



# Completion Report

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Project Number: 27142  
Loan Number: 1333  
December 2005

## Philippines: Airport Development Project

## CURRENCY EQUIVALENTS

Currency Unit – Philippine peso (P)

		<b>At Appraisal</b>	<b>At Project Completion</b>
		17 October 1994	23 February 2004
P1.00	=	\$0.0392	\$0.178
\$1.00	=	P25.49	P56.29

### ABBREVIATIONS

ATO	–	Air Transportation Office
BER	–	bid evaluation report
BIMP	–	Brunei Darussalam, Indonesia, Malaysia and Philippines
BIR	–	Bureau of Internal Revenue
CATC	–	Civil Aviation Training Center
DOTC	–	Department of Transportation and Communications
EAGA	–	East Asian Growth Area
EIRR	–	economic internal rate of return
ICAO	–	International Civil Aviation Organization
ILS	–	instrument landing system
LAR	–	land acquisition and resettlement
LARP	–	land acquisition and resettlement plan
MOA	–	memorandum of agreement
PIU	–	project implementation unit
TA	–	technical assistance

### NOTE

In this report, "\$" refers to US dollars.

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## BASIC DATA

### A. Loan Identification

1.	Country	Philippines
2.	Loan Number	1333-PHI
3.	Project Title	Airport Development Project
4.	Borrower	Republic of the Philippines represented by the Department of Finance
5.	Executing Agency	Department of Transportation and Communications (DOTC)
6.	Amount of Loan	\$41.0 million
7.	Project Completion Report Number	PCR: PHI-932

### B. Loan Data

1.	Appraisal	
	– Date Started	22 July 1994
	– Date Completed	9 August 1994
2.	Loan Negotiations	
	– Date Started	26 October 1994
	– Date Completed	27 October 1994
3.	Date of Board Approval	24 November 1994
4.	Date of Loan Agreement	20 January 1995
5.	Date of Loan Effectiveness	
	– In Loan Agreement	20 April 1995
	– Actual	28 April 1995
	– Number of Extensions	none
6.	Closing Date	
	– In Loan Agreement	30 September 1999
	– Actual	23 February 2004
	– Number of Extensions	3
7.	Terms of Loan	
	– Interest Rate	Variable
	– Maturity (number of years)	25 years
	– Grace Period (number of years)	5 years
8.	Terms of Relending (if any)	
	– Interest Rate	none
	– Maturity (number of years)	none
	– Grace Period (number of years)	none
	– Second-Step Borrower	none

9. Disbursements  
a. Dates

<b>Initial Disbursement</b> 18 August 1995	<b>Final Disbursement</b> 23 February 2004	<b>Time Interval</b> 102 months
<b>Effective Date</b> 28 April 1995	<b>Original Closing Date</b> 30 September 1999	<b>Time Interval</b> 53 months

b. Amount (\$ million)

<b>Category</b>	<b>Original Allocation</b>	<b>Last Revised Allocation</b>	<b>Amount Canceled</b>	<b>Net Amount Available</b>	<b>Amount Disbursed</b>	<b>Undisbursed Balance</b>
Part A – Airside Civil Works <sup>1</sup>	21.31	21.71	0.40	21.31	21.31	0.00
Part C – Equipment	1.25	2.49	0.15	2.34	2.34	0.00
Part D – Capacity Enhancement for CATC Manila	0.50	0.50	0.02	0.48	0.48	0.00
Part E – Consulting Services	7.40	9.45	0.28	9.17	9.17	0.00
Interest & Commitment Charge During Construction	5.45	6.45	0.00	6.45	6.45	0.00
Unallocated	5.09	0.40	0.40	0.00	0.00	0.00
<b>Total</b>	<b>41.00</b>	<b>41.00</b>	<b>1.25</b>	<b>39.75</b>	<b>39.75</b>	<b>0.00</b>

<sup>1</sup> Part B – Landside Civil Works financed by the European Investment Bank.

10. Local Costs (Financed)

- Amount (\$)	0
- Percent of Local Costs	0
- Percent of Total Cost	0

**C. Project Data**

1. Project Cost (\$ million)

<b>Cost</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
Foreign Exchange Cost	65.50	62.94
Local Currency Cost	39.50	58.47
<b>Total</b>	<b>105.00</b>	<b>121.41</b>

2. Financing Plan (\$ million)

<b>Cost</b>	<b>Appraisal Estimate</b>	<b>Actual</b>
<b>Implementation Costs</b>		
Borrower Financed	30.80	58.47
ADB Financed	35.55	33.30
European Investment Bank	31.30	23.19
<b>Total</b>	<b>97.65</b>	<b>114.96</b>
<b>IDC Costs</b>		
Borrower Financed	1.90	0.00
ADB Financed	5.45	6.45
European Investment Bank	0.00	0.00
<b>Total</b>	<b>105.00</b>	<b>121.41</b>

ADB = Asian Development Bank, IDC = interest during construction.

## 3. Cost Breakdown by Project Component (\$ million)

Component	Appraisal Estimate	Actual
A. Base Costs		
1. Part A—Airside Civil Works	46.87	35.48
2. Part B—Landside Civil Works	28.31	45.97
3. Part C—Equipment	1.38	2.34
4. Part D—Capacity Enhancement for CATC Manila	0.55	0.48
5. Part E—Consulting Services	8.14	9.17
<b>Subtotal (A)</b>	<b>85.25</b>	<b>93.44</b>
B. Contingencies		
1. Physical Contingencies	7.85	0.00
2. Price Escalation	4.55	0.00
<b>Subtotal (B)</b>	<b>12.40</b>	<b>0.00</b>
C. IDC and Other Charges	7.35	6.45
D. Land Acquisition and Resettlement	0.00 <sup>a</sup>	21.52
<b>Total</b>	<b>105.00</b>	<b>121.41</b>

CATC = Civil Aviation Training Center, IDC = interest during construction.

<sup>a</sup> Included in airside civil works in appraisal estimate.

## 4. Project Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants	Feb 1995	
Detailed Design and Construction Supervision		30 Jun 1995
Project Monitoring and Review		28 Jul 1998
Capacity Enhancement for CATC Manila		1 Sep 1996
Completion of Engineering Designs	Mar 1996	Dec 1997
Civil Works Contract		
Part A: Airside Civil Works	Feb 1996	1 Sep 1996
Part B: Landside Civil Works	Jul 1996	11 Jan 2000
Completion of Works		
Part A: Airside Civil Works	Oct 1997	30 Dec 2003
Part B: Landside Civil Works	Jun 1999	31 Jan 2004
Equipment and Supplies		
Dates		
First Procurement	Jun 1995	5 Dec 1999
Last Procurement	Aug 1996	6 Aug 2002
Completion of Equipment Installation	Jul 1997	30 Oct 2003
Start of Operations	Jul 1999	1 Dec 2003
Completion of Tests and Commissioning	Aug 1997	30 Oct 2003
Beginning of Start-Up	Jul 1999	1 Dec 2003
Other Milestones		
Completion of Land acquisition and Resettlement Plan		4th quarter 2003

CATC = Civil Aviation Training Center.

## 5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 30 Nov 1998 to 31 Dec 1998	S	S
From 1 Jan 1999 to 31 Dec 1999	PS	PS
From 1 Jan 2000 to 31 Dec 2000	PS	PS
From 1 Jan 2001 to 31 Dec 2001	PS	PS
From 1 Jan 2002 to 31 Dec 2002	PS	PS
From 1 Jan 2003 to 31 Dec 2003	PS	PS
From 1 Jan 2004 to 31 Dec 2004	PS	PS

PS = partially successful, S = successful.

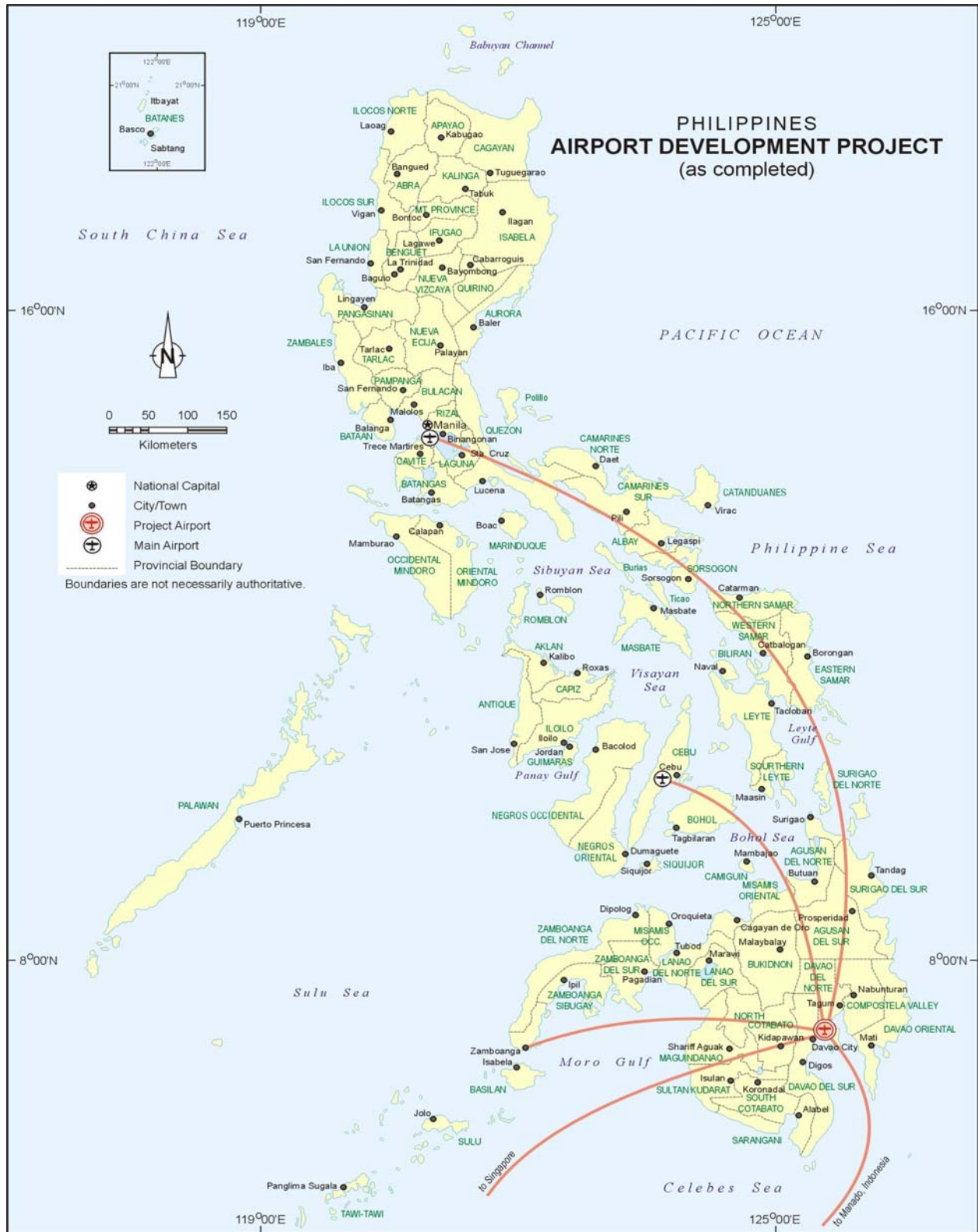
## D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members <sup>a</sup>
Fact-Finding	18 May–3 Jun 2004	4	40	a, b, f, g
Appraisal	22 Jul–12 Aug 1994	5	45	a, b, f, g, j
Inception	20–24 Jan 1995	1	5	b
Review	12–16 Sep 1995	1	5	b
Review	18–19 Jan 1996	1	2	a
Review	20–22 Nov 1996	4	8	2a, b, e
Review	12–13 May 1997	1	2	a
Review	1–4 Oct 1997	2	8	2a
Review	25–28 Jan 1997	2	8	2a
Review	2–4 Dec 1998	2	6	a, k
Review	3–6 May 1999	1	4	a
Mid-term Review	1–4 Feb 2000	2	8	a, b
Review	13–16 Nov 2000	2	5	a, d
Review	6–11 Feb 2002	3	10	a, c, e
Review	29 Jul and 8 Aug 2002	2	2	c, e
Review	20–24 Jan 2003	4	14	3c,e
Review	1–10 Jul 2003	3	12	c, d, i
Review	16–26 Sep 2003	2	10	c, i
Review	24 Feb and 16 Mar 2004	2	4	c, i
Review	8 Jul 2004	1	1	c
Project Completion Review	12–18 May 2005	3	12	c, i, j
Project Completion Review <sup>b</sup>	5–7 Sep 2005	1	3	e

Note:

<sup>a</sup> a = engineer, b = financial analyst, c = transport specialist, d = portfolio management specialist, e = social development, f = economist, g = social dimension specialist, h = aerodrome engineer, i = asst. project analyst, j = staff consultant, k = secondee.

<sup>b</sup> Dedicated to LAR completion.



## I. PROJECT DESCRIPTION

1. The objective of the Airport Development Project (the Project) was to upgrade and expand Davao airport in Mindanao to provide reliable and safe all-weather operations that met the standards of the International Civil Aviation Organization (ICAO) and to remove existing infrastructure bottlenecks, which were constraining the growth of domestic and international air services. The broader goal of these upgrading measures was to enhance Davao's access to nearby markets, foster its role in the Brunei, Indonesia, Malaysia, Philippines East Asian Growth Area (BIMP-EAGA), and thereby improve the economic prospects of the southern Philippines. A further goal was to relieve Manila airport of Davao-bound international transfer traffic.

2. The Project comprised airside and landside civil works, provision of equipment and training, and consulting services. A Technical Assistance (TA) attached to the Project, supported the liberalization of bilateral air service agreements and institutional reform of the civil aviation sector. The scope of the Project covered the upgrading of the airport facilities to ICAO safety standards, extending the runway to accommodate larger aircraft, providing a new passenger and cargo terminal and new ancillary buildings, and training of personnel of the Air Transportation Office (ATO). The Project was financed by the Government of the Philippines (GOP) with loans from the Asian Development Bank (ADB) and the European Investment Bank (EIB). Under the adopted co-financing structure, ADB loan would cover 39% of the total project cost whereas the EIB loan would finance 30% of the total project cost. GOP was to cover the remaining portion of costs amounting to 31%. ADB administered the Project on behalf of EIB and ADB. Appendix 1 provides the Project Logical Framework<sup>1</sup>. Appendix 2 sets out a project chronology of events.

