



Completion Report

Project Number: 30480
Loan Numbers: 1663, 1664, 1665
December 2008

Philippines: Metro Manila Air Quality Improvement Sector Development Program

CURRENCY EQUIVALENTS

Currency Unit	–	peso (₱)		
			At Appraisal	At Program Completion
			17 November 1998	31 December 2007
₱1.00	=	\$0.0251		\$0.0242
\$1.00	=	₱39.80		₱41.23

ABBREVIATIONS

ADB	–	Asian Development Bank
AQAP	–	air quality action plan
DENR	–	Department of Environment and Natural Resources
DOF	–	Department of Finance
DOH	–	Department of Health
DOTC	–	Department of Transportation and Communications
DPWH	–	Department of Public Works and Highways
EA	–	executing agency
EEID	–	Environmental Education and Information Division
EMB	–	Environment Management Bureau
IA	–	implementing agency
IDC	–	interest during construction
JICA	–	Japan International Cooperation Agency
LBP	–	Land Bank of the Philippines
LGU	–	local government unit
LIBOR	–	London interbank offered rate
LLDA	–	Laguna Lake Development Authority
LTO	–	Land Transportation Office
MMDA	–	Metro Manila Development Authority
MMRDC	–	Metro Manila Regional Development Council
MVIC	–	motor vehicle inspection center
MVIS	–	motor vehicle inspection system
NEDA	–	National Economic and Development Authority
PAB	–	Pollution Adjudication Board
TA	–	technical assistance
USEPA	–	United States Environmental Protection Agency

NOTES

- (i) The fiscal year (FY) of the Government of the Philippines and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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BASIC DATA

A. Loan Identification

1.	Country	Philippines
2.	Loan Number	1663, 1664, 1665-PHI
3.	Program Title	Metro Manila Air Quality Improvement Sector Development Program (1663 [policy loan], 1664 [facility loan], 1665 [investment loan])
4.	Borrower	Republic of the Philippines (for policy loan and investment loan), Land Bank of the Philippines (for facility loan)
5.	Executing Agency	Department of Environment and Natural Resources (for policy loan and investment loan), Land Bank of the Philippines (for facility loan)
6.	Amount of Loan	\$200 million (for policy loan), \$25 million (for air pollution control facility loan), \$71 million (for investment loan)
7.	Program Completion Report Number	1095

B. Loan Data

1.	Appraisal	
	– Date Started	24 August 1998
	– Date Completed	11 September 1998
2.	Loan Negotiations	
	– Date Started	19 November 1998
	– Date Completed	21 November 1998
3.	Date of Board Approval	16 December 1998
4.	Date of Loan Agreement	21 December 1998 12 December 2002 (amended)
5.	Date of Loan Effectiveness	
	– In Loan Agreement	21 March 1999
	– Actual	29 December 1998
	– Number of Extensions	none
6.	Closing Date	
	– In Loan Agreement	31 December 2002 (policy loan), 29 December 2003 (facility loan), 31 December 2003 (investment loan)
	– Actual	12 December 2003 (policy loan), 29 December 2003 (facility loan), 17 November 2008 (investment loan)
	– Number of Extensions	2 (for investment loan)
7.	Terms of Loan	For Policy Loan:

Interest determined in accordance with ADB's pool-based variable lending rate system for US dollar loans with an maturity period of 15 years, including a grace period of 3 years.

For Facility Loan:

Market-based loan facility for floating rate for US dollar loan; commitment charge of 0.75% per year; maturity period of 15 years and a grace period of 4 years.

For Investment Loan:

Interest determined in accordance with ADB's pool-based variable lending rate system for US dollar loans and with a maturity period of 24 years, including a grace period of 4 years.

