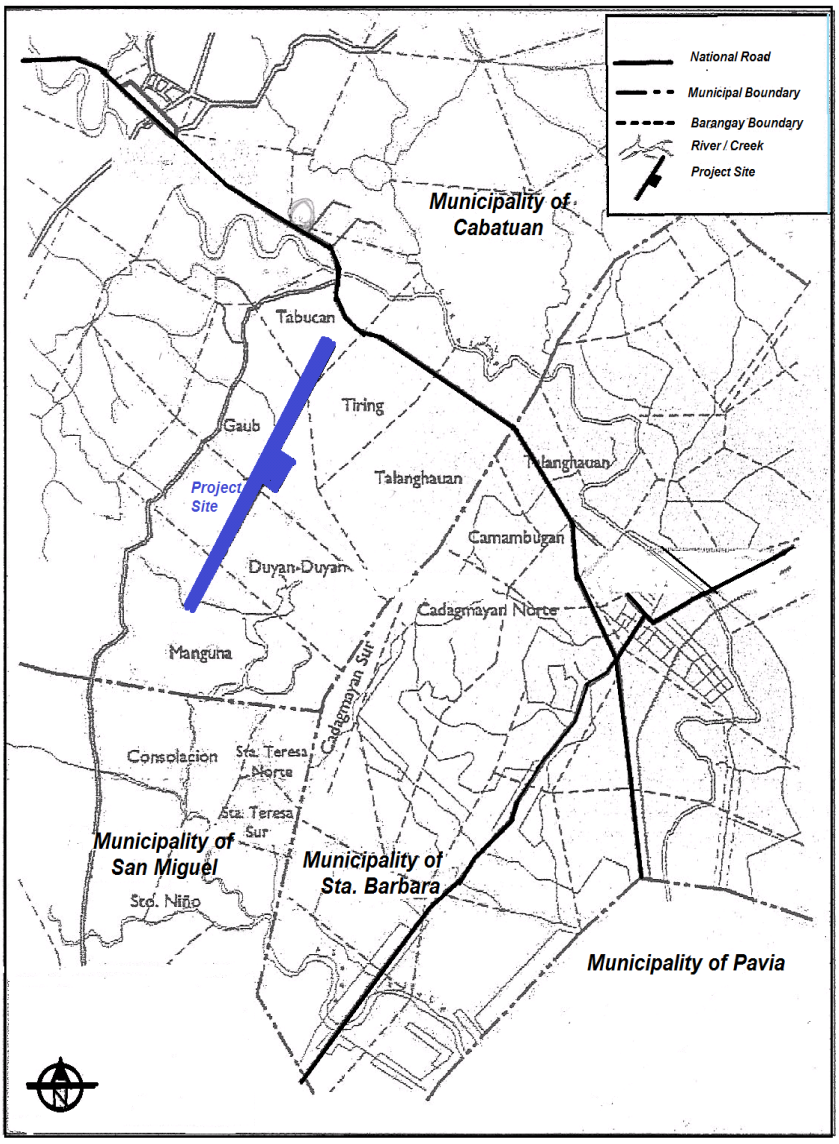

Figure 1: Map of New Iloilo Airport

(2) Consulting services

The following tasks were conducted exactly as they were laid out in the original plans.

- Detailed design, support for bidding, construction supervision and environment management

The implementing agency highly evaluated the consultants.

The following are the results of the questionnaire to the implementing agency concerning the Special Yen Loan.

- It is true that the enterprises' opportunities to bid for the project decreased because of the conditions of the Special Yen Loan. However, the number of participating companies in the Pre Qualification (P/Q) did not decrease much. The contract price did not increase much compared to ordinary bidding, either.
- In consideration of the long-term operation and maintenance of the facilities and equipment, it may be more efficient to procure equipment in the Philippines, as there is no need to import Japanese products. Accordingly, it was requested to allow more local procurement of equipment[10].

3.2.2 Project Inputs

3.2.2.1 Project Cost (Sub rating: ②)

The originally planned figures for the project cost were 8.352 billion yen in foreign currency and 3.204 billion Philippine peso in local currency (= 8.97 billion yen[11]), totaling 17.322 billion yen. Out of this, 14.724 billion yen was expected to be funded by the yen loan and the remaining 2.598 billion yen was supposed be shouldered by the Philippine government.

The actual figures of the project cost were 10.286 billion yen in foreign currency and 2.829 billion peso in local currency (= 7.469 billion yen[12]), totaling 17.755 billion yen. Out of this, 14.322 billion was funded by the yen loan and the remaining 3.433 billion yen was shouldered by the Philippine government.

In yen terms, the ratio of the actual project costs to the planned costs is 102.5%, which is slightly higher than planned.

Table 1: Comparison of project costs between Plan and Actual

Unit: million yen

Item	Original Plan（Appraisal）			Actual		
	Foreign currency	Local currency	Total	Foreign currency	Local currency	Total
Civil works and construction	6,436	5,516	11,952	9,164	4,098	13,262
Price escalation	272	234	506			
Physical Contingency	671	575	1,246			
Consulting service	973	265	1,238	1,121	340	1,461
Land acquisition and compensation	0	1,680	1,680	0	583	583
Administrative Cost	0	41	41	0	161	161
Tax	0	659	659	0	2,287	2,287
Total	8,352	8,970	17,322	10,286	7,469	17,755

Note: Exchange Rate: Peso 1=¥2.8 in the original plan and P1= ¥ 2.64 in actual

[10] There was a case where a Japanese manufacturer had to be invited from Japan for the replacement of parts of fire engines.
[11] Exchange rate: 1 Peso = 2.8 yen
[12] Exchange rate: 1 Peso = 2.64 yen

As shown in the above table, there is not much difference between the total planned cost and the result (actual). When we look at individual items, land acquisition and compensation decreased from 1,680 million yen to 583 million yen[13]. The actual cost of civil works and construction is almost same as the plan. The actual cost of consulting service is slightly higher than plan because of increase of MM.