## II. EVALUATION OF DESIGN AND IMPLEMENTATION

### A. Relevance of Design and Formulation

3. In the southern Philippines, air transport is the fastest means of transport across the often long distances between neighboring islands. Davao is the third most populous city in the Philippines and is Mindanao's center for business, finance and international trade. It was expected to become a key center in the region, as a result of the liberalization of air traffic rights in BIMP-EAGA, which took effect in 1995. A further promoting factor is the transport policy agenda of the Association of Southeast Asian Nations for 2005–2010, one objective of which is to promote open skies arrangements to support increased travel, trade and investment.

4. Before the Project, the existing infrastructure of Davao airport was inadequate for attracting international flights and was therefore not commensurate with the role ascribed to Davao. Specifically, the passenger terminal had exceeded its capacity and the existing instrument landing system (ILS) was not usable for precision approaches and landings. As a result, international flights did not fly to and from Davao and international passengers heading for or leaving Davao were forced to use Manila as a transfer point. The same was true for Cebu airport, for which the Overseas Economic Cooperation Fund (OECF) of Japan had already committed financing for upgrading. For these reasons, upgrading Davao Airport was an important strategic and complementary initiative for the Government of the Philippines.

5. With respect to the funding in the civil aviation subsector, ADB's Medium-Term Strategic Framework of 1993–1996 focused on air transport projects that could play a unique and

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<sup>1</sup> The Project RRP did not have any *Project Logical Framework*. It was therefore developed by the PCR mission.

catalytic role in economic and social development that could not be cost-effectively supported by road or other surface transport. ADB support to such projects should also play a key role in strengthening sector planning, analysis, and policy, and improving airport operations. Specifically, the ADB's assistance focused on (i) addressing objectives associated with fostering equitable and balanced interregional and intraregional development and promoting broader nationwide access to economic opportunities; (ii) fostering improved cost recovery and self-financing from the users of civil aviation infrastructure; (iii) encouraging reforms aimed at improving civil aviation policies, institutions and management, including stimulating the pace of private sector participation and competition in the provision of air transport services; and (iv) improving safety and security in conformity with ICAO standards.

6. Thus the Project's objectives largely reflected the objectives of ADB's Medium-Term Strategic Framework of 1993–1996. The intent was to address the Project's objectives by financing infrastructure improvements and new equipment and training personnel. The main objective of the Government of the Philippines, namely, economic development, was to be achieved indirectly through other project components.

## **B. Project Outputs**

7. At appraisal, the Project had been planned to be carried out in four main components as follows: (i) Part A: airside civil works; (ii) Part B: landside civil works; (iii) Part C: equipment (provision and installation); and (iv) Part D: equipment and training for the Civil Aviation Training Center (CATC) in Manila.

8. Another integral part of the Project was Part E: consulting services for: (i) detailed design and construction supervision, including topographical and boundary surveys and non-destructive pavement testing; and (ii) project monitoring and review and airport security enhancement done by ICAO.

9. The Project also included a land acquisition and resettlement plan (LARP) funded by the Government. Completion of the LARP<sup>2</sup> had been defined as a prerequisite for signing the contract for the airside civil works, and was thus a prerequisite for starting construction. Appendix 3 provides details of the project outputs, planned and actual.

10. Overall, most of the originally planned outputs have been achieved. The runway has been extended to a length of 3,000 meters and a new 17,500-square meter passenger terminal, a new 5,580-square meter cargo terminal, and a new 74,250-square meter aircraft apron have been constructed along with further ancillary buildings and new landside access to the terminal area, including relevant car parking facilities. These outputs are expected to be sufficient to accommodate the demand up to year 2018. However, some changes and additions were made to the original design due to: (i) changes in the location and layout of the passenger terminal designed at appraisal, which required additional land acquisition and resettlement, and new alignment of the access road; (ii) expansion of the design capacity of the cargo terminal; (iii) increase in the floor area of the crash, fire, and rescue building; (iv) construction of an isolated aircraft parking position; (v) widening of the access road; (vi) construction of an apron for the parking of ground handling equipment; (vii) construction of a potable water supply tank; (viii) construction of a reinforced concrete utility tunnel; (ix) improvement of the cross-drainage and rehabilitation of Sasa creek, a creek bordering the runway; (x) procurement of passenger lounge

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<sup>2</sup> Although LARP was the responsibility of the Department of Transportation and Communications (DOTC), it delegated the implementation to the City of Davao.

seats; (xi) installation of a new ILS I system; and (xii) upgrading of the communications system. The only output that has not yet been achieved is the rehabilitation of the old passenger terminal to serve as a commercial facility, which contributed to the low financial return of the Project.

11. Completion of the work has been delayed substantially. The main causes for the delay were the slow progress of the LARP (para. 17) and structural problems in the passenger terminal building. Cracks in concrete floor slabs in the entire building and beams in the ground floor had developed. The causes of the cracks were interpreted differently by the EA and the consultants that designed the terminal building and supervised the construction works. Due to the difference of opinion, the dispute had to be resolved through an independent assessment by a third party, and final agreement was reached on the cause of the problem, i.e. a higher than expected ambient temperature, which caused dehydration of the fresh concrete, on the type of repair works to be conducted, and on the financing of the repairs, to be fully supported by the consultants. The structural problem was resolved in two ways: ceiling slab cracks were sealed through injection of epoxy resin; and beams with cracks were retrofitted by reinforcement with concrete sleeves. The structure is now considered safe and no further problems have been experienced since retrofitting.

12. An issue that also delayed the project implementation was the removal of a residence (already compensated in LARP), which was located inside the airport limits at the northeastern end of the runway. It has now been removed.

### **C. Project Costs**

13. The Project has been completed at a total cost of \$121.41 million, shared by the GOP (58.47 million), ADB (39.75 million) and EIB (23.19 million). The total cost was \$16.41 million above the appraisal estimates. The higher cost is due to design and layout modifications that had been made after the Project had started (para 10).

14. Out of the \$16.41 million cost overrun, some \$6 million has been caused by additional land acquisition; part of this was due to the relocation of the terminal complex. Other additional expenses were: (i) about \$2 million spent on the drainage construction of Sasa creek; (ii) about \$1 million for tower communications equipment with higher specifications than originally planned; (iii) about \$1 million for the procurement of a new ILS equipment, better performing than the one originally planned, and the relocation and recalibration of the existing ILS; and (iv) about \$1 million for extension of consulting services, which were largely due to the long delays incurred prior to and during project implementation. Other additional costs were due to contract variations in the landside and airside civil works, mainly to relocate and increase the capacity of the terminal building, and comply with ICAO regulations. A large part of the additional costs could have been avoided by more careful planning at appraisal. The cost overruns were covered by the borrower.

15. The costs estimated at appraisal and the actual costs of project components are given in the table below. However, some of the actual base costs cannot be directly compared with those as appraised for two reasons: (i) at appraisal, the estimate of some \$14 million for land acquisition and resettlement had been allocated within the airside civil works costs, but was later separated as a stand-alone category given its substantial increase to \$21.52 million; and (ii) there has been a major shift between the airside and landside costs due to a reallocation of civil works components from the airside package to the landside package and vice versa. This has been done in the interest of grouping works of similar nature. For example, the new

buildings for air traffic control, crash, fire, and rescue center, and the cargo terminal were moved from the airside to the landside cost category.

**Estimated and Actual Project Costs  
(\$ million)**

Item	Appraisal Estimate			Actual		
	Foreign Exchange	Local Cost	Total Cost	Foreign Exchange	Local Cost	Total Cost
I. BASE COSTS						
Part A: Airside Civil Works	21.31	25.56	46.87	21.30	14.18	35.48
Part B: Landside Civil Works	19.09	9.22	28.31	23.19	22.78	45.97
Part C: Equipment	1.25	0.13	1.38	2.34	0.00	2.34
Part D: Equipment and Training for CATC Manila	0.50	0.05	0.55	0.48	0.00	0.48
Part E: Consulting Services	7.40	0.74	8.14	9.17	0.00	9.17
<b>Subtotal I (A+B+C+D+E)</b>	<b>49.55</b>	<b>35.70</b>	<b>85.25</b>	<b>56.48</b>	<b>36.96</b>	<b>94.44</b>
II. CONTINGENCIES						
A. Physical Contingencies	5.95	1.90	7.85	0.00	0.00	0.00
B. Price Escalation	3.15	1.40	4.55	0.00	0.00	0.00
<b>Subtotal II</b>	<b>9.10</b>	<b>3.30</b>	<b>12.40</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
III. IDC AND OTHER CHARGES	6.85	0.50	7.35	6.45	0.00	6.45
IV. LAND ACQUISITION AND RESETTLEMENT	0.00	0.00 <sup>1</sup>	0.00 <sup>1</sup>	0.00	21.52	21.52
<b>TOTAL Project Cost</b>	<b>65.50</b>	<b>39.50</b>	<b>105.00</b>	<b>62.93</b>	<b>58.48</b>	<b>121.41</b>

<sup>1</sup> included in airside civil works costs.

#### D. Disbursements

16. Actual total disbursements were about \$39.75 million. Appendix 4 shows the actual quarterly disbursements. Overall disbursement of the loan was slow until the fourth quarter of 1998, over 80% delay as compared with the appraisal disbursement schedule, out of a total delay of 92% at the time of project completion in 2004. This was mainly due to the slow progress of the land acquisition and resettlement.

#### E. Project Schedule

17. Appendix 5 shows the actual project implementation schedule compared with that at appraisal. At appraisal, the award of the contract for airside civil works was scheduled for February 1996 and the start of work for May 1996. However, commencement of construction was delayed by 28 months until September 1998. The main reason for this delay was the slow progress of the LARP, completion of which was a prerequisite for the start of construction, according to the Loan Agreement. At appraisal, the equipment installation had been planned from July 1996 onwards. It actually started only in the first quarter of 2001, with a delay of over 42 months, due to slow procurement. All works were completed in December 2003 as compared with the June 1999 completion as envisaged at appraisal, with a delay of 54 months. The loan closing was extended three times; first by 24 months from 30 September 1999 until 30 September 2001, then by 9 months until 30 June 2002 and finally by 14 months until 30 September 2003.

18. Given the delay in completion of the LARP, arrangements were made in the construction schedule to allow parts of the construction to start where no land acquisition was needed, while the LARP was implemented in other areas. For example, the location for the glide slope transmitter for runway 05 was changed from the east side to the west side of the runway where no resettlement was necessary. The glide slope transmitter was relocated after the required land at the original location was finally acquired. In fact, the LARP implementation was fully completed only in the fourth quarter of 2003, three months before the project completion.

19. Other delays that occurred prior to the start of construction, although less significant than that of the LARP, were caused by: (i) the delay in recruitment of consultants for detailed design work and construction supervision (the Project Consultants); (ii) the time the Department of Transportation and Communication (DOTC) and the Project Implementation Unit (PIU) took to review prequalification and tender documents; (iii) the protracted approval procedures of the Prequalification Bidding and Awards Committee; (iv) poor communications between DOTC and PIU with ADB and the Project Consultants; and (v) poor weather conditions with abnormally high rainfall in 1999.

20. As a result of the excessive delays at project start, the Project Consultants were demobilized on 20 December 1997 and re-mobilized on 1 July 1998. The procurement process for the airside works contract had been extended for the same reason. Further delays were caused during project implementation by (i) slow procurement process for the airside and landside civil works; (ii) slow progress of works on the passenger terminal building when structural damages were identified, and the Project Consultant demobilized unilaterally by DOTC for six months (from 1 October 2002 till 8 April 2003) due to disagreement on responsibilities for the structural problems (para 11); and (iii) the need to rebid the ILS system because of concerns raised by the bidders about the technical specifications.

## **F. Implementation Arrangements**

21. The borrower of the loan was the Government of the Philippines, represented by the Department of Finance. DOTC was the executing agency. For efficient project implementation, a PIU was set up in Davao and staffed with a project manager, a civil engineer, an electronics engineer and four supporting staff. Further technical and support staff were seconded from ATO. In addition, a Project Steering Committee, chaired by an undersecretary of transportation, had been set up and assigned to: (i) review the design plans for the Project, which were prepared by the PIU<sup>3</sup>; (ii) oversee and coordinate all activities and liaise with agencies involved in project implementation; (iii) review the implementation status; (iv) monitor progress achieved and resolve difficulties encountered; and (v) serve as a forum for discussions on, and review of, the impact of the Project on regional development.

## **G. Conditions and Covenants**

22. The status of compliance with loan covenants is given in Appendix 6. Of the 18 loan covenants, 1 was not required, 15 were complied with, 1 of them after a long delay, 1 is being complied with, and 1 was partly complied with. DOTC only recently complied with the goal of transferring the operation, management and maintenance along with all assets of Davao airport to an independent airport authority, which was initially expected no later than 31 December 1998. Under Executive Order No 7 of 2004, the international airports of the Philippines,

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<sup>3</sup> The design work was actually performed by the Project Consultants contracted by the PIU; however, the PIU was officially responsible for their work.

including the Davao airport, will be transferred to Ninoy Aquino International Airport Authority (NAIAA). The Government approved a substantial increase in tariffs in 1998, and is further complying with the tariff covenant by considering additional increase to bring the tariffs in line with ICAO recommendations. Although DOTC complied with the requirement to propose the institutional reform for the civil aviation sector, the reform was not implemented, making the related covenant only partly complied with. House Bill No. 1603 was filed in the Eleventh Congress (1998-1999) to amend the Civil Aeronautics Act passed in June 1952 (Republic Act No. 776) and the Senate Bill No. 1768 is under consideration by the Senate for the creation of the Civil Aviation Authority (CAA) of the Philippines. The Government advised that the bill to create CAA will be filed for passage in the Congress in the next few months.

## **H. Related Technical Assistance**

23. ADB provided a Technical Assistance (TA)<sup>4</sup> to guide DOTC through the implementation of its policy reform and sector restructuring. Specifically, the TA was to assist with the formulation of: (i) liberalization of bilateral air service agreements; and (ii) institutional reform for the civil aviation sector. The services rendered under this TA comprised 18 person-months of international consulting, carried out from January 1997 until March 1998. The progress of the TA was reviewed during several missions. The Technical Assistance Completion Report (TCR) was prepared and circulated to the Board on 8 July 2005. The TA was rated successful, and the main lessons learned and recommendations of the TCR are given below.