8.	Terms of Relending (if any)	
	– Interest Rate	N/A
	– Maturity (number of years)	N/A
	– Grace Period (number of years)	N/A
	– Second-Step Borrower	N/A

9.	Disbursements
a.	Dates

	Initial Disbursement	Final Disbursement	Time Interval
Policy Loan	29 December 1998	12 December 2003	59 months
Facility Loan	31 October 2001	29 December 2003	26 months
Investment Loan	16 June 1999	14 November 2008	113 months
	Effective Date	Original Closing Date	Time Interval
Policy Loan	29 December 1998	31 December 2002	48 months
Facility Loan	29 December 1998	29 December 2003	60 months
Investment Loan	29 December 1998	31 December 2003	60 months

b.	Amount (\$ million)
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For Policy Loan

Tranche No.	Date Disbursed	Amount Disbursed
1	29 December 1998	100.0
2	12 December 2003	100.0

Category or Subloan	Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
For Facility Loan	22.869	5.917	21.346	5.917	5.917	0.000

Category or Subloan	Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
For Investment Loan						
01	19.520	19.520	(19.520)	0.000	0.000	
01B	2.250	2.250	0.000	2.250	0.000	2.250
02A	6.760	6.760	0.000	6.760	1.496	5.264
02B	6.940	6.940	0.000	6.940	5.733	1.207
02C	0.150	0.150	(0.054)	0.096	0.096	0.000
02D	0.500	0.500	0.000	0.500	0.416	0.084
02E	0.000	1.550	(0.644)	0.906	0.906	0.000
03	10.240	10.240	0.000	10.240	6.622	3.618
04	9.500	9.500	2.739	6.761	5.699	1.062
05	7.860	7.860	0.000	7.860	7.071	0.789
06	7.280	5.730	0.000	5.730	0.000	5.730
99A	0.000	0.000	0.000	0.000	0.000	0.000
99B	0.000	0.000	0.000	0.000	0.957	(0.957)
Total	71.000	71.000	(22.957)	48.043	28.996	19.047

10.	Local Costs (Financed)	
-	Amount (\$)	9.310
-	Percent of Local Costs	20.50%
-	Percent of Total Cost	7.61%

C. Program Data

1. Program Cost (\$ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	67.570	25.006
Local Currency Cost	54.730	10.947
Total	122.200	35.953

2. Financing Plan (\$ million)

Cost	Appraisal Estimate			Actual		
	Foreign	Local	Total	Foreign	Local	Total
Implementation Costs						
Borrower Financed	0.00	45.420	45.420	0.000	6.957	6.957
ADB Financed	53.820	9.310	63.130	17.935	3.990	21.925
Other External Financing	5.890	0.000	5.890	0.000	0.000	0.000
Total	59.710	54.730	114.440	17.935	10.947	28.882
IDC Costs						
Borrower Financed	0.000	0.000	0.000			
ADB Financed	7.860	0.000	7.860	7.071	0.000	7.071
Other External Financing	0.000	0.000	0.000	0.00	0.000	0.000
Total	67.570	54.730	122.300	25.006	10.947	35.953

3. Cost Breakdown by Program Component (\$ million)

Component	Appraisal Estimate	Actual
Road Rehabilitation	39.040	0.510
Traffic Engineering and Management	20.650	1.496
Ambient Air Quality Management	12.550	6.340
Public Health Monitoring	0.160	0.096
Antismoke Belching	0.550	0.416
Equipment Vehicles		0.906
Capacity Building	12.820	7.422
Consulting Services	11.120	6.449
Program Administration	4.610	4.290
Contingencies – Physical Contingency (10%)	9.560	0.000
– Price Escalation	3.380	0.000
Interest and Other Charges – Bank Loan	7.860	7.071
Imprest Account		0.957
Total	122.300	35.953