As the aviation fuel facility was deleted from the original scope, it is necessary to modify the total planned project cost. The ratio of actual to plan, based on the modification, is 109.0%.

3.2.2.2 Project Period (Sub rating: ②)

Originally, the project had been planned to take four (4) years and eight (8) months from the signing of the Loan Agreement (L/A) in September 2000 to the completion of the civil works in April 2005. However, although the L/A was signed in August 2000, the civil works ended in March 2007. That is to say, while the planned implementation period was four years and eight months, the actual implementation period was six (6) years and eight (8) months. The ratio of the actual project duration to the planned one was 142.9%, which is longer than planned.

The reasons for the delay are as follows. The delay was the result of prolonged activities such as the bidding for civil works which started in April, 2004[14] instead of November 2002. This was a delay of one year and six months. The construction period was also extended from 30 months to 36 months, as the delivery of excavated soil to the borrow pit and the start of civil works were affected by bad weather. It had been planned to include two rainy seasons in the implementation period. However, there were three rainy seasons in the actual implementation period as a result of the delay in bidding.

3.2.2.3 Consulting service

Below is a comparison of the MM of planned and actual consulting service.

Table 2: Planned and Actual MM of Consulting Services

Category	Original Plan	Contract	Actual	Change	Reasons for change
1. Foreign experts					
Project Manager	52	50	64.39	Increase	Extension of D/D caused by the review of M/P and F/S, extension of the period of support for bidding, the extension of construction supervision caused by the extension of the construction period
Other engineers and experts	250	225	293.83	Increase	
TOTAL	302	275	358.22		
2. Pilipino experts					

[13] The major factor of decrease of cost is the decrease of land purchase price by 40% from the originally expected price.
[14] As a result of the review of the feasibility study, the Air Transportation Office (ATO) requested a re-designing of the airport's construction from the security point of view. In addition, it took time for the Philippine side to examine the appropriateness of the qualifications of the bidding companies.

Deputy Project Manager	52	53	58.94	Small increase	Extension of the construction period
Other engineers and experts	301	323.5	389.60	Increase	
TOTAL	353	376.5	448.54		

Both project cost and project period exceeded the plan, therefore, the efficiency of the project is fair.

3.3 Effectiveness (Rating: ③)

3.3.1 Quantitative Effects

3.3.1.1 Results from Operation and Effect Indicators

The outcome of the project was identified as "to respond to the increase of passengers and the cargo demand and also to improve the safety of airline services." The planned and actual major operation and effect indicators are as follows.

Table 3: Planned and Actual Major Operation and Effect Indicators

Indicators	1997	2005 (Expected year for opening the airport)	2006	2007 (Actual year of the opening of the airport)	2008	2009	2010
Number of passengers (Unit: thousand) (Planned)	n.a.	988					1,222
Number of passengers (Actual)	694		866	1,005	1,071	1,331	1,570
Cargo volume (Unit: ton) (Planned)	n.a.	9,900					11,500
Cargo volume (Actual)*1	11,159		10,030	10,195	9,520	9,332	11,820
Number of aircraft takeoffs and landings (Planned)	n.a.	9,930					10,970
Number of aircraft takeoffs and landings (Actual)	7,000*2		9,178	10,446	12,116	16,380	15,902

Source: New Iloilo airport office
Note:
*1. Cargo is mostly personal luggage.
*2. Estimate

As shown in the table above, although the opening of the airport was delayed by about two years, the target indicators as of 2010 were completely achieved. The actual average annual growth rates of passengers, handled cargo and number of aircraft takeoffs and landings for the first five years are respectively, 15.9%, 5.0%, 14.8%, while the planned figures were 4.3%, 3.0%, 2.0%[15].

Official documents were not available for the number of accidents incurred in the airport site. However, according to the Area Manager[16], the airline companies' staff and police officers at the

[15] Forecast of air transport demand (=number of passengers and cargo volume) was made, based on the forecasted GDP (NEDA) of the period, 1999-2004. It is estimated that actual number of passengers and cargo volume exceeded the initial planned figures, as the growth rate of real GDP of the region highly exceeded the forecast.
[16] A CAAP staff member and the top administrator at the airport

airport, there were no accidents such as collisions of airplanes or traffic accidents in the airport site for the last three years up to the ex-post evaluation.

In addition, in terms of efficient traffic flow, it is noteworthy that the Department of Public Works and Highways (DPWH) constructed a 16-km access road from the airport to downtown concurrently in coordination with the DOTC. This was outside the scope of the project[17]. According to the project manager, because of this road, it is fair to say that the transport time from the airport to downtown in the rush hours was reduced from 90 minutes to 45 minutes. This construction of access road from the airport to downtown was very effective in realizing smooth traffic flow of people and goods.