24. The TCR was not prepared immediately after completion of the TA in 1998, because the Third Airports Development Project, approved in September 1997, was expected to move forward and implement some of the recommendations of the TA. The TCR concluded that TAs should extend beyond the study itself, and as far as possible, help implementation of the recommendations, and achieve TA objectives in the most efficient way, or alternatively, follow up TA should be provided. Especially, as experienced under this TA, where legal passage would be essential for the successful achievement of the TA recommendations, instruments like detailed presentation to the concerned committees of the Houses for better understanding of the technical aspects of the study should be provided, preferably within the TA.

25. The main recommendation of the TCR related to the full compliance of the covenants of Loan 1333-PHI related to the recommendations of the TA. It recommended in particular that continuous dialogue should be maintained, through country-portfolio or programming level meetings and other possible high-level management meetings, to ensure that TA recommendations on institutional reforms (para. 22), although already acted upon by the Government, are fully implemented.

## **I. Consultant Recruitment and Procurement**

26. The actual project works were carried out by three consulting firms or consortiums and six contractors that were also suppliers. All procurement processes were carried out according to the *ADB's Guidelines on Procurement*. With two exceptions, international competitive bidding was applied. No major problems were encountered with contract packaging.

27. Three contracts of international consulting services were awarded for (i) detailed design and construction supervision; (ii) project monitoring and review and airport security

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<sup>4</sup> ADB. 1994 Technical assistance to the Republic of the Philippines for the Institutional Strengthening of Civil Aviation Sector. Manila. TA 2207-PHI, approved November 1994 for \$592,000.

enhancement services; and (iii) human resources development within CATC. All consultants were selected according to the ADB's *Guidelines on the Use of Consultants*. Given the unique nature of the services for (ii) and (iii), these were awarded through direct recruitment of ICAO.

28. ADB approved advance recruitment action for detailed design and project implementation on 29 June 1994 to expedite project implementation. The successful bidder was a multinational consortium. Delivery of services started in early August 1995 following signing of the contract on 30 June 1995. The services comprised a total of about 2,230 person-months, of which 1,872 person-months were local consulting services. The contract covered the phases of: (i) masterplan review, detailed design, and tender document preparation; (ii) procurement assistance for civil works and airport equipment contract packages; and (iii) construction supervision. This contract was completed in September 2003, without any major problem.

29. The contract for project monitoring and review and airport security enhancement services was signed with ICAO on 26 June 1998. Mobilization of ICAO staff took place in early 1999, but delivery of services was delayed due to the delay in processing the advance payment. The services were completed without any problem in the third quarter of 2003, with a total of 10 person-months provided.

30. The contract for the equipment and training for CATC was signed on 16 May 2000 and implemented between July 2000 and the fourth quarter of 2002. To avoid an overlap with an ongoing Japan International Cooperation Agency funded equipment project, it was decided to reduce equipment procurement and implement instead the ICAO's TRAINAIR<sup>5</sup> program. Here, 23 person-months of training experts and the procurement of equipment, which was necessary for the course, were provided.

31. Contracts other than consulting services covered: (i) airside civil works (one contract); (ii) landside civil works (one contract); and (iii) equipment (four contracts). Because of the delay in the LARP, the airside civil works did not commence until 1 September 1998, 28 months later than planned at appraisal. The contract was completed in December 2003. The landside civil works started on 11 January 2000 and were completed in January 2004, exceeding the planned 22-month construction period. The delivery and installation of navigational aids and communication and airfield maintenance equipment started in December 1999. All related work was completed within the contract period. Three equipment contracts were awarded through international competitive bidding, while the other was awarded through international shopping.

## **J. Performance of Consultants, Contractors, and Suppliers**

32. The technical competence of the Project Consultants was highly rated at the time of consultant selection, based on their overall expertise. However, until the civil works started, they were not proactive enough in accelerating project implementation, since there was no immediate pressure to do so due to delays of LAR activities. During the latter part of the Project, when structural problems were identified in the passenger terminal building, DOTC unilaterally suspended their contract and they were demobilized for 6 months (para 20). While the analysis

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<sup>5</sup> TRAINAIR is an ICAO Program that was established with the goal of improving the safety and efficiency of air transport through the establishment and maintenance of high standards of training for aviation personnel on a global basis. This program is an international cooperative system for civil aviation training institutions. Members of the program develop training packages to an international methodological standard, which can easily be used by all members. An integral part of the program is an international training resource sharing system administered by ICAO. This system is highly efficient for members as they acquire many of the courses they need through it and need only prepare a limited number of courses themselves.

of the problems and appropriate rectification measures were being conducted, civil works still continued without construction supervision. After the problems were solved, the Project Consultants were reinstated, and they performed a post facto quality assurance on the works carried out without construction supervision during their period of absence. They also assumed responsibility for the structural problems and rectified these at no additional cost to DOTC. Overall, the integrity shown and proactive role by them in handling this structural problem was highly constructive. The performance of the Project Consultants is rated satisfactory.

33. No problems were noted with respect to the consulting services provided by ICAO. Implementation of the TRAINAIR program started in November 2000 and was completed on 8 November 2002. ICAO's performance was satisfactory.

34. Overall, the performance of contractors and suppliers was satisfactory. However, the microtunneling contract, for which the main contractor for airside works had awarded a subcontract, had to be canceled because of the subcontractor's incompetence (failure to drill the tunnel to the predetermined exit point). The subcontract was re-awarded and completed satisfactorily. As this work was not a critical activity, the airside works were not negatively affected.

#### **K. Performance of the Borrower and the Executing Agency**

35. The performance of DOTC and PIU were partly satisfactory. DOTC established the PIU with a delay of 6 months, and then the PIU functioned for a certain period without a full-time project manager. This caused delays due to slow communication with ADB for various related approvals. After the appointment of the full-time project manager, PIU's performance improved. The LARP could have been completed sooner if DOTC and the PIU had maintained full control over the resettlement process rather than delegated it to the City of Davao, which had different priorities from those of DOTC/PIU. The LAR process could also have been speeded up if DOTC/PIU had a clearer and more systematic project planning and implementation process. DOTC was slow at forwarding documents and signing contracts. For example, it took six months to sign the contract with the Project Consultants and an equal amount of time to forward the draft prequalification documents for the airside contracts to ADB for review. DOTC's desire to prequalify additional firms delayed the tender process for airside works by an additional 2.5 months. Further friction was caused by DOTC's requirement for an official approval by a government committee for any consultant recruitment. The establishment of a threshold value below which the approval could be directly issued by the PIU would have greatly reduced the number of approvals requested and saved time. More generally, to expedite processing works, it would have been desirable and beneficial for the Project if the PIU had more autonomy to make necessary decisions, instead of having each time to get DOTC's approval.

#### **L. Performance of the Asian Development Bank**

36. Between 20 January 1995 and 7 September 2005, ADB fielded 20 missions of which 17 were for project review, 1 for mid-term review, and 2 for PCR preparation. The PCR missions including site visit to Davao, was conducted on 12 and 18 May 2005, and 5 to 7 September 2005 for LAR completion review. With little exception, ADB attended to matters promptly, particularly with respect to approvals, disbursements and monitoring. Although ADB was aware of the importance of the delays of the LARP and pointed out the urgent need of progress, it would have been of benefit if it had taken a more proactive role in this respect. However, more pressing ADB action may have had limited impact since DOTC had turned the LARP over to the

City of Davao. It would also have helped to minimize delays if ADB had been more actively pursuing the advancement of the procurement processes.

37. At the time of the dispute between DOTC and the Project Consultants about the structural defects in the passenger terminal building, ADB was very proactive in helping the two parties find technical and contractual solutions to the problems. ADB's role in this dispute was also well appreciated by EIB, which was financing this component. Overall, the performance of ADB is rated satisfactory.

### **III. EVALUATION OF PERFORMANCE**

#### **A. Relevance**

38. The Project is in line with ADB's country strategy and program and the GOP's main objective of upgrading Davao airport to handle international traffic. The improvement of the infrastructure facilities has increased the overall safety and usability of Davao airport, and thus facilitated access to Davao and the region. The City of Davao can now develop its full potential in BIMP-EAGA, and enhance the level of commercial, agricultural, manufacturing and tourism activity in Mindanao, which will contribute to accelerate economic development and reduce poverty in the region.

39. Passenger demand at Davao airport in 2004, the first full year of operations with the new facilities, has increased by 15.4%, more than twice the average annual growth rate between 1995 and 2004. The Project has not contributed alone to the accelerated growth in 2004. The effects of the Asian financial crisis, terrorist attacks on 11 September 2001 in the US, and several local terrorist incidents in Davao in 2002 and 2003 had a depressing effect on air passenger demand between 2001 and 2003, which was partly compensated in 2004 when demand for air travel again grew healthily worldwide. The existing international flights between Davao and Manado and Singapore were introduced during the implementation of the Project, before the runway extension had been completed in 2001 and ILS approaches were available. Although the longer runway has not yet attracted new international traffic (para 42), the weekly flights for Singapore recently increased from four to seven and Asiana Airlines conducted a recent demand assessment of the airport and Davao City, which is being considered as a potential new destination for international flights. It is however too soon to make a reliable assessment on the impact of the Project on regional economic growth. This impact can be better evaluated in a few years once more definite traffic trends can be identified.

40. Supported by its attached TA (paras 23 to 25), the Project pursued policy dialogue with GOP to raise tariffs and fees, liberalize the air traffic agreements, restructure the civil aviation sector, and transfer Davao airport to an independent authority. Good progress has been achieved, but some work still needs to be done, in particular for creation of a civil aviation authority and operationalization of the management of Davao Airport under the NAIAA (para 22).

41. The changes made to the project scope during implementation (para 10) did not affect the Project's relevance. These were necessary for a proper functioning of the airport and contributed to enhancement of operational efficiency. Overall, the Project is rated highly relevant.

## **B. Efficacy in Achievement of Purpose**

42. The purpose of the Project was to upgrade Davao Airport to handle international traffic, by accommodating larger aircraft, increasing flight safety and usability, and providing a higher level of comfort to passengers. It was also to improve the standards of CATC and delivery of related services. The extension of the runway will allow the operation of larger aircraft over longer flight distances. However, considering the current regional traffic, Davao airport could have still handled such traffic for some years with the original shorter runway (e.g. these regional flights, like the present Davao–Singapore flight, are operated with aircraft for which a runway length of 2,500 m is sufficient). Therefore, the expenditure for a longer runway could have been postponed and the achievement of the Project to accommodate larger aircraft is rated partly efficacious.

43. There are some minor deficiencies in airside security and safety, i.e. the airport fence is not efficiently patrolled, and the approach lighting lacks proper maintenance to fully achieve the instrument flight rules capability<sup>6</sup>. However, the Project has upgraded Davao airport to handle approaches and departures under instrument meteorological conditions. The efficacy of the Project to improve the safety and usability of this infrastructure is therefore rated efficacious.

44. The Project removed the previously existing capacity bottlenecks in the passenger terminal. The new terminal is equipped with four passenger-boarding bridges and provides an improved capacity to handle about 2 million annual passengers. The building is divided into domestic and international sections. On the departure side, one of the international gate lounges and the associated boarding bridge are designed as a swing gate, which allows for sufficient flexibility and capacity to manage the flow of domestic passengers while also providing capacity to accommodate anticipated increasing international demand. The new cargo terminal with a capacity of 84,600 tons annually is currently operating at 50% of its capacity. It provides for adequate storage (also cold storage), which is a new development; thus the facility is a platform to accommodate further growth of imports and exports to and from the region. Overall, the new passenger and cargo handling facilities are rated efficacious in achieving a higher level of comfort in operations.

45. The equipment and training program for CATC has been carried out successfully. It has resulted in an improvement of the quality of the services provided by this training institute. The Project was therefore efficacious in improving the standards of CATC and the related services. Overall, the Project is rated efficacious in achieving its purpose.

## **C. Efficiency in Achievement of Outputs and Purpose**

46. The Project has a negative financial internal rate of return (FIRR), at –1.3%. Therefore the Project is not financially viable. The economic internal rate of return (EIRR) is 1.8%. Considering the ADB's criterion of an EIRR of at least 12% for economic viability, the Project is not economically viable. These rates have to be compared with FIRR of 10.7% and EIRR of 17.8% at appraisal and with FIRR of 7.54% and EIRR of 13.06% at mid-term review in 2000. The low financial return is mainly due to the long delay before project completion and the insufficient progress that the Government has made with respect to increasing tariffs and fees. Total revenues of 92 million Pesos (about \$1.6 million) in 2004 are substantially lower than the revenues estimated at appraisal, and at mid-term review. Unless the fees are substantially raised over the coming years, the Project will not recover its costs in real terms before 2024.

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<sup>6</sup> The possibility to conduct instrument flight rule approaches under conditions fully compliant with ICAO standards.

47. As the Project is currently neither economically nor financially viable and substantially exceeded its time schedule and budget, it is rated as inefficient. Details of the financial and economic reevaluation are given in Appendix 7.

#### **D. Preliminary Assessment of Sustainability**

48. The site visits during the PCR Mission revealed several deficiencies in relation to the maintenance of facilities, mainly due to insufficient budget for maintenance and lack of awareness of the importance of maintenance. Specifically, the following were observed: (i) ATO does not provide adequate personnel and equipment to meet security requirements, and (ii) long sections of the airport fence were poorly maintained, covered heavily by overgrown vegetation, or run through wooded area. In most of these cases, the perimeter road is located far from the fence, which makes patrols ineffective in checking the condition of fence.

49. Other concerns include a number of defective approach lights and a broken flashing approach light, which had remained neglected<sup>7</sup>. ATO's negligence is due to their view that minor defects would not make the system unusable immediately, which clearly demonstrates a problem in ATO's approach to maintenance.

50. In order to improve sustainability, ATO must allocate larger budgets for maintenance personnel and equipment. ATO is also well advised to raise the awareness of airport employees to the importance of proper maintenance for operational safety and for the success of the Project. Unless the facilities are kept in a safe and orderly state, the airport may fail to attract new or lose existing air services and, ultimately, the operating license may be at risk. All of the maintenance expenses must therefore be allocated irrespective of the financial performance of the airport since maintenance has a direct impact on safety aspects, which must not be compromised. The expected transfer of Davao Airport under the NAIAA may provide opportunity for better allocation of financial resources for airport maintenance. In light of the foregoing, sustainability of the Project is rated less likely.