4. Program Schedule

Item	Appraisal Estimate	Actual
Road Rehabilitation		
Design (Selection of Consultants)	January 1999 – June 1999	March 2000 – August 2000
(Detailed Engineering)	July 1999 – June 2000	August 2000 – August 2001
Construction (Prequalification of Contractors)	October 1999 – May 2000	January 2002 – January 2003
(Bidding and Awarding of Contracts)	February 2000 – July 2000	Canceled
(Supervision Services)	July 2000 – December 2002	Canceled
(Construction)	July 2000 – December 2002	Canceled
Traffic Engineering and Management		
Traffic Signs (Preparation of Bidding Documents)	July 1999 – September 1999	January 2003 – June 2003
(Bidding and Awarding of Contracts)	October 1999 – March 2001	Canceled
Communication System (Preparation of Bidding Documents)	July 1999 – September 1999	November 2002 – March 2003
(Bidding and Awarding of Contracts)	October 1999 – March 2000	January 2003 – December 2004
Traffic Enforcement Equipment (Preparation of Bidding Documents)	October 1999 – March 2000	August 2001 – December 2001
(Bidding and Awarding of Contracts)	January 2000 – March 2001	January 2002 – August 2003
Minor Geometric Improvements (Detailed Engineering)	July 1999 – March 2001	
(Prequalification of Contractors)	October 1999 – May 2000	
(Bidding and Awarding of Contracts)	January 2000 – September 2001	
(Construction)	April 2000 – June 2002	

Item	Appraisal Estimate	Actual
Capacity Building and Technical Services (Consultant Selection)	January 1999–June 1999	January 2001–July 2001
(Technical Training Services)	July 1999–June 2002	August 2001–August 2003
(Scholarships and Trainings)	October 1999–June 2002	August 2001–September 2002
(Local Training and Workshops)	October 1999–June 2002	August 2001–February 2002
Public Transport Policy Studies (Consultant Selection)	January 1999–July 1999	Canceled
(Consulting Services)	July 1999–December 2000	Canceled
Ambient Air Quality Management		
Define Monitoring Strategy and Needs (Consultant Selection)	January 1999–April 1999	November 2000–April 2004
(Strategic Development)	May 1999–June 1999	August 2001–August 2005
(Quality Assurance)	May 1999–April 2001	May 2004–December 2006
Equipment Procurement (Preparation of Bidding Documents)	May 1999–June 1999	January 2000–June 2000
(Bidding and Awarding of Contracts)	July 1999–December 1999	July 2000–December 2007
(Equipment Installation)	January 2000–May 2000	November 2002–October 2003
Monitoring and Reporting (Implementation)	March 2000–December 2002	November 2002–December 2007
Public Health Monitoring		
Develop Monitoring Strategy (Requirements Review)	January 1999–March 1999	Canceled
Equipment Procurement (Preparation of Bidding Documents)	January 1999–March 1999	June 2001–November 2001
(Bidding and Award of Contracts)	April 1999–July 1999	December 2001–March 2003
Monitoring and Reporting (Implementation)	April 1999–December 2002	April 2003–June 2004
Antismoke Belching		
Identify Program Requirements (Consultant Selection)	January 1999–April 1999	October 1999–June 2000
(Monitoring Requirements Review)	May 1999–June 1999	July 2000–November 2000
Equipment Procurement (Preparation of Bidding Documents)	May 1999–June 1999	September 2000–March 2001
Monitoring and Reporting (Implementation)	November 1999–December 2002	January 2001–December 2003

5. Program Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
For Policy Loan		
From December 1998 to February 1999	Satisfactory	Satisfactory
From March 1999 to May 1999	Highly Satisfactory	Highly Satisfactory
From June 1999 to November 1999	Satisfactory	Satisfactory
From December 1999 to January 2000	Satisfactory	Partly Satisfactory
From February 2000 to March 2000	Satisfactory	Satisfactory
From April 2000 to December 2000	Satisfactory	Partly Satisfactory
From January 2001 to January 2002	Satisfactory	Satisfactory
From February 2002 to June 2002	Satisfactory	Partly Satisfactory
From July 2002 to July 2002	Satisfactory	Satisfactory
From August 2002 to December 2003	Satisfactory	Partly Satisfactory
For Facility Loan		
From December 1998 to December 2000	Satisfactory	Satisfactory
From January 2001 to September 2001	Satisfactory	Partly Satisfactory
From October 2001 to October 2001	Satisfactory	Unsatisfactory
From November 2001 to December 2003	Satisfactory	Partly Satisfactory
For Investment Loan		
From December 1998 to December 2000	Satisfactory	Satisfactory
From January 2001 to February 2001	Satisfactory	Partly Satisfactory
From March 2001 to September 2006	Partly Satisfactory	Partly Satisfactory
From October 2006 to February 2007	Partly Satisfactory	Unsatisfactory
From March 2007 to September 2007	Satisfactory	Partly Satisfactory
From October 2007 to December 2007	Partly Satisfactory	Partly Satisfactory