3.3.1.2 Results of the Calculations of Internal Rates of Return (IRR)

Financial Internal Rate of Return (FIRR)

Table 4: Planned and actual FIRR

	At appraisal	At ex-post evaluation (Re-calculation)
FIRR	4.26%*1	Negative
（Assumptions）		
Project life	25 years	Same as left
Cost	Construction, O&M cost	
Benefit	Revenue from various services	

*1. The calculation method of the Implementation Program (IP) was applied, as there is no figure shown in the appraisal report.

Table 4 above compares the planned FIRR and the actual one. Actual FIRR at the ex-post evaluation is negative. This is because the scale of project cost is about 2 times as big as the one expected in IP, although the growth of passengers is bigger than expected. However, the actual project cost only slightly exceeds the amount of plan at the time of appraisal.

Economic Internal Rate of Return (EIRR)

Table 5: Planned and Actual EIRR

	At appraisal	At ex-post evaluation (Re-calculation)*3
EIRR	17.4%*1	Negative
(Assumptions)		
Project life	24 years*2	Same as left
Cost	Construction, O&M cost	
Benefit	Saving of passengers' travel time, recovery of tourism revenue and increase of air cargo	

*1. 14.4% is stated in the appraisal document but there is no remaining record of the calculation process. Accordingly, we used the figures of IP whose calculation background is clear.

[17] All the access roads mentioned elsewhere in the report are within the scope of the project.

*2. 30 years is stated in the appraisal document but we used the figures of the IP, as the calculation background is clear.
*3. The calculation method of IP was applied.

Table 5 above compares the planned EIRR and the actual one. Actual EIRR becomes negative because of the same reason as the case of FIRR.

3.3.2 Qualitative Effects

Those qualitative effects such as the improvement of security and convenience in air transport and the efficient distribution systems between Panay island and neighboring areas and Manila metropolitan area were identified in the appraisal documents. These effects were confirmed quantitatively to a certain degree in the previous section but qualitative information was also collected.

The following research results show that passengers are highly satisfied with the airport in general including the convenience of the airport and the airline staff members have raised few issues on the functioning of the airport.

The Iloilo office of the Department of Trade and Industries (DTI) confirmed the following effects of the new airport.

Previously, the only means of going to Davao from Iloilo was a weekly ferry service which took 39 hours and an expensive air route by way of Cebu. Now it is much more convenient to go to Davao because of the direct flight. Flights between Iloilo and Manila have also increased.

We also conducted supplementary interviews with other stakeholders in order to confirm the situation concerning the realization of the outcome, "to respond to the increase of passengers and cargo demands and also to improve the safety of airline services." The results are as follows.

Table 6: Beneficiary Survey - Passengers (75 Interviewees)[18]

Items	Replies (5-grade evaluation, 5 as best)					
	5	4	3	2	1	No replies
Overall comfort (Comparison with old Iloilo airport)	53	20	2	0	0	0
Necessary time for check-in (Comparison with old Iloilo airport)	18	17	38	1	0	1
Overall evaluation	44	28	3	0	0	0

As a whole, passenger evaluations regarding the convenience of the airport are high. As a point of improvement, however, six interviewees pointed out that the X-ray machines are out of order and they should be repaired.

According to airline staff, there are no particular problems with airport functions. However, the issue of x-ray machines was again raised.

According the implementing agency, the extension of the runway from 2,100 m to 2,500 m made possible not only the service of larger airplanes, but also better response to bad weather due to the synergy effect with having control facilities set up at the beginning and the end of the runway.

[18] As at the first site research in April 2011. The situation of X-ray machines improved slightly as at the second site research in June 2011. Details are in "3.5 Sustainability."

In light of the above, this project has largely achieved its objectives. Therefore, its effectiveness is high.

3.4 Impact

3.4.1 Intended Impacts

(1) Economic indicators

The originally expected impact was "sustainable economic and social development of Panay Island and neighboring regions." (There were no pre-set up indicators.)

Indicators related to economic activities and visitors collected at site research are shown in the following table. (We focused on Iloilo city and the province rather than entire Panay Island, as the project's direct influence will be bigger in the area.)

Although it is difficult to verify the cause-effect relationship quantitatively, when we combine the following indicators and the results of the interviews with the LGU (Local Government Unit) and governmental agencies, the project seems to have provided some positive impact on the economy of Iloilo city and province.

Table 7: Economic Indicators of Iloilo City and Province

Indicators	2003	2004	2005	2006	2007 **(Airport opened in June)**	2008	2009
Iloilo city*1							
-Number of new business establishment	1,182	1,521	1,235	1,084	1,749	1,072	2,034
-Total capitalization of new business （million peso）	365.5	852.2	399.1	319.3	823.3	335.7	571.3
-Number of renewed business establishments	n.a.	n.a.	n.a.	8,678	7,545	n.a.	10,287
-Total capitalization of renewed business（million peso）	n.a.	n.a.	n.a.	34,855.6	38,965.9	n.a.	14,585.9
Iloilo province*2							
-No. of establishment (Business name registration)	n.a.	n.a.	3,942	3,884	3,730	n.a.	5,337
-No. of workers	n.a.	n.a.	15,562	14,032	16,535	n.a.	14,760
-Investment（million peso）	n.a.	n.a.	1,149.0	1,879.3	2,894.8	n.a.	1,191.3
Visitors to Iloilo city and province*3	214,690	336,854	380,289	372,778	417,689	396,134	394,277

(Source)

*1. Iloilo Socio-economic profile

*2. DTI Iloilo office

*3. Department of Tourism, Region VI office

When we look at the trend of each indicator, figures are increasing towards 2009 in general. In particular, most of the figures in 2009 clearly exceed those in 2006 before the airport opening. Increase of numbers such as number of new business and renewed business establishments means the scale of economy is expanding as a whole.