#### **E. Environmental, Sociocultural, and Other Impacts**

51. The initial environmental examination concluded that no major environmental impacts would result from the Project because of (i) the location of the Project site in a rural and sparsely populated area; (ii) the mainly agricultural land use in the surrounding area; (iii) the low level of aircraft movements and limited night operations; and (iv) the absence of environmentally sensitive areas within and immediately adjacent to the airport. A possible concern for the future may be noise pollution from an increasing number of aircraft movements, particularly late at night. It is foreseeable that noisy aircraft (B737-200, DC-9), which are still operated by Air Philippines and by Cebu Pacific, will be replaced with modern, less noisy, equipment in the future. This will counterbalance a higher noise exposure, which results from increased traffic levels. Noise issues should therefore not become a serious issue.

52. Among the environmental mitigation measures in the loan covenants, the provision of brick incinerators for combustible solid wastes was required. This facility has not been constructed since the Philippines Clean Air Act does no longer allow open incineration. Solid

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<sup>7</sup> This means that when a larger number of lights are not operating, the ILS may still be usable but as a non-precision approach aid.

waste is now collected and then stored in a depot on the airport site where it is picked up by the City of Davao and disposed of in accordance with applicable laws.

53. Land acquisition and resettlement (LAR) activities were among the major issues for project implementation and the main reason for the delay experienced by the Project. DOTC entered into three Memoranda of Agreement (MOA) with the City of Davao for LAR<sup>8</sup>. At appraisal, the acquisition of 93 hectares for the extension of the runway, the approach lighting, the glide slope transmitter, the future parallel taxiway and the passenger and cargo terminal complex were planned to be completed before the start of construction. Only a small portion of this land (9 ha) had been developed<sup>9</sup> and the remainder was classified as semi-developed, undeveloped and incapable of development. The fact that some 85 hectares of this land were owned by only four land owners who had expressed their willingness to sell, and the fact that at appraisal a resettlement plan had already been received from the City of Davao, had led to the assumption that the LARP would be completed quickly. However, the process took much longer since in a number of cases the land could be acquired only after going through the process of expropriation. The LARP has been finalized in the third quarter of 2003 only, at the time that the airport facilities were almost completed. Given the importance of the LAR issue, which became again a problem for the following Third Airport Development Project, a specific LAR completion report was prepared (Appendix 8).

54. The institutional development measures carried out under the Project covered the ICAO-TRAINAIR program and provision of training to 97 ATO personnel. The measures have been very useful for daily operations at the airport, as clearly demonstrated by ATO staff during the PCR mission. Therefore, institutional development measures are rated significant in improving future services provided by ATO. Overall, the institutional development component and the other impacts of the Project are rated significant.

#### **IV. OVERALL ASSESSMENT AND RECOMMENDATIONS**

##### **A. Overall Assessment**

55. Overall, given the assessment of its high relevance, efficacy, inefficiency, less likely sustainability, and significant impacts, the Project is rated partly successful, at the border of successful.

##### **B. Lessons Learned**

56. Without a clear and systematic LAR planning and implementation, the LAR process took much longer than expected, and resulted in uneven compensation for AFs compensated in different periods or locations<sup>10</sup>. This caused delays in disbursement and resulted in increased commitment fees for the borrower. The following lessons were learned from implementation of the Project: (i) sound LAR planning inclusive of systematic compensation policies and clear

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<sup>8</sup> MOA 1 focused on LAR concerning informal settlers affected by airside civil works. MOA 2 dealt with LAR related to formal settlers affected by airside and landside civil works. More land acquisition (MOA 3) was necessary for development of: (i) approach surface at Runway 05; (ii) Sasa Creek drainage pond area; and (iii) approach lighting system (ALS), as recommended by ICAO mission in 1998.

<sup>9</sup> Financial assistance was provided to buy housing materials for affected families' new homes. Salvaged materials were brought by the affected families to the new site with the help of the city. The affected families told the Mission that almost all new houses are bigger and better built than the original ones and that the school has more classroom and teachers than before.

<sup>10</sup> This uneven compensation was due to change in compensation policies along the process.

compensation rates agreed by the AFs before project implementation is essential to prevent project delays and ensure equity in compensation (refer to Appendix 8); (ii) effective LAR requires that the borrower assumes the ultimate responsibility on LAR financing and administration (in the case reviewed, responsibility was left to Davao City); (iii) in areas with developed real-estate markets a sound compensation policy needs to include provisions fitting the local house-financing practices to ensure adequate compensation in line with market prices; and (iv) advanced action and periodic supervision remains the most important avenue available to ADB to ensure proper and timely LAR implementation.

57. Other specific lessons learned which may be relevant to improving the output and success of future projects are: (i) safety and security are important elements of airport design/layout and operations. To make sure that the relevant installations will be effective and efficient it is imperative that they are well planned and designed, and that the completed facilities are maintained in good working condition. The fence deserves particular attention, and must be kept clear of vegetation, so that patrol must be able to control its indemnity without difficulty. Monitoring of safety compliance should become a standard element of ADB's review missions; and (ii) since loan covenants sometimes relate to long-term issues such as financial sustainability or maintenance of the facilities, it is necessary to have continued policy dialogue on pending issues, through portfolio reviews and future interventions, as an incentive for the borrower to comply with the covenants beyond the project completion.

## **C. Recommendations**

### **1. General**

58. **Advanced LAR Actions.** The new approved expenditure eligibility where ADB Innovation and Efficiency Initiative allows financing of LAR under ADB loans should be considered in the LAR process. To ensure adequate timing of land acquisition, where LAR process is complex and time-consuming, advance action should be taken possibly under a readiness TA loan.

59. **Future Monitoring.** Sustainability is one important aspect of project success that requires close monitoring after the Project has been completed. In particular, availability of funds to maintain the facilities well, through further adjustment of tariffs and fees or other means should be carefully monitored to ensure financial stability. Ways of providing incentives to achieve a high level of maintenance standards (e.g. through the control of operational licenses or bonus structures) should be explored. This could be complemented through future sector interventions.

60. **Safety, Security and Maintenance.** ICAO recommendations on safety and security aspects (maintenance of periphery fence and approach lighting properly, and providing effective and frequent patrols) should be strictly followed. Also, it is recommended that ATO adopt life cycle cost based maintenance approaches for each airport. Adequate budget needs to be in place such as to avoid a shortage of maintenance funds to prevent slippage of maintenance standards. It is expected that the next Government regulation putting international airports, including Davao, under the NAIAA will allow adequate financing of airport maintenance.

## 2. Project related

61. **Covenants.** Covenants that are still being complied with should be closely monitored to achieve full compliance as early as possible. It relates in particular to tariff level and creation of a civil aviation authority.

62. **Further Action or Follow-Up.** Lessons learned in paras 56 and 57 indicate useful directions to formulate future actions by the borrower and ADB. Training, safety and security, institutional reforms, maintenance, and financial sustainability issues should be well integrated into continuous future dialogue with the Government through country portfolio reviews, and possible additional assistance and future interventions.

63. **Additional Assistance.** ADB assistance to the airport sector was expected to continue with the Southern Philippines Airport Development Project. This project was designed after cancellation of civil works under the Third Airport Project, due to lack of LAR progress, by reassessing the project airports on the basis of new traffic forecast following the Asian financial crisis. However, it was removed from the Philippines Country Strategy and Program due to lack of Government counterpart budget to implement further airport improvement projects. Further airport and port improvements are studied under an ongoing intermodal transport TA<sup>11</sup>, and could lead to further work in the airport sector, provided that it matches ADB and GOP infrastructure development priorities and lessons learned on LAR issues can be applied. In such case, further policy dialogue and possible technical assistance could be considered in the sector, particularly in terms of institutional reforms and tariff level.

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<sup>11</sup> ADB. 2004 Technical assistance to the Republic of the Philippines for the Intermodal Transport Development Project. Manila. TA 4344-PHI, approved in May 2004 for \$1,000,000.

## PROJECT LOGICAL FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p><b>Goals</b> To foster the role of the city of Davao inside BIMP–EAGA and the economic development of Mindanao</p> <p>Human resource development in the civil aviation sector</p>	<p>Increase in international air services; improvements in flight safety</p> <p>Increased level of competence</p>		<p>New facilities will attract international services. ATO will transfer airport operations and assets to an independent airport authority. ATO will increase rates and fees.</p> <p>Training will be effective and address needs.</p>
<p><b>Purpose</b> To upgrade Davao airport to handle international traffic, by accommodating larger aircraft, increasing flight safety and usability, providing a higher level of comfort to passengers</p> <p>To improve the standards of CATC and thereby improve the services provided</p>	<p>Instrument approach capability, payload and/or range extension for aircraft and accommodation of larger aircraft, runway capacity increase, increase of the passenger and cargo handling capacity</p>	<p>Project completion report</p> <p>Final report on the TRAINAIR program</p>	<p>Sustained maintenance of safety and security standards and maintenance of the facilities in good physical condition</p> <p>New knowledge will be applied; continued membership in the TRAINAIR community</p>
<p><b>Outputs</b> Upgrading and refurbishment of CATC facilities and training of CATC personnel</p>	<p>Installation of ILS CAT I approach on both runways, extension of runway to 3,000 m, construction of a new apron 75,250 m<sup>2</sup> in size (nine aircraft positions), of a new passenger terminal with 17,500 m<sup>2</sup> of floor space (capacity of approximately 2 million passengers per year), of a new cargo facility of 5,580</p>	<p>Monthly progress reports.</p> <p>Number of flight diversions due to inclement weather conditions (no more diversions counted since ILS has become operational)</p>	<p>Currency fluctuations, delays</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>m<sup>2</sup> floor space and of a new car parking lot for 688 vehicles - by June 1998</p> <p>Capacity building: installation of the TRAINAIR program, development of two standardized training packages and training of 97 ATO personnel - by September 1996</p>	Consultant's final report	Qualification of the program participants, application in practice of lessons learned, continuation of active program membership.
<p><b>Inputs</b> Financial resources: Asian Development Bank loan</p> <p>EIB loan</p> <p>Department of Transportation and Communications counterpart financing</p>	<p>\$ 41.00 million</p> <p>\$ 31.30 million</p> <p>\$ 32.70 million</p>	<p>Actual costs: \$ 39.75 million</p> <p>\$ 23.19 million</p> <p>\$ 36.95 million</p>	<p>Completion within budget; 6 years total delay.</p> <p>Commitment of EIB to the Project.</p> <p>Monies are scheduled for the Government's budget and are made available.</p>

ATO = Air Transportation Office, CATC = Civil Aviation Training Center, EIB = European Investment Bank.  
Source: Project Completion Report Mission.

## CHRONOLOGY OF EVENTS

Date	Event
18 May–3 Jun 1994	Fact-Finding Mission
29 Jun 1994	ADB approves advance recruitment action for the detailed design and project implementation consultant
22 Jul–12 Aug 1994	Appraisal Mission fielded
26–27 Oct 1994	Loan negotiations at ADB headquarters
24 Nov 1994	Loan approval
20 Jan 1995	Loan signing
20–24 Jan 1995	Inception Mission fielded
Feb 1995	Project Implementation Unit is established under the Air Transportation Office, which is responsible for overall project implementation
30 Jun 1995	Signing of consultancy contract for detailed design and construction supervision with DMJM Consultants
1 July 1995	Commencement of services under first consultancy contract
27 Sep 1995	Receipt by ADB of draft prequalification documents for part A: airside civil work
15 Apr 1996	DOTC's Prequalification, Bidding and Awards Committee, responsible for reviewing bid documents, prequalification documents, etc., is formed
6 Jun 1996	Issuance of invitation to submit prequalification document for part A
14 Nov 1996	Receipt by ADB of the prequalification evaluation report for part A
27 Nov 1996	Comments on the prequalification evaluation report for part A issued by ADB
13 Dec 1996	No objection by ADB to issuing invitation to the eight firms prequalified for part A given by ADB
20 Dec 1996	Issuance of bid documents for part A
17 and 27 Jan 1997	DOTC requests ADB's concurrence for including four additional prequalified firms for part A
10 Feb 1997	Procurement Committee approves the prequalification of the four firms

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Date	Event
15 May 1997	Bid opening for part A
20 May 1997	ADB receives draft contract for consulting services for project monitoring and airport security enhancement
5 Aug 1997	Receipt by ADB of the BER for part A
12 Aug–3 Sep 1997	Memorandum from the Board of Directors forwarding representation from IMPREGILO and High Peak Corporation part A
24 Nov 1997	Procurement Committee rejects the bid by IMPREGILO and High Peak JV due to nonresponsiveness; contract is awarded to Hanjin Engineering and Construction Co. Ltd..
20 Dec 1997	Detailed design and project implementation consultant demobilizes (to remobilize as soon as the contractor for Package 1 mobilizes)
24 Mar 1998	ADB gives its no objection to award the contract to the part A contractor, Hanjin Engineering and Construction Co., Ltd.
28 Apr 1998	Contract for part A contractor signed and notice to proceed issued
19 Jun 1998	Draft consultancy contract for project monitoring and review submitted for ADB's concurrence
25 Jun 1998	ADB gives its no objection to the signing of the contract for project monitoring and review
28 Jul 1998	Consultancy contract for project monitoring and review, awarded to ICAO, is signed
1 Jul 1998	Remobilization of DMJM consultants for detailed design and construction supervision.
1 Sep 1998	Part A contractor is mobilized
8 Jan 1999	ICAO, the project monitoring consultant, is mobilized (delay was due to ADB and DOTC processing of the advance payment)
31 Aug 1999	Loan proceeds of \$500,000 are reallocated to the implementation of the TRAINAR program, because the original scope of the CATC training program overlapped with an on-going program financed by the Japan International Cooperation Agency
30 Sep 1999	Original loan closing date
15 Dec 1999	ADB approves the issuance of bid documents for equipment for part A: airfield maintenance and equipment and part B: nav aids and communication equipment

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Date	Event
27 Jan 2000	ADB approves a change in project scope under part D: capacity enhancement for CATC, to replace the CATC training component with a TRAINAR program and for direct selection of ICAO
16 Mar 2000	Deadline for submission of bids for part C equipment
16 May 2000	Signing of the consultancy contract for part D: capacity enhancement for CATC, awarded to International ICAO.
1 Jul 2000	Commencement of part D, the TRAINAR program
15 Aug 2000	ADB receives the BER for equipment for part A: airfield maintenance and equipment
11 Sep 2000	ADB approves award for procurement of equipment for part A
20 Sep 2000	ADB approves a minor change in scope for the procurement of the instrument landing system instead of having the existing one relocated and recalibrated
8 Nov 2000	ADB approves the issuance of revised bid documents necessitated by revised technical specifications for procurement of equipment: part B: nav aids and communication equipment
7 Dec 2000	Deadline for submission of bids for equipment for part B
18 Jan 2001	ADB receives contract for the supply and delivery of equipment for part A
13 Jul 2001	ADB receives representation for the procurement of equipment for part C: ILS
6 Sep 2001	ADB receives the BER for the procurement of equipment for part C
30 Sep 2001	First extension of loan closing date
5 Nov 2001	ADB informs DOTC of its decision to rebid procurement of equipment for part C
14 Nov 2001	ADB approves contract award for procurement of equipment for part B to Philcox (Phil)
15 Feb 2002	ADB receives signed contract for procurement of equipment package for part B
26 Apr 2002	ADB approves the reallocation of loan proceeds
26 Apr – 15 May 2002	ADB approves revised bid documents for the procurement of equipment for part C