D. Data on Asian Development Bank Missions				
Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members^a
Loan Fact-Finding ^b	4 June–31 July 1998	4		a, b, c, d
Appraisal Mission	24 August–11 September 1998	6	174	a, b, c, e, f, g
Loan Review	25 April–3 May 2000	3	27	a, h
Loan Review	20–28 August 2001, 24–28 September 2001	4	36 20	a, g, h
Loan Review	2–19 September 2002	5	90	a, c, e, h
Loan Review	29 September–16 October 2003	6	108	a, c, e, h, i
Loan Review ^b	14 April–7 May 2004	5	120	a, c, h, j
Loan Review ^b	18 October–14 December 2004	3	84	a, h
Loan Review ^b	10–24 May 2005	3	45	a, h
Loan Review ^b	24 October –9 November 2005	3	51	a, h
Loan Review ^b	20 June–17 July 2006	3	50	a, h
Loan Review ^b	11 December 2006–8 February 2007	2	56	a, h
Loan Review ^b	17 September–11 October 2007	2	44	a, h
Program Completion Review	28 July–10 September 2008	2	8	a, h

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

Notes:

^a a = transport policy/transport specialist, b = counsel, c = senior environment specialist, d = economist, e = financial analyst, f = programs officer, g = consultant, h = project analyst, i = young professional, j = country portfolio manager

^b Intermittent

I. PROGRAM DESCRIPTION

1. The objective of the Metro Manila Air Quality Improvement Sector Development Program (the Program) was to promote policy reforms to improve air quality through the abatement of mobile and stationary sources of air pollution. It focused on the Metro Manila airshed,¹ the location of the main concentrations of air pollution. The Program's scope consisted of policy reforms and investment requirements integrated within a 3-year policy matrix termed the Air Quality Action Plan (AQAP). The AQAP was specifically designed to address, in a systematic manner, key factors contributing to deteriorating air quality, by (i) mitigating air pollution from mobile sources; (ii) mitigating air pollution from stationary sources; (iii) improving fuel quality; (iv) reducing emissions from vehicular use; (v) reducing traffic congestion and improving traffic flow; (vi) strengthening ambient air quality monitoring, evaluation, and reporting; (vii) intensifying public awareness;² (viii) monitoring coordination and implementation of the action plan; and (ix) strengthening the capacity of the institutions involved.

2. Given the complexity of the policy reforms and measures required to improve air quality and their close interrelationship, the sector development program modality offered the best approach to AQAP's implementation. This modality was to combine (i) a policy loan to implement policy reforms under the AQAP; (ii) a facility loan to establish an air pollution control facility that would assist industries, commercial establishments, and public transport companies in making necessary investments to monitor and reduce air emissions; (iii) an investment loan to finance part of the public sector investments under the AQAP; and (iv) a technical assistance (TA) grant of \$1.5 million to develop air emission policies, enhance public awareness to support the abatement of air pollution, review operations of enforcement authorities, and undertake demonstration projects to determine the viability of introducing alternative fuels and devices to reduce emissions from diesel engines.

3. For the Program's policy loan, the Asian Development Bank (ADB) provided \$200.0 million from its ordinary capital resources to support the policy reforms. The Overseas Economic Cooperation Fund of Japan³ cofinanced this with a loan of \$170.0 million equivalent. For the facility loan, ADB provided \$25.0 million from its ordinary capital resources. For the investment loan to finance public sector investments under the AQAP, ADB provided a loan of \$71.0 million from its ordinary capital resources for of the foreign exchange and local currency costs. Additionally, the Swedish International Development Cooperation Agency provided mixed credit for SKR35 million (about \$4.5 million equivalent) and a TA grant of SKR4.75 million (about \$600,000 equivalent) to support training for ambient air quality monitoring and air dispersion modeling. The United States Trade and Development Agency provided two TA grants totaling \$890,000: (i) one to assist in the development of point source monitoring programs and marketing of the air pollution control facility; and (ii) the other to assist in developing the motor vehicle inspection system (MVIS). The Government provided counterpart funding for the facility loan and the investment loan in the amount of \$45.6 million equivalent. ADB administered the Program on behalf of all cofinancing agencies. Appendix 1 provides the project framework, and Appendix 2 outlines the chronology of program events.