Although not all the above improvement in indicators are attributed to the airport construction, as verified by the following results of the interview to DTI, Iloilo (the following paragraph and APPENDIX 1.), and the project did contribute to investments in enterprises. Table 7 does not show a constant increase in visitors after the project, but the number of passengers increasing every year as shown in "effectiveness". Therefore, the new airport must have contributed to the increase of tourists.

(2) Impact confirmed in interviews

When we summarize the following interview results, the project provided the surrounding area with an economically positive impact according to LGU, governmental agencies and enterprises. However, some of the residents living near the airport and people who were relocated have had strong complaints about the compensation regarding land acquisition and relocation.

1. The summary of the interviews with three LGUs (municipalities) is as follows. (Please see APPENDIX 1 for the details.)

(Positive impact)

- Registered enterprises increased from about 500 to 1,110 after the construction of the new airport. This has increased employment in and outside the airport. Commercial facilities have also increased. (Cabatuan[19])
- After the opening of the international standard airport, many foreigners have visited. Housing development is observed around the airport and factories and furniture shops have opened along the road leading to the airport. (Santa Barbara[20])
- Small- and medium-sized enterprises have constructed various facilities. Employment is estimated to have increased in and outside the airport. (San Miguel[21])

(Negative impact)

- None of the three municipalities received complaints on air pollution or noise from the residents. In San Miguel, however, flooding started to occur after the airport construction because of changes in the local topography. The DOTC spent about 2 million pesos[22] to construct a soil drainage system to solve the issue. There has been no flooding since then.

2. Here is the summary of the interview with the Iloilo office of the DTI. (See APPENDIX 1 for the details.)

- Many enterprises have been established and investment activities are being conducted.
- Tourists, including businessmen, have increased and the number of hotels is increasing.

[19] Population is 55,394 in 2010.
[20] Population is 54,998 in 2009.
[21] Population is 23,804 in 2007.
[22] About 3.6 million yen at the exchange rate in September, 2011

3. According to the interview with the local big cooperative of taxi companies (38 member companies, whose share in Iloilo City is more than 50%), as beneficiary, after the opening of the new airport, the number of customers has increased and revenue of both car owners and drivers has increased. The revenue of owners is estimated to have increased about 10%.

4. The summary of the interviews with the residents who live near the airport is as follows. (Samples were collected from every direction surrounding the airport and the total was 67.) Negative opinions about the airport are relatively few. Some of the residents complained about the loss of income generating measures because of the government's land acquisition. (See APPENDIX 1. for the details.)

3.4.2 Other Impacts

(1) Impacts on the natural environment

The following measures were conducted by the implementing agency. There seems to be no particular problems, as no serious problems were raised during the interviews with the LGUs and residents. However, the LGUs and some residents suspect that the gutters constructed as a countermeasure against flooding during rainy seasons may not be sufficient.

With regard to the construction of the airport, an Environment Impact Assessment (EIA) was conducted and an Environment Clearance Certificate (ECC) was issued by DENR. The project was implemented in accordance with ECC[23].

An Initial Environmental Examination (IEE) on the access road was conducted as planned[24]. The DENR reviewed the results of the IEE and judged that the access road would not have any serious influence on the environment, if proper measures are taken. The DENR amended the ECC including this issue in July 2003, and the implementing agency conducted the following measures.

- Installment of a dust barrier along the access road
- Daily sprinkling of water on the road
- Installment of gutters as a countermeasure against occasional flooding

In addition, based on the MOA[25] signed with the DENR, a Multi-Party Monitoring Team (MMT)[26] was organized and an Environmental Guarantee Fund (EGF) was established for the indemnification of damages caused by the project, and an Environmental Monitoring Fund (EMF) was set up to cover the expenses of the environment monitoring activities[27].

The MMT's activities include the following:

[23] Examples of measures are construction of adequate drainage facilities, construction of adequate sewage treatment facilities, proper handling, collection/storage and disposal of oil/lubricants and other waste.

[24] At the time of the EIA, the location of access road had not been decided and the access road was outside the scope of the EIA and the ECC. Later on, the location of access road was decided and then an IEE which was smaller than the ECC was expected to be conducted in order to obtain an ECC.

[25] Minutes of Agreement

[26] Member organizations are DENR Regional Office, DOTC, Iloilo provincial government, Cabatuan and Sta. Barbara municipalities and so on.

[27] DOTC provided the funds. Payment to EGF and EMF was about 2.6 million peso and about 1.2 million peso, respectively.

- Environmental monitoring[28]
- Responding to the series of complaints such as damage to crops and flooding
- Rehabilitation of drainage as a countermeasure against flood
- Installation of additional traffic signage

(2) Land Acquisition and Resettlement

The results of the compensation to the affected people are summarized as follows.