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Date	Event
28 Jun 2002	ADB receives representation for the procurement of equipment for part C
30 Jun 2002	Second extension of loan closing date
1 Oct 2002	Demobilization of Project Consultants due to structural failure of cracks in the passenger terminal building
30 Oct 2002	ADB receives the BER (rebid) for the procurement of equipment for part C: ILS
8 Nov 2002	ADB asks DOTC to provide further comments on the BER for part C
2 Apr 2003	ADB approves award of the contract for the procurement of equipment for part C to Park Air Systems
8 Apr 2003	Re-mobilization of Project Consultants after the cracks in the passenger terminal building dispute resolution
10 Jul 2003	ADB receives signed contract from Park Air Systems
24 Sep 2003	The Department of Finance requests a reallocation of loan proceeds
30 Sep 2003	Third and final extension of loan closing date
1 Oct 2003	Testing and commissioning of the equipment package for part B completed
29 Oct 2003	ADB approves the reallocation of loan proceeds
8 Jan 2004	ADB requests submission of final loan disbursements
20 Apr 2004	The Department of Finance confirms the loan balance is to be canceled
27 Apr 2004	ADB informs DOTC of the cancellation of the unutilized loan balance of \$1,253,607.81 retroactively effective as of 23 February 2004, the value date of the last transaction
6 May 2004	ADB sends a final cancellation notice and revised amortization schedule

ADB = Asian Development Bank, BER = bid evaluation report, CATC = Civil Aviation Training Center, DOTC = Department of Transportation and Communication, ICAO = International Civil Aviation Organization.  
Source: Asian Development Bank.

## PROJECT OUTPUTS: PLANNED AND ACTUAL

Project Component	Planned Output	Actual Output	Percentage Completed
Part A: airside civil works	Extending the existing runway by 500 meters (m) for a usable takeoff length of 3,000 m, with runway safety areas of about 300 m at each end	As planned	100%
	Widening and grading of the landing strip to 150 m with 1:7 transition slopes and a future parallel taxiway separation of 182.5 m on the western side of the runway alignment, thus establishing an object-free area of about 270 m, and improving airfield drainage	As planned plus improvement of the cross-drainage and rehabilitation of Sasa creek	100%
	Reconstructing, overlaying, leveling, and strengthening a portion of the existing runway and constructing a new passenger and cargo aircraft parking apron	As planned plus construction of an apron for parking ground handling equipment	100%
	Constructing an aircraft-turnaround at the end of the runway	As planned	100%
	Installing ICAO Category I (ILS CAT I) standard airfield approach lighting, markings and signs	As planned	100%
	Constructing an airfield perimeter road	As planned	100%
	Installing a perimeter security fence	As planned	100%
	Constructing a dual access taxiway to a new terminal area on the western side of the runway	As planned	100%
	Relocating and recalibrating navigational aids	As planned	100%
	Constructing a new airport access road, overpass, and vehicle parking lot	As planned plus widening of access road with new alignment	100%
	Constructing a new cargo terminal including cold storage facilities	As planned plus expanded capacity of cargo terminal	100%
	Demolishing the existing control tower and crash, fire, and rescue building and constructing a new crash, fire, and rescue center, an airfield maintenance center, and a new control tower and transferring existing tower equipment to the new tower	As planned plus increased floor space of crash, fire, and rescue building	100%
	Land acquisition and resettlement to facilitate airside civil works, installation of equipment, and access road	As planned plus land acquisition and resettlement necessary due to changes in design in airside and landside facilities	100%

<b>Project Component</b>	<b>Planned Output</b>	<b>Actual Output</b>	<b>Percentage Completed</b>
Part B: landside civil works	Constructing a new passenger terminal	As planned plus changes in the location and layout of the new passenger terminal; construction of a potable water supply tank; and construction of a reinforced concrete utility tunnel	100%
	Supplying and installing passenger terminal equipment and utilities	As planned plus procurement of passenger lounge seats	100%
	Rehabilitating the old passenger terminal to serve as a commercial facility for enhancing airport revenue	Not yet implemented	0%
Part C: provision and installation of equipment	Airfield maintenance equipment	As planned	100%
	Communications equipment and navigational aids	As planned plus installation of a new ILS I system and upgrading of the communications system	100%
	Meteorological equipment	As planned	100%
	Equipment for crash, fire, and rescue purposes, including an ambulance	As planned	100%
	Selected spare parts	As planned	100%
Part D: equipment and training for CATC in Manila	Provision and installation of equipment and related training for crash, fire, and rescue instruction, air traffic communications, navigation and surveillance simulation, and airport operations instructions	As planned	100%
Part E: consulting services	Detailed design and construction supervision, including topographical and boundary surveys and non-destructive pavement testing	As planned	100%
	Project monitoring and review and airport security enhancement by ICAO	As planned	100%

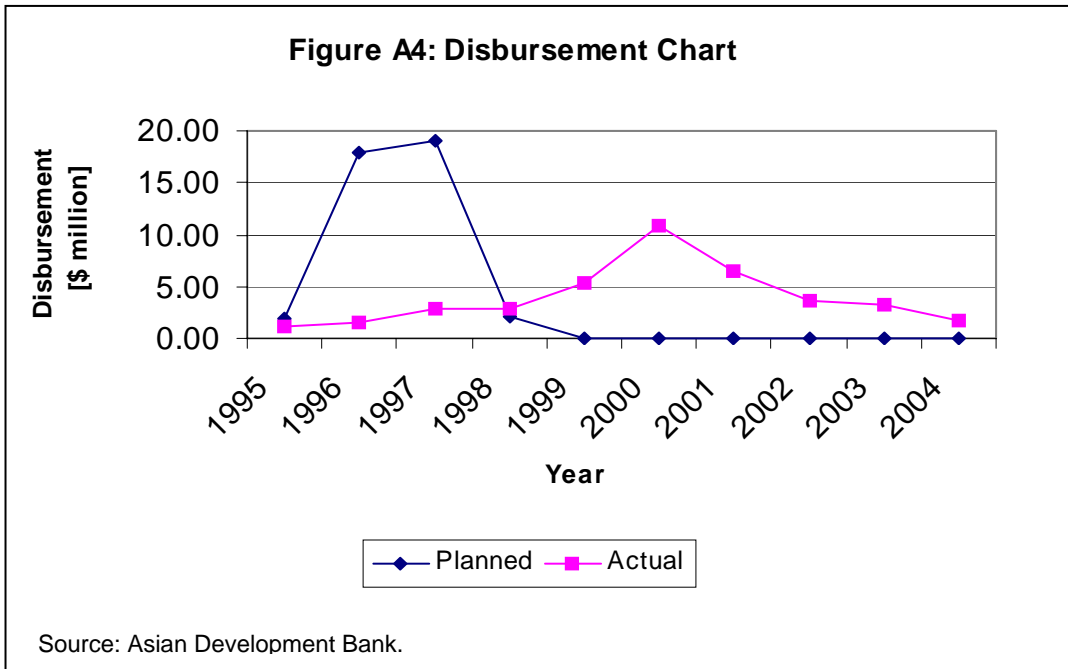
Source: Project Completion Report Mission.

**ACTUAL LOAN DISBURSEMENTS, 1995–2004**  
**(\$ million)**

Year	Quarter	Appraised Disbursement (Annual)	Actual Disbursement (Quarterly)	Actual Cumulative Disbursement
1995	I		0.000	0.000
	II		0.000	0.000
	III		1.093	1.093
	IV		0.037	1.130
	<b>Sub-total</b>	<b>1.950</b>	<b>1.130</b>	
1996	I		0.000	1.130
	II		0.458	1.130
	III		0.168	1.130
	IV		0.876	1.130
	<b>Sub-total</b>	<b>17.880</b>	<b>1.502</b>	
1997	I		1.060	2.190
	II		0.826	3.016
	III		0.355	3.371
	IV		0.637	4.008
	<b>Sub-total</b>	<b>19.000</b>	<b>2.878</b>	
1998	I		0.094	4.102
	II		0.301	4.403
	III		0.000	4.403
	IV		2.538	6.941
	<b>Sub-total</b>	<b>2.170</b>	<b>2.933</b>	
1999	I		0.253	7.194
	II		1.163	8.357
	III		1.023	9.380
	IV		2.955	12.335
	<b>Sub-total</b>	<b>0.000</b>	<b>5.394</b>	
2000	I		1.375	13.710
	II		2.613	16.323
	III		2.225	18.548
	IV		4.587	23.135
	<b>Sub-total</b>	<b>0.000</b>	<b>10.800</b>	
2001	I		1.508	24.643
	II		1.856	26.499
	III		1.496	27.995
	IV		1.546	29.541
	<b>Sub-total</b>	<b>0.000</b>	<b>6.406</b>	
2002	I		0.947	30.488
	II		0.915	31.403
	III		0.847	32.250
	IV		1.005	33.255
	<b>Sub-total</b>	<b>0.000</b>	<b>3.714</b>	
2003	I		0.027	33.282
	II		0.000	33.282
	III		1.476	34.758
	IV		1.753	36.511
	<b>Sub-total</b>	<b>0.000</b>	<b>3.256</b>	

Year	Quarter	Appraised Disbursement (Annual)	Actual Disbursement (Quarterly)	Actual Cumulative Disbursement
2004	I		1.733	38.244
	II		0.000	38.244
	III		0.000	38.244
	IV		0.000	38.244
	<b>Sub-total</b>	<b>0.000</b>	<b>1.733</b>	
	<b>Total</b>	<b>41.000</b>	<b>39.746</b>	

I = first quarter, II = second quarter, III = third quarter, IV = fourth quarter.  
 Source: Asian Development Bank.







Covenant	Reference in Loan Agreement	Status of Compliance
<p>qualified civil engineer, electronics engineer, and four supporting staff throughout the duration of the Project Implementation. Other technical and support staff will be seconded to the PIU from ATO.</p> <p><b>II. Specific Implementation Arrangements</b></p> <p><b>Preview of Design Parameters</b></p> <p>1. Within one month of the fielding of the consultants for detailed design and construction supervision, a review of the design parameters formulated by the consultants shall be carried out by a team consisting of (a) the Project Steering Committee with participation from ICAO (b) the consultants and (c) ADB.</p> <p><b>Detailed Design Review</b></p> <p>2. Within two months of the completion of all site surveys a review of the proposed detailed designs of the runway, passenger terminal building, parking aprons, and related infrastructure will be undertaken to determine the appropriate final configuration of these facilities, and will be undertaken by a team with members from the PSC as well as from ICAO, the consultants, and ADB.</p> <p><b>Environmental Considerations</b></p> <p>3. The Borrower, through DOTC shall ensure that the following environmental mitigation measures are incorporated during detailed design and construction: (i) adding capacity to the sewage disposal; (ii) controlling siltation during constructions; (iii) using brick incinerators for combustible solid wastes; and (iv) installing simple oil separators for removing oily waste from drainage water in work areas, and from storm water run-off from area such as aprons.</p>	<p>LA, Schedule 6, para. 5.</p> <p>LA, Schedule 6, para. 6.</p> <p>LA, Schedule 6, para. 7.</p>	<p>Complied with. With assistance from the Swedish International Development Cooperation Agency, SWEDAVIA reviewed the design parameters.</p> <p>Complied with. With assistance from the Swedish International Development Cooperation Agency, SWEDAVIA reviewed the basic concepts and the preliminary design. The ICAO team was mobilized in early January 1999. The design review was completed in February 2000.</p> <p>Complied with. Measures were taken to control siltation during construction. Additional drainage structures (microtunneling) was constructed under the runway to accommodate the Sasa Creek flow. The capacity of the sewage disposal system has been increased and oil interceptors have been installed in the aircraft parking apron to collect petroleum pollutants. Measures were taken to control siltation</p>

Covenant	Reference in Loan Agreement	Status of Compliance
<p><b>Operation and Maintenance</b></p> <p>4. The Project facilities will be operated and maintained to achieve full and continuous compliance with the appropriate ICAO standards for airport operations, and all airport services such as air traffic services, fire and crash rescue, and airport security.</p> <p><b>Aviation Safety</b></p> <p>5. By no later than 31 December 1995, the City of Davao will pass zoning ordinance that will prohibit the erection of any structures and provide for the demolition of any existing structure that constitutes a hazard to air navigation in the approach areas to runway 05 and 23 at Davao Airport in compliance with the ICAO regulations</p> <p><b>Financial</b></p> <p>6. (a) If sufficient counterpart financing for the purposes of carrying out the Project cannot be provided by the Government, the Government will utilize arrangement with the City of Davao whereby the latter will cover the shortfall subject to subsequent reimbursement by the Government.</p> <p>(b) The Government has included the Project under the Core Public Investment Program (CPIP), which has been introduced to prioritize projects for budgetary allocations. An</p>	<p>LA, Schedule 6, para. 9.</p> <p>LA, Schedule 6, para. 9.</p> <p>LA, Schedule 6, paras. 10 and 11.</p>	<p>during construction. Incineration is no longer allowed under the Clean Air Act, therefore no incinerator has been constructed. Solid waste is collected on site, picked up by the City of Davao, and then treated in accordance with applicable laws.</p> <p>Complied with. Passenger terminal building was fully operational as of 2 December 2003.</p> <p>Complied with. The city of Davao passed the ordinance on 11 June 1997 and has prepared implementation procedures to ensure compliance. The zoning ordinance is to be amended; however, DOTC will write a letter to ADB informing it that a relevant national law exists and that an amendment may not be necessary.</p> <p>Not required. The Government is providing counterpart funding.</p> <p>Complied with.</p>