Table 8: Results of Compensation to the Affected People

Category	Households	Compensation
Land owners	215	Payment of 65 pesos per 1m^2 of the land to give up
Tenants*1	138	Five times the average of the gross harvest of the land holding during the five preceding years
Informal settlers (Squatters)	99	If regarded as a "relocatee," they are eligible for the compensation to relocatees as stated below.
Farm workers*2	Not documented	If regarded as a "relocatee," they are eligible for the compensation to relocatees as stated below.
Total	452	
Relocatees*3	99	・Cash compensation for houses ・Compensation for the loss of work in the form of business livelihood and skills training ・ Provision of 110 m^2 of land per household ・ Provision of a housing loan program without interest by the National Housing Authority ・Provision of food, clothing and transport services during the relocation activities

*1. They are mostly farmers and there is an official agreement of land rental with the owners. They have a complete right to use the land.
*2. It is not necessary to have a formal rental agreement with the owners and they pay to the owners by harvest.
*3. People whose houses are affected by the construction are regarded as "relocatee" regardless of the above mentioned category. In reality, most of the informal settlers were relocatees.

190.63 ha of land including 259 sections were purchased by the DOTC[29]. 2.86 ha out of the 190.63 ha were for the relocated people. A Community Assistance Program (CAP) was formulated in March 2002 in order to carry out DOTC's social responsibility to the project affected people and communities. According to the "Community Assistance Program (Narrative Report)" formulated by the Project Management Unit in May 2007 and also by interviews during the ex-post evaluation, the results of the implemented CAP are summarized as follows.

[28] Currently, the new Iloilo Airport submits an ECC monitoring report to DENR quarterly in line with the ECC.
[29] According to the "Project Status Report" dated June 28, 2008

Table 9: Budget and results of implemented programs of the CAP

Unit: million Pesos

Items	Budget allocation*	Results
1. Relocation site development program	23.0	23.0
2. Livelihood/skills training program	3.5	2.5
3. Disturbance compensation to tenants	30.5	38.1
4. Capacity building program	3.2	3.3
5. Management and monitoring	1.9	
6. LGU development	4.0	4.0
Total	66.1	70.9

*Note: These are stated in the "Community Assistance Program (Narrative Report)" issued in May 2007. They are revised from the original budget (March, 2002). The original budget was 65 million peso.

The CAP's actual activity items are similar to the original plan. The results of expenditures exceed the budget allocation.

The results of each program are as follows.

1) Relocation site development program

Resettlement Management Committee (RMC) is a main actor of the program. 2.86 ha of land was purchased at Banguit barangay, Cabatuan City, Iloilo province. Based on the site inspection, 99 households were approved as eligible relocatees. Land development was already completed and administration was already turned over to LGU-Cabatuan from DOTC. Land acquisition started in 2002 and relocation was completed in 2006[30]. Land acquisition and relocation were conducted in line with the Philippine's domestic law[31].

The summary of the interviews with the 10 relocatees (different households) is as follows.

In general, dissatisfaction on the negotiation process during the implementation of the relocation and on the compensation amount is strong. Complaints on the loss of income generating measures are also strong. Compensation was conducted according to the rule of the Philippine government (law), there is some remaining complaint among relocatees.

Items	Replies
Are you satisfied with the relocation negotiation process?	Very much: 0; To a certain degree: 0; Not very much: 4; Not satisfied at all: 6
Are you satisfied with content of the compensation?	Very much: 0; To a certain degree: 0; Not very much: 2; Not satisfied at all: 8
Are you satisfied with the vocational training provided?	Excellent: 0; Good: 3; Neutral: 2; Poor: 3; Very Poor: 2
Free opinion about the project	There were certain replies regarding complaints about the loss of income generating measures and requests for an improvement of the situation.

[30] At the very early stages of project implementation, the management policy on the affected people had not clearly been decided. Accordingly, people resorted to demonstrations voicing their demands. To this situation, the RMC was organized and it acted for the land acquisition. The activity of RMC made it possible to provide housing loan without interest.

[31] Based on RA 8974 "An act to facilitate the Acquisition of Right-of-Way, Site or Location for National Government Infrastructures and for other purpose"

2) Livelihood/skills training program

An external professional agency conducted training at the request of DOTC. Based on the training needs assessment, a total of 11 training courses such as retail store management, swine and poultry raising, restaurant management were conducted for residents affected by the project for 15 days in October, 2004. There is no record of the trainees' satisfaction survey. Some residents seem to be employed at the new airport, but details are not known.

3) Disturbance compensation to tenants

The program was implemented by DOTC. About 38 million pesos were paid as compensation for 177 lots (156.92 ha) out of 188 tenanted lots (165.03)[32].

4) Capacity building program

Organization of communities and various training activities such as leader training, gender and development, adult literacy education, skills training and cooperative formation were conducted by PMO. As a result, the NIAPAPA[33] (Multi-Purpose and Transport Service Cooperative) was formulated and is conducting some commercial activity on the 3rd floor of the passenger terminal building. The cooperative transports passengers between the airport and the city, using several vans.

5) Management and monitoring

This activity is to monitor the implementation of the CAP activities by the PMO. Progress reports were made monthly and biannually, holding a coordination committee with stakeholders.

6) LGU development

This program was designed to help both the municipalities of Cabatuan and Santa Barbara address changes brought by the presence of the new airport. Both municipalities' proposals on upgrading the information and communication system were accepted by the DOTC. At the time of the ex-post evaluation, Santa Barbara had already implemented the system, while Cabatuan was procuring the system.

As stated above, comprehensive measures were conducted such as communication with relocatees and the provision of a compensation program (compensation for housing, compensation for the loss of work). However, considering the degree of satisfaction of relocatees, it is difficult to conclude the program was conducted successfully.