Covenant	Reference in Loan Agreement	Status of Compliance
<p>2. By 1 Jan 1997, and taking into account the recommendations of the proposed TA, the DOTC will prepare a time bound program for the further liberalization of Philippine bilateral air service agreements.</p>	<p>LA, Schedule 6, para. 15(b).</p>	<p>EAGA countries.</p> <p>Complied with. DOTC has prepared a time-bound action program for further liberalization of bilateral services agreements. The Government endorsed a sector reform action plan during the processing of Loan No. 1536-PHI: Third Airports Development Project.</p>
<p><b>Institutional Reforms</b></p>		
<p>3. By no later than 31 December 1998, all rights and obligations in connection with the operation, management and maintenance of the airport assets at Davao airport, including the Project facilities located at Davao Airport and that portion of ADB and EIB loans used to finance these facilities, will be transferred to an independent airport authority.</p>	<p>LA, Schedule 6, para. 16 (a)</p>	<p>Delayed but complied with. While House Bill No. 2306 for creation of Davao Airport Authority and transfer of Davao Airport management under the proposed CAA was introduced in the 11th Congress (1998–1999), the Borrower advised ADB in early April 2000 of its decision to forego the creation of this new authority. Under an executive order, the 7 international airports of the Philippines, including Davao airport, will be transferred to Ninoy Aquino International Airport Authority.</p>
<p>4. Under the guidance of TA 2207-PHI, the DOTC will prepare a time bound program of institutional reform for the civil aviation sector by 1 January 1997. The plan will provide for restructuring the existing institutions (ATO and CAB in particular) to create an institution (or institutions) that manage and operate the country's civil aviation infrastructure and that will conform to best international practices. The proposed new institutions will be fully accountable for their performance and pursue non-conflicting objectives and goals.</p>	<p>LA, Schedule 6, para. 16 (b).</p>	<p>Partially complied with. House Bill No. 1603 was filed in the 11th Congress (1998–1999) to amend the Civil Aeronautics Act passed in June 1952 (Republic Act No. 776) and the Senate Bill No. 1768 is under consideration by the Senate for the creation of the Civil Aviation Authority of the Philippines. The Government advised that the bill to create a civil aviation authority has been filed in the</p>

Covenant	Reference in Loan Agreement	Status of Compliance
<p><b>Tariffs and Charges</b></p> <p>5. By 15 April 1995, the ATO will implement an increase of at least 100 percent in nominal terms over the rate prescribed under ATO Administrative Order No. 1-A, S.1985 in air navigation, over flight, and landing charges and through annual reviews and adjustments, progressively bring these charges in line with ICAO recommendations.</p>	<p>LA, Schedule 6, para. 17.</p>	<p>Congress and will be refiled in the Senate also for passage in the next few months. In the meantime, ATO will put a transitional arrangement in place.</p> <p>Being complied with. The Government approved increases in air navigation, over flight fees and airport charges in September and November 1998 through Department Orders No. 98-1177 and 98-1178, and has achieved a 300 percent tariff increase in nominal terms. A revised schedule of fees and charges for Davao Airport is with the secretary of DOTC for approval.</p>

Source: Asian Development Bank.

## FINANCIAL AND ECONOMIC REEVALUATION

### A. Traffic Forecasts and Capacity Analysis

1. **Assumptions.** Through 2003 demand at Davao Airport has only slowly been recovering from the effects of the Asian financial crisis and other domestic terrorist attack events which have had a negative impact on air transport in the more recent past. Only in 2004, the passenger demand has shown a growth rate of 15%. Many unforeseen events have in the past impacted on demand. Actual historic demand does therefore not display a continuous trend that lends itself to building a forecast on regression analysis. In the light of this a judgmental forecast approach has been adopted.

2. The forecast for the without project case reflects that the old passenger terminal has reached saturation at completion of the project. This means that in the without project case growth comes to a halt. So does cargo demand since before the project there were no separate cargo facilities available. In the with-project case no restrictions apply to growth. International traffic will grow at a faster pace than domestic traffic since it is growing from a low base and is benefiting the most from the new facilities, the ILS and the longer runway in particular.

3. **Summary of Traffic Forecast.** Table A7.1 shows the RRP-forecast and the forecast for this PCR including actual traffic until 2004 (post-implementation Stage). It shows that by 2004 actual domestic demand had overtaken the previous forecast by more than one third, whereas the demand for international services had remained far behind. However, international traffic has been quickly recovering from its low in 2001, growing at a high rate since then. Overall, 2004 has been a year of strong growth. The forecast assumes that it has been the start for a more dynamic development. Between 2004 and 2022, domestic passenger demand is expected to increase annually by an average of 6.5%, international demand by 19.5% (this high increase is due to the current trend and future envisaged demand from planned international routes), and cargo by 8%.

**Table A7.1: Traffic Forecast Comparison**

Year	RRP's Forecast			PCR's Forecast		
	Domestic Passengers	International Passengers	Cargo (t)	Domestic Passengers	International Passengers	Cargo (t)
1996	523,989	8,569	30,903	848,858	13,986	22,169
2000	663,971	40,982	32,643	886,772	14,635	41,679
2004	820,365	49,614	47,792	1,128,415	22,573	43,769
2005	858,480	52,016	52,571	1,201,762	27,088	47,270
2010	1,042,020	72,376	55,802	1,646,518	61,903	69,455
2015	1,282,908	106,689	59,231	2,255,872	154,034	102,053
2020	n.a	n.a	n.a.	3,090,741	383,286	149,950
2024	n.a.	n.a.	n.a.	3,976,134	794,781	204,005

Source: Project Completion Report Mission.

4. **Airport Capacity Analysis.** Assuming that the airside facilities can accommodate the aircraft movements till 2024, only the airport terminal capacity is analyzed. With a 17,500

square-meter terminal, the airport will be able to handle about 1,040 passengers during the typical peak hour. Since over the analysis period the demand will exceed the existing capacity, an additional two-stage terminal development is envisaged. Construction for these expansions is assumed to take place in 2012 and 2018 and add a total of 15,400 square-meters to the terminal building (Table A7.2).

**Table A7.2: Airport Capacity Analysis**

Year	Annual passengers (arrival and departure)	Peak hour passengers <sup>a</sup>	Building Floor Space (square meters) <sup>b</sup>
2012	2,000,000	1,040	17,500
2018	3,500,000	1,529	25,700
2024	4,800,000	1,953	32,900

<sup>a</sup> Using Federal Aviation Administration method  
(Based on 16.8 square meters for peak-hour passengers; standard ranges from 14 for domestic passengers to 20 for international passengers)

<sup>b</sup> before expansion of floor area

Source: Project Completion Report Mission.

## B. Financial Analysis

5. The financial reevaluation of the Project has been carried out on the “with” and “without” project basis. The with-project case refers to the expansion and refurbishment of the airport facilities, whereas the without project case builds on the assumption that the airport infrastructure existing before the project implementation remains unchanged. The major assumptions are: (i) all costs and revenues are in 2004 price levels, (ii) capital costs include physical contingencies but are exclusive of price contingencies and interest during construction; (iii) aeronautical charges and fees will be increased by 100% in 2007 and grow at a real rate of 2% thereafter, (iv) non-aeronautical revenues increase at a real rate of 3% over the period of analysis. The analysis compares the expenditures incurred in upgrading the facilities with the benefits received, i.e., increased revenues through higher passenger demand and aircraft movements, and additional benefits that contribute to economic development of the region.

6. The financial internal rate of return (FIRR) computation follows the methodology used in the RRP. Incremental operating and maintenance costs correspond with those used in the analysis for computing economic internal rate of return (EIRR); incremental income taxes are computed as incremental revenues less incremental operating costs and an estimate of the depreciation for the facilities, based on the assumption of a useful life of 50 years. The main inputs into the computation are: (i) the traffic forecast, (ii) the effective tariff and fee structure, and (iii) information from the airport’s revenue statements.

7. The result of the financial reevaluation is given in Table A7.3. The FIRR is negative, at –1.3%, and the Project is therefore not financially viable. This is to be compared with an FIRR of 10.7% at appraisal and of 7.54% at mid-term review.

8. The low FIRR is to be attributed to a number of reasons: (i) the long delay at which the Project has been completed; (ii) the very substantial devaluation which the Philippine Peso has

experienced versus the \$ between the time of appraisal and project completion, (iii) the lack of progress with respect to the increase of tariffs and fees made to date, and (iv) the fact that the capacities of the new passenger terminal will soon be exhausted and new investment will have to be made into expansion. Another important cause for the loss of financial viability is enroute navigation charges which had been counted as airport revenues in the RRP and mid-term review evaluations. However, since such charges are not related with the operation of the airport they must not be treated as airport revenues. This is also supported by the fact that enroute navigation charges are not reflected by the airport's revenue statements. The different nature of these charges will be accounted for once the civil aviation sector in the Philippines is restructured and different entities will be responsible for air navigation and airport operations. Only those navigation charges considered as airport revenue are those related to the flight segments controlled by Davao flight control tower during approach and departure. They have been included in this reevaluation.

9. The assumed increases of aeronautical fees mentioned in (ii) above have not materialized. At mid-term two rounds of such increases were anticipated, one effective January 2000 and another one effective January 2002. Depending on the type of aircraft and the flight destination (national/international), these two rounds would have resulted in a total increase of between 62% and 216% for landing fees and between 168% and 703% for navigation charges. Similarly, the passenger service charge was meant to increase by 175%. Also, rehabilitating the old passenger terminal to serve as a commercial facility for enhancing airport revenue was not completed as planned. Therefore, it is not a surprise that there is a large gap on the revenue side. The \$1.6 million of total revenues generated by Davao Airport in 2004 fall short by far from what could be considered a valid basis to finance an investment of over \$120 million.

**Table A7.3: Incremental Costs, Benefits and FIRR for the Project  
('000 \$)**

Year	Costs			Total	Revenues			Total	Net Benefits
	Capital Cost	Operation and Maintenance	Incremental Income Tax		Aeronautical	Non-aeronautical Revenues	Other		
1994	5,102	0	0	5,102	0	0	0	0	(5,102)
1995	12,860	0	0	12,860	0	0	0	0	(12,860)
1996	12,044	0	0	12,044	0	0	0	0	(12,044)
1997	11,216	0	0	11,216	0	0	0	0	(11,216)
1998	7,807	0	0	7,807	0	0	0	0	(7,807)
1999	24,996	0	0	24,996	0	0	0	0	(24,996)
2000	22,706	0	0	22,706	0	0	0	0	(22,706)
2001	13,862	593	(207)	14,247	0	0	0	0	(14,247)
2002	20,663	698	(244)	21,117	0	0	0	0	(21,117)
2003	2,215	853	(11,925)	(8,857)	85	65	0	151	9,007
2004	0	859	(8,328)	(7,468)	182	125	33	340	7,808
2005	0	885	(5,894)	(5,009)	197	190	66	453	5,462
2006	0	912	(3,688)	(2,776)	1,642	262	99	2,003	4,780
2007	0	939	(2,372)	(1,433)	1,931	342	132	2,405	3,837
2008	0	967	(1,385)	(418)	2,255	430	165	2,851	3,269
2009	0	996	(626)	370	2,621	529	198	3,348	2,978
2010	0	1,026	(20)	1,007	3,035	638	231	3,905	2,898
2011	0	1,057	487	1,544	3,506	759	265	4,529	2,985
2012	17,000	1,089	59	18,148	4,041	893	298	5,232	(12,916)
2013	0	1,121	731	1,852	4,653	1,042	331	6,026	4,174
2014	0	1,155	1,321	2,476	5,353	1,209	364	6,925	4,449
2015	0	1,190	1,870	3,060	6,157	1,394	397	7,948	4,888
2016	0	1,225	2,410	3,636	7,085	1,600	430	9,115	5,479
2017	0	1,262	2,967	4,229	8,157	1,831	463	10,451	6,222
2018	15,000	1,300	3,014	19,314	9,401	2,089	496	11,986	(7,328)
2019	0	1,339	3,831	5,170	10,849	2,378	529	13,756	8,586
2020	0	1,379	4,700	6,079	12,538	2,702	610	15,850	9,771
2021	0	1,421	5,645	7,065	14,517	3,067	703	18,287	11,222
2022	0	1,463	6,700	8,163	16,840	3,478	813	21,130	12,967

FIRR = (1.3%)

Source: Project Completion Review Mission.

### C. Economic Analysis

10. An economic analysis was carried out comparing with- and without-project scenarios. The 'without project' case is defined as the existing airport facilities being kept basically as they are. In this case, the existing airport facilities will be used up to their maximum capacity. Under the 'with project' case, new airport facilities will be constructed and this enables aircraft and passengers to be handled with less congestion at the airport.

11. Based on the traffic forecasts, the costs of capital investment, and annual costs of maintenance and operations were calculated over the duration of the project. The evaluation

period is 30 years from the commencement of the Project (1995) up to 2024. The construction period was 10 years, while the airport started operations in 2003.

12. Economic analysis was conducted using border price numeraire. A standard conversion factor (SCF) of 0.85 was applied to calculate the economic price of nontradable goods. The shadow wage rate for skilled and unskilled labor was 1 and 0.60, respectively.

13. **Economic Costs.** Project costs include the civil works and equipment for airside, landside, air navigation, and other support facilities. The economic costs were estimated based on financial costs including physical contingencies. Financial costs were converted into economic costs using specific conversion factors of 0.91 and 0.74 for civil works and operation and maintenance respectively.<sup>1</sup>

14. **Economic Benefits.** Computation of economic benefits follows the concept of “willingness to pay”, as adopted in the RRP. These benefits are expressed in terms of the aeronautical and non-aeronautical revenues, converted into economical benefits through a conversion factor of 0.90<sup>2</sup>.

15. The economic evaluation produced an overall project economic internal rate of return (EIRR) of 1.8%, which is far lower than that at appraisal (17.8%) and does not fulfill ADB’s 12% criterion for economic viability. The low EIRR is due to: (i) the cost overruns which were also caused by design changes and the long delay at which the project has been completed; (ii) the substantial devaluation by more than 50% which the Peso has experienced versus the US dollar over the time between appraisal and project completion; (iii) the lack of progress made thus far with respect to the increase of tariffs and fees; and (iv) since the capacity of the new passenger terminal would be reached and new investment would be necessary for capacity expansion. The computation the EIRR is given in Table A7.4.

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<sup>1</sup> The civil works were broken down into the following categories: 34% tradable goods, 44% non-tradable goods, 16% skilled labor, and 6% unskilled labor. Operation and maintenance involve 10% tradable goods, 30% non-tradable goods, 5% skilled labor, and 55% unskilled labor.

<sup>2</sup> The economic benefits were broken down into the following categories: 20% tradable goods, 25% non-tradable goods, 40% skilled labor and 15% unskilled labor.