According to the interviews with relocatees, they are not completely satisfied with the relocation process and the compensation amount[34]. With regard to the compensation, the implementing agency

[32] Out of the remaining 11 lots, 8 sections are waiting for decision by DARAB (Department of Agrarian Reform Arbitration Board) and 3 sections are waiting for DOTC's payment.
[33] New Iloilo Airport Project-Affected People's Association
[34] Please see "summary of the interviews with the 10 relocatees" in 3.4.2 Other impacts, 2) Land Acquisition and

made certain rational price formulations in accordance with the law[35] and we cannot conclude that the compensation amount was not sufficient simply because of the relocatees' complaint. With regard to the relocation process, however, they did not feel the explanation was sufficient[36] and it was better to conduct elaborate negotiations and explanations with residents at the planning stage or early stages of relocation. With regard to the considerable amount of training that was conducted, such pieces of information as the trainees' evaluations do not remain in the PMO. As this kind of information is very useful to future projects, they should be kept carefully.

Furthermore, during the process of negotiation between the implementing agency and the relocatees, it seemed that employment of those relocatees at the new airport and even some figure (number of recruited people) were mentioned but it was not realized substantially, which also remains a reason for the dissatisfaction of the relocatees. If any figure of employment was mentioned, relocatees may have accepted it as a "promise," not as a target. Therefore, at the relocation negotiation, the project side should be very careful not to inflate the affected people's expectations.

In summary, the originally expected impact was well realized. However, the fact that some residents around the airport, particularly relocatees, have strong complaints is one of the very few problems of the project.

3.5 Sustainability (Rating: ③)

3.5.1 Structural Aspects of Operation and Maintenance

In regards to the organization of airport responsibilities, each post and its responsibility are clearly defined and there seems to be no serious problem.

The implementing agency of the project is the DOTC. At the time of the appraisal, operation and maintenance of the new Iloilo Airport was expected to be managed by the Air Transportation Office (ATO) belonging to the DOTC. Later on, however, the ATO was abolished and reorganized into the Civil Aviation Authority of the Philippines (CAAP) in March 2008. The CAAP is responsible for the management of airports in the Philippines and is financially independent. The CAAP was established in order to manage the entire airport sector in the Philippines more efficiently.

In the new Iloilo Airport, there are 241 staff members[37] allocated with an Area Manager as the top administrator (at the time of the second site research). Necessary qualifications such as academic degrees and licenses are stipulated according to major posts. Operation and maintenance are managed by a division called Aerodrome Operations Division and there are 139 staff members.

Airport management considers that the current staff size is almost appropriate and this size will be maintained.

Resettlement

[35] RA 8974 "An act to facilitate the Acquisition of Right-of-Way, Site or Location for National Government Infrastructures and for other purpose"

[36] Please see "summary of the interviews with the 10 relocatees" in 3.4.2 Other impacts, 2) Land Acquisition and Resettlement

[37] The breakdown is as follows: Permanent: 62; Casual: 29 (short term contract, max 6 months); and Job Order (more temporary than Casual): 150.

The following are considerations on the CAAP as a whole.

The following description about the CAAP was in last year's ex-post evaluation, "The Philippines: Selected Airports (Trunkline) Development Project (I) & (II)".

"With regard to the operation and maintenance, delays in the response to emergencies are a matter of concern. In order to make the O&M of the airports more reliable, it is necessary to strengthen the organization." If the above issue is attributed to the shortage of staff, then it is likely people including the CAAO HQ still feel that the staff size is not sufficient.[38]

Another statement from last year's ex-post evaluation reads as follows. *"One of the issues to be tackled for the CAAP in the field of operation and maintenance of the airports is to formulate an O&M manual for local airports. The formulation of such manual has been delayed."*

While interviewing for this issue, it was discovered that the above mentioned manual was not completed.

In conclusion, it seems necessary to strengthen the organization and promote human resource development for the entire CAAP as well.

3.5.2 Technical Aspects of Operation and Maintenance

There is no particular problem with the technical aspects.

Daily monitoring is conducted for power supply facilities, control tower and control systems, the water supply facility, waste water disposal facility and so on, based on the manuals made by the manufacturers of the facilities. With regard to elevators and escalators in the airport buildings, quarterly preventive maintenance is conducted and annual preventive maintenance is conducted for the Baggage Handling System, boarding bridges and the fire alarm system. Some necessary spare parts are imported for each facility.

There seems to be no particular problem in O&M, and the technical skills of the staff are also reasonable. It is regarded important, however, to maintain practical skills. Last year manuals for preventive maintenance were standardized and OJT is conducted quarterly for 15 staff members at one time (one day) for particular subjects.

3.5.3 Financial Aspects of Operation and Maintenance

According to the airport management, the current budget size for operation and maintenance is almost satisfactory and there seems to be no particular financial problem. The revenue of airport has been increasing steadily. As not all the airports under the CAAP are profitable, the Iloilo Airport supports the CAAP financially. CAAP has also recorded a surplus since the time when it became financially independent.

The airport itself is not financially independent and receives the necessary operational budget from the CAAP. The airport, however, earns a much higher revenue than its operational budget and the net profit is paid to the CAAP. In 2010, the ratio of its operational budget to revenue was only about 54%.

[38] For example, there is no new recruitment after the departure of retired staff.

The trend of revenue is shown below.

Unit: Million pesos

Year	Total revenue
2008	51.8
2009	180.6
2010	221.6

The trend of operational budget of the airport is shown below. Actual expenses (results) are bigger than original budget, receiving additional funds, based on the needs of the airport.

Unit: Million pesos

Year	Budget	Results
2008	45.6	65.9
2009	50.0	78.6
2010	62.9	119.1

According to the airport management, the budget size for the airport is almost sufficient.

The following table is the summary of the profit and loss statement for the entire CAAP. It is financially independent since establishment. The CAAP's revenue increased significantly in 2009 and the financial structure has improved over time.

Unit: Million pesos

Item \ Year	2008	2009	2010
1. Current revenue	1,681	3,826	3,679
2. Current expenditures	1,322	2,421	2,385
3. Profit and loss	360	1,405	1,294
4. Other revenue and expenditures*	584*	-164	-72
5. Net profit and loss	943	1,241	1,221

* Note: + means net revenue and – means net expenditure. Government subsidies were provided each year as follows: 2008: 583.1; 2009: 0.6; and 2010: 0.6 (Million pesos)

3.5.4 Current Status of Operation and Maintenance

There are no serious problems in operation and maintenance in general. However, the non-performing X-ray machines should be replaced as stated below, as it is related to the security of the entire airport.

According to the airport management, most of the facilities and equipment are operational without problems. A very small part of some equipment has problems but parts will be replaced as soon as the funds come.

As of April 2011, there were six X-ray machines for security checks and five of them were out of

order and airport staff conducted manual security checks[39]. Later on, two machines were replaced. As of June 2011, the remaining three out-of-order machines were to be replaced one after another, as soon as the budget would come.

Airport security is usually managed by the Office of Transport Security (OTS). However, in the project, X-ray machines were procured by the project funds. After the current replacement, responsibility for the maintenance of X-ray machines including future renewal of equipment will be returned to the OTS.

In conclusion, no major problems have been observed in terms of organization, technology and finance, therefore sustainability of the effect realized by the project is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project aims to respond to the increase in passengers and cargo demand and also to improve the safety of airline service by constructing a new airport in the suburbs of Ilopilo city in Iloilo province. The project suits the development policies and needs of the Philippines and also the Japanese government's aid policies. Accordingly, the relevance is high. Aircraft landings and takeoffs, cargo volume and the numbers of passengers are growing steadily and passengers' satisfaction is high, which means high effectiveness. The impact on the local economy in terms of the increase of enterprises and commercial facilities has appeared.

However, as the implementation period was prolonged and the project cost slightly exceeded the plan, the project's efficiency is fair. No major problems have been observed in terms of organization, technology and finance, therefore sustainability of the effect realized by the project is high.

In light of the above, this project is evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

(1) Complete repair or replacement of the non-operating X-ray machines

As stated in the section on sustainability, the airport has six X-ray machines for security checks and three are out of order. Thus the airport staff conducts manual security checks. As manual security checks are not ideal for screening carry-on or checked-in baggage brought by passengers, the airport should either replace or repair the equipment shortly. It is also necessary for OTS to make sure that the equipment is used in a stable condition in future.

4.2.2 Recommendations to JICA

None

[39] The major reason of disorder is the use of equipment for long hours.

4.3 Lessons Learned

(1) Coordination with related agencies

The construction of the new airport accelerated the flow of people and goods from other regions in the Philippines. In terms of the efficient flow of people and goods, it is noteworthy that the access road from the airport to downtown (16 km, outside the scope of the project) was constructed in a timely manner by the DPWH in coordination with the DOTC. This is a significant practice. When constructing an airport in the future, it is recommended to construct or improve the necessary roads around the airport as well in coordination between CAAP and DPWH, as a good practice, considering the traffic situation around the airport.

(2) Conducting elaborate negotiations and explanations for the local residents at the early stages of the relocation process

According to the interview with relocatees, they are not completely satisfied with the relocation process or the compensation amount. With regard to the relocation process, it was better to conduct elaborate negotiations and explanations with the residents at the planning stage or the early stages of relocation.

Furthermore, during the process of negotiations between the implementing agency and the relocatees, it seems that the employment of the relocatees at the new airport was mentioned but it was not realized substantially, which also remains a reason for the dissatisfaction of the relocatees. Therefore, in the future, during relocation negotiations, the project side should be very careful not to inflate the affected people's expectations.

(3) Vocational training as a compensation method

In the project, one item of the compensation package for the relocatees was to provide them with vocational training as a form of compensation for the loss of income generating measures based on farming. While it is agreeable to conduct such training rather than simply giving cash in order to make relocatees self-sustainable, it causes dissatisfaction with the relocatees when they actually cannot obtain an alternative income generating opportunity. The implementing agency should formulate a vocational training program which is as practical as possible, considering the situation of the people and their location, in order to increase employment after training.

With regard to the considerable amount of training, such pieces of information as the trainees' evaluations did not remain in the PMO. As this kind of information is very useful to future projects in which large-scale relocation of residents and measures to support relocates are necessary, such information should be kept carefully by PMO. It is also better to conduct follow-up research, such as a training effect assessment, at a certain time after the project has finished. The implementing agency or LGU should be responsible for that.