**Table A7.4: Incremental Costs, Benefits and EIRR Computation for the Project ('000 \$)**

Year	Costs			Benefits		Net Benefits
	Capital Cost	Incremental Operation and Maintenance Costs	Total Incremental Costs	Incremental Benefits from Aeronautical Activities	Incremental Benefits from Non-aeronautical Activities	
1995	4,643	0	4,643	0	0	(4,643)
1996	11,703	0	11,703	0	0	(11,703)
1997	10,960	0	10,960	0	0	(10,960)
1998	10,207	0	10,207	0	0	(10,207)
1999	7,104	0	7,104	0	0	(7,104)
2000	22,747	0	22,747	0	0	(22,747)
2001	20,663	0	20,663	0	0	(20,663)
2002	12,615	436	13,050	0	0	(13,050)
2003	18,803	513	19,316	0	0	(19,316)
2004	2,015	627	2,642	371	59	(2,212)
2005	0	632	632	630	142	140
2006	0	651	651	820	231	400
2007	0	670	670	2,192	326	1,848
2008	0	690	690	2,647	428	2,384
2009	0	711	711	3,151	538	2,978
2010	0	732	732	3,713	656	3,637
2011	0	754	754	4,338	784	4,369
2012	0	777	777	5,038	923	5,184
2013	15,470	800	16,270	5,822	1,075	(9,374)
2014	0	824	824	6,703	1,239	7,118
2015	0	849	849	7,695	1,419	8,266
2016	0	874	874	8,818	1,616	9,559
2017	0	901	901	10,090	1,832	11,022
2018	0	928	928	11,537	2,070	12,680
2019	13,650	955	14,605	13,189	2,333	916
2020	0	984	984	15,079	2,624	16,719
2021	0	1,014	1,014	17,251	2,989	19,226
2022	0	1,044	1,044	19,753	3,403	22,112
2023	0	1,075	1,075	22,646	3,872	25,442
2024	(1,270)	1,108	(163)	26,001	4,406	30,569

**EIRR****1.8%**

Source: Project Completion Report Mission.

## LAND ACQUISITION AND RESETTLEMENT COMPLETION REPORT

### A. Introduction

1. As a part of the Project Completion Report Mission, the Asian Development Bank (ADB) conducted a Review Mission (the Mission) focusing on the land acquisition and resettlement (LAR) tasks under the Project from 5 to 7 September 2005. The Mission's objective was to review the completion status of LAR tasks and assess whether those tasks were carried out in compliance with ADB policy.

### B. Background

2. The upgrading and expansion of the Davao airport has required LAR. The total land area acquired was 113 hectares, the number of houses affected was 658, and 1,076 families were affected. As agreed during the June 1994 Loan Fact-Finding Mission, Davao City, on behalf of the Department of Transportation and Communications (DOTC) as the implementing agency, was responsible for LAR. The instrument entered into by the city and DOTC was three memoranda of agreement (MOAs). MOA 1 focused on LAR concerning informal settlers affected by airside civil works and MOA 2 dealt with LAR related to formal settlers affected by airside and landside civil works. MOAs 1 and 2 were signed on 2 June 1994 and 20 October 1997, respectively. As the 1998 International Civil Aviation Organization mission had recommended more land acquisition for development of: (i) approach surface at runway 05; (ii) Sasa Creek drainage pond area; and (iii) approach lighting system, MOA 3 was drafted in September 2000 for the acquisition of additional properties.

3. Because of lengthy negotiations that were carried out after project effectiveness, LAR compensation took much longer than expected, causing substantial implementation delays. Even longer delays were avoided by staggering the implementation of civil works for such activities as airstrip widening and approach lights installation activities. As shown in Table A8.1, civil works pertaining to MOAs 1, 2, and 3 started 3.5 years, 3.5 to 5.5 years, and 8.5 years, respectively, after the project effectiveness.

**Table A8.1: Comparative Schedule of Compensation and Beginning of Civil Works**

Details	Date
<b>1. MOA 1</b>	
Negotiations	02/06/1997
First family to move out	10/08/1997
Last family to move out	11/11/1999
Start of civil works	01/09/1998
<b>2. MOA 2</b>	
<b>a) Areas 1,3,4,5 &amp; 7 – affected by landing strip widening / grading</b>	
Negotiations	20/10/1997
First property paid for	09/01/1998
Last property paid for	19/10/2000

Details	Date
<b>b) Area 2 – affected by construction of 6 buildings, roads, parking</b>	
Negotiations	20/10/1997
First property paid for	12/02/1998
Last property paid for	11/08/1998
Start of civil works	11/01/2000
<b>c) Areas 6 – Properties affected by ILS Glideslope 05</b>	
Negotiations	20/10/1997
First property paid for	11/03/1998
Last property paid for	28/11/ 2000
Start of civil works	08/01/ 2001
<b>d) Properties affected by installation of Approach Light at Runway 23</b>	
Negotiations	20/10/1997
First property paid for	17/11/2000
Last property paid for	10/07/2003
Start of civil works	(1 barrette affected) 17/12/2000-10/08/2003 (start installation of 1 barrette)
<b>3. MOA 3</b>	
Negotiations	12/09/2000
First property paid for	28/02/2003
Last property paid for	10/08/2004
Start of civil works	30/07/2003

Source: Project Completion Report Mission.

## C. Findings

### 1. Impacts and Quantities

4. Under MOA 1, the inventory of affected households and structures indicated 483 affected families, or 2,367 affected people, owning 360 structures (Table A8.2). The project documents also showed that a landowner owning two lots was included in MOA 1.

**Table A8.2: Number of Affected Families and Properties under MOA 1**

Airside Areas	AF	Structures	Landowners	Affected Lots
Barangay Sasa	319	152	1	2
Barangay Pampang	164	208	0	0
<b>Total</b>	<b>483</b>	<b>360</b>	<b>1</b>	<b>2</b>

Source: Project Completion Report Mission.

5. Under MOA 2, 524 families were affected that owned a total of 746 properties (Table A8.3). These properties were categorized as residential lots, structures only (residential or institutional, for example, churches and schools, owned or claimed by institutions or private individuals located on land to which they did not have title), residential lots with structures, and

commercial lots. Many families were subdivision lot owners with outstanding land payments to the landowner or developer with lots were still titled under the name of the subdivision landowner or developer. These subdivisions were Belen Homes, Medina Village, Pampanga Executive Homes, Dona Assuncion Village, Dona Caridad Subdivision, Vincent Heights, and De Guzman Village. In Belen Homes and Pampanga Executive Homes, some lots were still on mortgage with Pag-Ibig Fund and National Home Mortgage and Finance Corporation (NHMFC).

6. Under MOA 3, 76 families owning 105 properties were affected (Table A8.4). As with MOA 2, the properties were categorized as residential lots, structures only, residential lots with structures, commercial lots, and agricultural lots. These lots were within the airside area near runways 23, and 05, in Vincent Heights, Lea Subdivision, Belen Homes and the pond area. In the three subdivisions, all lots except one were still mortgaged.

**Table A8.3: Number of Affected Properties and Families under MOA 2**

Area	Residential lots		Structures only		Residential lots with structures		Commercial lots		Total
	Severe	Marginal	Severe	Marginal	Severe	Marginal	Severe	Marginal	
Airside	219 (69)	54 (16)	108 (102)	1 (1)	9 (9)	2 (2)	7 (6)	1 (1)	401 (206)
Glide slope	6 (4)	9 (3)	59 (52)	3 (3)	238 (233)	1 (0)	0 (0)	0 (0)	316 (295)
ALS RW 23	0 0	0 0	8 (8)	1 (1)	0 0	0 0	0 0	0 0	9 (9)
Airside Total	225 (73)	63 (19)	175 (162)	5 (5)	247 (242)	3 (2)	7 (6)	1 (1)	726 (510)
Landside	12 (9)	5 (2)	0 0	0 0	1 (1)	1 (1)	0 0	1 (1)	20 (14)
<b>Total</b>	<b>237</b> <b>(82)</b>	<b>68</b> <b>(21)</b>	<b>175</b> <b>(162)</b>	<b>5</b> <b>(5)</b>	<b>248</b> <b>(243)</b>	<b>4</b> <b>(3)</b>	<b>7</b> <b>(6)</b>	<b>2</b> <b>(2)</b>	<b>746</b> <b>(524)</b>

ALS = approach lighting system, RW = runway.

Note: Numbers in parenthesis are affected families.

Source: Project Completion Report Mission.

**Table A8.4: Number of Affected Properties and Families under MOA 3**

Area	Residential lots		Structures only		Residential lots with structures		* Commercial, Agricultural lots		Total
	Severe	Marginal	Severe	Marginal	Severe	Marginal	Severe	Marginal	
ALS at RW 23	0	4 (4)	1 (1)	1 (1)	0	0	0	1 (1)	7 (7)
ALS at RW 05	1 (1)	0	0	0	6 (6)	2 (2)	0	0	9 (9)
OLS/ALS Vincent Heights	33 (8)	7 (3)	0	2 (2)	1 (1)	0	1 (1)	0	44 (15)
OLS Lea Subdivision	0	0	0	0	15 (15)	0	0	0	15 (15)
OLS Belen Subdivision	0	0	0	0	24 (24)	0	0	0	24 (24)
Ponding Area	0	0	0	0	0	0	1 (1)	5 (5)	6 (6)
<b>Total</b>	<b>34</b> <b>(9)</b>	<b>11</b> <b>(7)</b>	<b>1</b> <b>(1)</b>	<b>3</b> <b>(3)</b>	<b>46</b> <b>(46)</b>	<b>2</b> <b>(2)</b>	<b>2</b> <b>(2)</b>	<b>6</b> <b>(6)</b>	<b>105</b> <b>(76)</b>

ALS = approach lighting system, OLS = obstruction limitation surface, RW = runway.

Note: Numbers in parenthesis are affected families.

Source: Project Completion Report Mission.

## 2. Compensation Policies for MOAs 1, 2 and 3

7. When the memorandum of understanding between ADB and DOTC was signed on 1 June 1994, ADB's policy on involuntary resettlement had yet to be established (the policy was approved in August 1995 and became effective in January 1996). Therefore, the city of Davao formulated the Resettlement Plan and Programs for the Project based on national law and local law and the following principles:

- (i) The affected families shall be kept informed and involved in the planning and implementation of the resettlement process to the greatest extent possible;
- (ii) The compensation for the affected families will cover affected land and/or structures payment, income losses rehabilitation, assistance for relocation expenses, and others; and
- (iii) The relocation lots for informal affected families are to be amortized over 25 years.

8. MOA 1 was based on LAR provisions derived from the Republic Act 7279, the Urban Development and Housing Act of 1992, and stipulated that DOTC had to provide LAR funds while the city would implement actual LAR activities. The main provision of the act stated that qualified informal settlers displaced by Government projects should be provided a relocation site with basic amenities or financial assistance equivalent to the prevailing minimum daily wage multiplied by 60 days. The act also provided for the detailed guidelines for taking censuses of and categorizing affected families, consultations, identification of resettlement sites, actual resettlement, transportation, monitoring, and transfer of lots.

9. Under MOA 2, the compensation policy was guided by the Republic Act 7160, the Local Government Code of 1991. Section 19 of the act stated that local government units could acquire private property and "exercise the power of eminent domain for public use, purpose, or welfare for the benefit of the poor and the landless, upon payment of just compensation." Section 212 mandated local government units to prepare a schedule of market values for appraising and assessing of the properties.

10. Under MOA 3, the compensation policy was initially the same under MOA 2. In 2000, valuation offers based on market values following the provisions of Republic Act 7160 were deemed unacceptable by all 105 affected families. Following this rejection, the city adopted Administrative Order 50 of 1999 that provided for compensation for land at Bureau of Internal Revenue (BIR) zonal value plus 10%. The offers based on this new guideline were again rejected by the affected families. At this point, in February 2002, ADB sent a Review Mission to analyze, monitor, and evaluate the delays in land acquisition. The Mission, which for the first time included an ADB resettlement specialist, told DOTC to adopt ADB's policy on involuntary resettlement which required DOTC to compensate the affected families at replacement cost. The new Republic Act 8974 of 2000, the Act to Facilitate the Acquisition of Right-of-Way, Site, or Location for National Government Infrastructure Projects and for other Purposes, was also invoked because, like the ADB policy, it allowed the engagement of Government and/or private appraisers to determine the fair market value or replacement cost of affected land and improvements and structures.

## 3. LAR Implementation

11. On 17 September 1995, the mayor of Davao signed Executive Order 19 to reconstitute the Davao International Airport Advisory Council into the Davao International Airport Project Management Council (DIAPMC). The council exercised the functions of project implementation

policy formulation, and review, evaluation and approval of major changes in the scope. It had 5 working committees: (i) the Committee on Land Acquisition and Negotiation; (ii) the Appraisal Committee, also known as the Joint Appraisal Committee; (iii) the Committee on Relocation and Resettlement, and (iv) the Committee on Infrastructure Support Facilities.

12. DOTC, through the city, started its information campaign with affected communities in July 1994. The city initially estimated that 760 families owning 799 structures would be affected as stated in the Resettlement Plan and Program. Eventually, the Project affected a total of 1,077 families (5,277 people), owning 1,213 properties.

13. Under MOA 1, DOTC facilitated the transfer to the city of the initial amount of P17.30 million for partial acquisition of the land and to complete the relocation of informal affected families. Funds were released immediately after MOA 1 was signed on 2 June 1997 and were used to: (i) purchase the already developed resettlement site in Barangay Tibungco from the National Housing Authority (P3.62 million); (ii) fund financial assistance for the affected families (P4.32 million); and (iii) pay for the squatted properties of Mr. Samuel Uy (P8.37 million). DOTC provided every informal affected family with financial assistance of P10,000 and a relocation site.

14. Interviews with a few affected families indicated that they received P10,000 in financial assistance and a 90 square meter relocation plot. Relocation site development included power, water supply, access roads, and drainage and the reconstruction of a school. Every lot had a pit privy type of toilet. All informal settler affected families were transferred to the site on a group by group basis starting in November 1997. Financial assistance was provided to buy housing materials for building new homes and the city helped affected families transport salvaged materials to the new site. The affected families told the Mission that almost all new houses are bigger and better built than their original ones and that the school has more classrooms and teachers than before. At the time of the Mission, the subdivision plan prepared by the National Housing Authority had received all needed approvals from the city and from the Department of Environment and Natural Resources and it was with the Register of Deeds of DENR for individual titling.