Comparison of the Original and Actual Scope of the Project

Item	Original	Actual
1.Project Outputs		
1) Runway - Length - Width - Shoulder width	 2,500m 45m 7.5m	same
2) Taxiway - System - Width - Shoulder width	 Two Stub Taxiways 23m 7.5m	same
3) Passenger Loading Apron	A330: 2 SJ: 3 TP: 1 Total Area: 40,300 m^2	A330: 3 SJ / TP: 1 Total Area: 48,000 m^2
4) Passenger Terminal Building	9,000m^2、 2 boarding bridges	12,000m^2 、 3 boarding bridges
5) Cargo Terminal Building - Cargo Warehouse - Offices - Total	 900m^2 400m^2 1,300m^2	same
6) Administration building (including control tower)	2,000m^2	Administration building: 950m^2 Control Tower: 1,700m^2
7) Airport security system	Radio, navigation aids, airfield lighting and so on	same
8) Other facilities	Access roads and others	Almost same as plan except for aviation fuel facility which was deleted
2.Project Period	September, 2000 – April, 2005 （56 months）	August, 2000 – March, 2007 （80 months）
3.Project cost Amount paid in Foreign currency Amount paid in Local currency Total Japanese ODA loan portion Exchange rate	 8,352 million yen 8,970 million yen （3,204 million peso） 17,322 million yen 14,724million yen 1 peso＝ 2.8 yen （As of January, 2000）	 10,286 million yen 7,469 million yen （2,829 million peso） 17,755 million yen 14,322 million yen 1 peso＝ 2.64 yen （Weighted average）

APPENDIX 1. Details of survey on the impact of project

1. Interviews to 3 LGUs (municipalities) surrounding the airport were summarized as follows.

LGU (Population)	Interviewees	Major items of impact
Cabatuan (55,394) *1	City planning and development Dept.	Increase of registered enterprises is mentioned as positive impact. After the construction of the new airport the number of registered enterprises increased from 500 to 1,110. This is estimated to have increased employment in and outside the airport. Commercial facilities also increased around the airport. Eventually the revenue of LGU increased. Citizens are proud of the existence of fine airport. With regard to negative impact, there is no complaint about environment from residents. Noise may be also acceptable, too. We cannot think of any other negative impact. The overall evaluation of the project is Excellent (top of 5 grade evaluation).
Sta. Barbara (54,998)*2	Director, Administration Dept.	The following items can be mentioned as positive impact. − Morale of residents and business persons increased because of the construction of the airport of international standard. − More foreigners visit than before. They are both tourists and business persons. − Residential area of high grade was developed around the airport. − Commercial activities such as factories and furniture shops are observed along the road near the airport. − The prices of real estate are gradually increasing. With regard to negative impact, there is no complaint about environment from residents. We cannot think of any other negative impact. The overall evaluation of the project is Excellent (top of 5 grade evaluation).
San Miguel (23,804)*3	City planning and development Dept.	We can mention that economy is more active as positive impact. Concrete items are as follows. − Small and medium size enterprises started to construct various kinds of facilities such as factories, warehouses, and sightseeing facilities. − Although there is no accurate statistics, the employment in and outside the airport may be increasing. − Governmental offices are transferred here. With regard to negative impact, there is no complaint about environment such as air pollution and noise from residents. Flood occasionally happens after the airport construction because of the change in topography. DOTC spent about 2 million peso to make drainage facilities as a counter measure and there is no flood since then. But there is worry that this measure may not be enough and there is a future possibility of flood at the time of typhoons. The overall evaluation of the project is Excellent (top of 5 grade evaluation).

Note: *1. as at 2010, *2. as at 2009, *3. as at 2007

2. The results of interview to DTI, Iloilo office are summarized as follows. (The content of "effect" rather than "impact" is included.)

- The new airport has contributed to local economy in many senses.
- Many enterprises were established, investment increases and the economy is growing. *

- Movement of people is very active including business persons.
- There was only a weekly ferry service taking 39 hours and an expensive air route by way of Cebu, in order to go to Davao from Iloilo previously. Now it is much more convenient to go to Davao because of the direct flight. Flights between Iloilo and Manila also increased.
- Zest Air started service as a new comer and its airfare is cheaper than others.
- Tourists increased and hotels, too.

*There are many factors behind the economic growth as follows. The following investment promotion is, however, also conducted with opening of the new airport as central material.

- Construction of ICT centers (during 2007 and 2008 after the opening of the new airport more than one ICT centers were constructed.)
- Investment promotion by Iloilo government (Iloilo Economic Foundation)
- Investment promotional measures by LGU such as tax benefit
- Supply of rich human resources by universities and colleges

3. The summary of residents near the airport is as follows. (Samples are collected from every direction from the airport and the total is 67.) Negative opinion about the airport is relatively few but part of residents complained about the loss of income generating measures because of government's land acquisition.

Items	Replies
Have you received benefit from the airport?	Yes：27、No：35、No replies：5
Was your property affected?	Yes：38、No：16、No replies：13
Was your land purchased by the government?	Yes：22、No：15、No replies：30
Are you satisfied with the purchase price?	Very much：0、To a certain degree：0、Not very much:17、Not satisfied at all：22、No replies：28
Impact on environment	Regarding the influence on air, noise, water quality, vegetation and animals, about half of the interviewees replied "No change". On air there are slightly more "improved" than "worse". Regarding noise, water quality, vegetation and animals, "worse" is slightly more than "improved".
Overall evaluation	Excellent：11、Good：32、Neutral：10、Poor：6、Very poor：6、No replies: 2 Note: As the reasons of "Very poor", issues of flood at rainy seasons and loss of income generating measures are raised.