15. **MOA 2:** Under MOA 2, the formal affected families were compensated for land and houses and/or other structures. The valuation of the affected lots was based on the city's updated 1997 Appraisal Committee schedule or the BIR zonal value, whichever was greater, and was then increased in accordance with the level of development of the affected area. The degree of development was classified as follows:

- (i) **Developed.** Land with an access road (concrete with curbs and gutters), basic infrastructure, complete drainage and lighting facilities; approved subdivision plan;
- (ii) **Semi-developed.** Land with an access road but no basic infrastructure, minimum drainage and lighting facilities; with or without an approved subdivision plan; and
- (iii) **Undeveloped.** No access road and infrastructure, but with development potential.

16. A developed lot was given a premium over the 1997 schedule of appraised values. For example, the Belen Homes subdivision was considered developed (paved roads) and therefore the 181 affected families were offered P1,000 per square meter even though the basic appraisal was P400 per square meter and the BIR zonal value was P350 per square meter. Semideveloped lots got a lesser premium. For example, the Pampanga Executive Homes were

classified as semideveloped (gravel roads) and the 55 affected families were offered P1,000 per square meter as well. In that case, however, the appraised value was P400 per square meter and the BIR Zonal Value was P650 per square meter. Undeveloped lots did not get any premium. Examples of land valuations are summarized in Table A8. 5.

**Table A8.5: Sample Cases of Land Valuations  
(Pesos per square meter)**

Affected Area	Bureau of Internal Revenue Zonal Value	1997 Basic Appraised Value	Final City Appraisal Committee Value
Belen Homes (developed)	350	400	1,000
Pampanga (semi-developed)	650	400	1,000
Davao Manly Construction (undeveloped)	253	300	300

Source: Project Completion Report Mission.

17. In the case of the Bermeho, Jesus Christ Church and Valderama properties, the so-called strip valuation method was applied after the affected families did not accept the valuation described earlier (P500 per square meter). In this method, different values are assigned to plots located at different distances from the main road (Philippine-Japan Highway). This valuation was accepted by the affected families (see Table A8.6 for an example).

**Table A8.6: Negotiated Land Valuation Using the Strip Valuation Method (Bermeho Case)  
(P million)**

Land Strips Every 40 meters Depth	First City Appraisal Committee Offer	City Appraisal Committee Endorsed/Approved by the Office of the President
First strip at Philippine-Japan Friendship Highway 1-40 meters away from	700.0	700.0
Second strip (41-80 meters)	560.0	500.0
Third strip (81-120 meters)	420.0	500.0
Fourth strip nearest to runway	280.0	300.0
<b>Total</b>	<b>1,960.0</b>	<b>2,000.0</b>

Source: Project Completion Report Mission.

18. Structures were generally paid based on the 1997 schedule of market values, minus depreciation. The city also gave affected families with severely affected houses P100,000 as disturbance compensation. This offset the undervaluation of the houses. However, one group of affected families was able to negotiate a higher compensation. This group, 181 affected families from Belen Homes, used the Government Service Insurance System and Pag-Ibig Funds valuation to support their claim (Table A8.7). The affected families' proposal was endorsed by the city to the Office of the President for approval and was subsequently approved. Following the Belen experience, 55 affected families from Pampanga Executive Homes renegotiated their compensation and got similar terms. No depreciation was deducted from the compensation for these two groups.

**Table A8.7: Comparison of Appraisal and Construction Values**

Source of Valuation	Schedule of Values
1997 City Schedule of Market Values	P3,600 per square meter
Government Service Insurance System and Pag-Ibig Fund	P4,600-P5,500 per square meter

Source: Project Completion Report Mission.

19. Although a number of independent appraisals carried out in 1997 seem to confirm that the City Appraisal Committee's final land valuation based on development indicators corresponded to the market values, the general opinion in project areas was that land compensation was high, but was insufficient to purchase lots comparable to those affected. This was due to the rapid growth in land prices around the airport resulting from real estate and infrastructure development and, possibly, to speculation. Nevertheless, the affected families were able to acquire new lots for their houses either by adding personal finances, using some of the housing and other allowances received, or creatively pulling together their compensation to collectively acquire large lots of land to be developed into private subdivisions later.

20. One example is the Medina group of affected families, comprising 53 families that bought land in Barangay Tibungco. According to one affected family interviewed by the Mission, some portions of the land with steep slopes were uninhabitable and were returned to the original owner. Eventually, only 30 affected families were accommodated in the remaining land. At the time of the Mission, about 10 had built new houses. Lot size averaged 262 square meters. The city assisted with site development by lending heavy earthmoving equipment.

21. Another example is the Belen Homes group which initially included some 100 members which were later drastically reduced to 18. In November 1997, these 18 invited new partners and negotiated the purchase of 3.5 hectares to be developed into a subdivision. The group relocated to the new area in December 1998, made partial payment for the land in May 1999, and paid the remaining amount in December 2000. When the Mission was fielded, about 25 new houses had been built with varied lot sizes of 150, 180, and 260 square meters. Site development was assisted by the Project which lent heavy earthmoving equipment for free to clear the raw land area. The group, now called the BAHAI – Bel Air Homeowners Association, Inc., developed a road network, drainage, open spaces, and water and electricity supply and took care of the transfer and titling of the subdivision lots.

22. **MOA 3:** The LAR policy for MOA 3 underwent changes from 2000 to 2002. When MOA 3 was signed in September 2000, the city had intended to implement the same LAR policy as for MOA 2. All the affected families except one had mortgaged properties, and many of them had accumulated huge outstanding mortgage payments. In these cases, compensation amounts were insufficient to settle accumulated balances, interests and penalties. In the case of affected families who had paid their mortgages, compensation was still insufficient, as it was lower than the amount they had already paid. As the affected families would have lost their houses and lots and many would still have been in debt, they rejected the city's offer. In 2001, the city applied LAR provisions under Administrative Order 50 of 1999, which provided compensation for land at BIR zonal value plus 10%. The families rejected this offer also, as most of the affected families would have remained homeless and still in debt.

23. To solve the impasse and clarify how the LAR compensation process had been carried out, ADB fielded a Review Mission in February 2002. This Mission asked DOTC to: (i) prepare a complete Resettlement Plan based on ADB's resettlement policy for LAR activities still to be carried out under MOA 3; (ii) provide an assessment of past LAR compensation; and if necessary; (iii) provide additional compensation for past land acquisition to ensure replacement value as provided for by ADB policy. DOTC agreed to the first request, but rejected all retroactive action on technical grounds (a retroactive assessment of market value was unfeasible because of ongoing, rapid changes in the real estate market) and legal grounds (the ADB policy was not included in the loan covenants).

24. The Resettlement Plan for the properties affected under MOA 3 provided for compensation at replacement cost and the rehabilitation of the affected families. Replacement cost at market value was assessed by an independent appraiser, the Home Guarantee Corporation, but following an assessment of the status of mortgages, it became evident that the assessments were insufficient to offset the debts of many affected families. ADB therefore requested DOTC and the city to negotiate with the Social Security System, the National Home Mortgage and Finance Corporation and the Housing Development and Mortgage Fund to cancel outstanding mortgages penalties for affected families that would have remained in debt even after receiving compensation. After 18 months of discussions, this request was granted. Following this positive development and the higher valuation by the independent appraiser, the affected families with post-compensation debts were freed from their debts and those with positive post-compensation balances were able to cash the difference between the market value of their houses (which was paid to the financial institutions) and their remaining mortgage balances. By the time of the Mission, all affected families had been paid except for the owners of three properties that were under expropriation.

#### **D. Evaluation**

25. As the Project had been approved before the establishment of ADB's resettlement policy, LAR implementation was initially carried out based on Philippines' national law and policies and LAR in certain cases exceeded such standards. However, if the rehabilitation results of LAR carried under MOAs 1 and 2 were assessed based on the requirements of ADB's resettlement policy, the results are clearly unsatisfactory. No resettlement plans in accord with the policy were prepared, compensation prices were not negotiated and fixed prior to project implementation, and no clear agreements were stipulated with the affected families as a condition for proceeding with civil works. In this respect, poor performance is mitigated by the fact that the affected families were thoroughly consulted and none of them was evicted before being compensated or raised major complaints. However, if the focus is on process and rehabilitation results, the implementation of LAR when compared with ADB policy appears to vary between highly satisfactory and unsatisfactory (Table A8.8) as follows:

- (i) For the informal settlers relocated under MOA 1, the affected families' standards of living were not only reestablished but were also clearly improved. In this case performance was partly satisfactory, as the affected houses were not compensated (though the affected families were able to partly recover the loss through a P10,000 disturbance allowance).
- (ii) For the formal settlers under MOAs 1 and 2, the available evidence suggests that land compensation may have been, in various degrees, below replacement costs and was insufficient to allow complete rehabilitation of the affected families. Ultimately, these affected families managed to obtain new residential plots and build new houses, but only because they invested additional finances or were creative enough to privately develop a residential area. Performance in this case appears to have varied from partly satisfactory (those who received the P100,000 housing allowance) to unsatisfactory (those who did not receive the allowance).
- (iii) For those affected by MOA 3, it entailed the same compensation provisions as MOA 2. Because MOA 3 related to a complicated case involving mortgaged properties, many were still unpaid, and no advancement in LAR processing was obtained until February 2002 - ADB mission. Following this, ADB requested the application of ADB's resettlement policy, including the preparation of a full

Resettlement Plan, the provision of compensation at replacement cost, and the adoption of ad hoc measures to solve a situation somewhat outside the standard reach of the ADB policy. Because of this decision, LAR for MOA 3 was highly satisfactory. Affected families with delinquent mortgages were freed from their payments, were ensured rehabilitation by a special provision giving them priority access to a public housing program and the mortgage companies were repaid. Affected families who had paid their mortgages received full market value compensation for their homes plus a P100,000 disturbance allowance. Those affected families that had already paid their entire mortgage received the entire compensation. For those affected families that had only partly completed their mortgage payments, the compensation was shared between the families and the finance agencies based on the payments already made. Given that the market value of houses and lots at 2002 rates exceeded the mortgage principal by more than 100%, the compensation share left to the affected families was sufficient, on average, to repay their mortgage payments. These affected families also received priority access to public housing.

**Table A8.8: Evaluation of LAR Implementing Policies by MOA**

MOA	Affected Family Type	Compensation Policy	LAR Policy Applied	Evaluation (based on a comparison with ADB policy)
MOA 1	<p>Informal settlers 483 affected families 260 structures</p> <p>1 landowner affected family, 2 lots</p>	<p>Republic Act 7279, the urban Development and Housing Act, provided for a relocation site with basic amenities <b>or</b> financial assistance equal to the prevailing minimum daily wage for 60 days</p> <p>Republic Act 7160 (Local Government Code 1991) provided for land compensation based on the updated appraisal schedule of the city, the BIR zonal value, and the development status of surrounding areas.</p>	<p>Affected families received a P10,000 allowance plus a relocation lot.</p> <p>Lots were appraised by the City Appraisal Committee based on the 1997 schedule of market values. No independent appraisal was conducted.</p>	<p>Partly satisfactory. Affected families were rehabilitated, but houses were not compensated and a resettlement plan was not prepared. Note that the Project provided the affected families with more than was required by Philippine law.</p> <p>Unsatisfactory. Valuation was close to the BIR zonal value, which was below market value.</p>
MOA 2	<p>Formal settlers, 517 affected families, 746 properties</p>	<p>Republic Act 7160, the Local Government Code of 1991, provided the procedure for land acquisition by considering the updated schedule of market values of the city, the BIR zonal value, and the development status of surrounding areas.</p>	<p>Land compensation was assessed in 2 ways:</p> <p>i) based on the level of development of affected areas whereby plots in developed or semideveloped zones received a premium compensation and plots in undeveloped zones received zonal value.</p> <p>ii) based on the strip method whereby plots close to the road were</p>	<p>Partly satisfactory for affected families with developed or partly developed plots, plots far from the road under the strip valuation method, or beneficiaries of the P 100,000 allowance for severe impacts. These affected families received overall compensation approaching replacement cost. A resettlement plan was not prepared.</p>

MOA	Affected Family Type	Compensation Policy	LAR Policy Applied	Evaluation (based on a comparison with ADB policy)
			valued more than plots far from the road.  House compensation was at replacement rate minus depreciation. This was partly offset by a P100,000 allowance for severely affected structures	Unsatisfactory for the other affected families. A resettlement plan was not prepared.
MOA 3	Formal settlers, 76 affected families, 105 properties	Republic Act 8974 (2000) allowed for negotiated sale and just compensation based on fair market value.  This was later modified with the adoption of the ADB resettlement policy and the provision of compensation at replacement cost.	At first applied Republic Act 7160 of 1991 and AO 50 of 1999, providing compensation at BIR zonal value plus 10%  Later applied ADB policy to avoid further delays. This new approach entailed the preparation of a Resettlement Plan acceptable to ADB, provision of compensation at full market rates and a P100,000 disturbance allowance. Under ADB's request the lending institutions canceled dues and penalties of affected families with delinquent mortgage accounts. Affected families with current accounts shared their compensation with the lending institutions based on their outstanding balances.	Highly satisfactory. A Resettlement Plan based on ADB policy was prepared. All affected families were rehabilitated. Those with delinquent mortgage accounts had their debts forgiven plus access to public housing. The others recouped all payments. The special measures adopted following ADB's request amounted to all affected families being able to use government houses for 12 years without paying rent.

ADB = Asian Development Bank, BIR = Bureau of Internal Revenue, MOA = memorandum of agreement.  
Source: Project Completion Report Mission.

26. Finally, from the perspective of the overall impact on project implementation and schedules, LAR was ineffective. Without the guidance of clear and systematic LAR planning and implementation standards as provided by ADB's resettlement policy, the LAR process not only resulted in uneven compensation policies for affected families compensated at different times or in different locations, but also took much longer than expected. This caused delays in disbursement and resulted in increased commitment fees for the Borrower. The lessons learned include the following: (i) sound LAR planning that includes systematic compensation policies and clear compensation rates agreed to by affected families before project implementation is an essential instrument to prevent project delays and assure equity in compensation; (ii) effective LAR requires that the borrower assumes the ultimate responsibility for LAR financing and administration (in the case reviewed, Davao City was assigned too much responsibility); (iii) in areas with developed real estate markets, a sound compensation policy needs to include provisions in line with local house financing practices; and (iv) periodic supervision remains perhaps the most important avenue available to ADB to ensure proper and timely LAR implementation.