¹ The airshed covers the National Capital Region and parts of Regions III (Central Luzon) and IV-A (Southern Tagalog). Thus, the provinces in the airshed include Bataan; Pampanga; Bulacan in Region III; and Batangas, Cavite, Laguna, Rizal, and a part of Quezon in Region IV-A.

² Public awareness of air quality related matters.

³ This agency later became the Japan Bank of International Cooperation.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

4. Deteriorating air quality is impairing the health and welfare of Metro Manila's population of about 20 million people. The concentration of several dangerous pollutants has reached critical levels that are well above those that affect human health. The primary causes of air pollution are vehicle emissions and industrial processes that continue to increase rapidly. If not addressed, the detrimental effects of air pollution will significantly erode the country's economic and social development gains.

5. As a condition for the release of the second tranche of the Road and Road Transport Sector Program Loan,⁴ DENR and DOTC agreed to plan a future program based on the findings of the ADB-financed Vehicular Emission Control Planning Project.⁵ This project found that vehicular pollution in Metro Manila was particularly serious—especially lead concentrations, due to the high lead content of gasoline marketed in the Philippines, which was among the highest in the world. The concentrations of total suspended particulates were also excessive and well beyond levels known to have a detrimental effect on health. Health studies demonstrated that workers in the road environment were particularly affected, and a high proportion of children tested as having high levels of lead (in blood). The project resulted in a dialogue among the Government, ADB, and the oil industry; consequently, the level of lead in gasoline was reduced by about 80% in 1993, and unleaded gasoline was introduced in 1994. In 1992, at the Government's request, a second TA project was approved to address vehicular pollution.⁶

6. The economic growth of 6.7% per year from 1994 to 1996 highlighted the pressing need to address the country's rapidly growing environmental problems, particularly those of its capital, Metro Manila. At the same time, the Government recognized the need to take proactive measures to achieve cleaner air. As a consequence, the Government requested that ADB, during the Country Programming Mission in November 1996, consider assistance that would address Metro Manila's deteriorating air quality.

7. Given the country's sustained growth and significant economic improvement since the early 1990s, ADB revised its operational strategy for the Philippines, giving higher priority to environmental concerns. In addition to ADB's traditional focus on the protection of natural resources, the new strategy advocated direct interventions to assist the Government in promoting an effective environmental management system to address the ever-increasing pollution problems in large urban centers like Metro Manila.

8. It was agreed that a sector development program modality would be best suited to this purpose. ADB completed a fact-finding mission in July 1997, identifying a number of unresolved issues in the sector. Subsequently, ADB approved a small-scale TA project⁷ to address these issues, including conducting a stakeholder discussion among key interest groups of environmental issues in Metro Manila. This resulted in undertaking additional policy dialogue to

⁴ ADB. 1990. *Road and Road Transport Sector Program Loan to the Republic of the Philippines*. Manila (Loans 1046-PHI [SF] and 1047-PHI for \$50 million and \$50 million respectively).

⁵ ADB. 1990. *Technical Assistance to the Republic of the Philippines for a Study on Vehicular Emission Control Planning in Metro Manila*. Manila (TA 1414-PHI for \$830,000).

⁶ ADB. 1992. *Technical Assistance to the Republic of the Philippines for a Vehicular Emission Control in Metro Manila*. Manila (TA 723-PHI for \$100,000).

⁷ ADB. 1997. *Technical Assistance to the Republic of the Philippines for the Metro Manila Air Quality Improvement Project*. Manila (TA 2835-PHI for \$150,000).

ensure that the Program's policy framework and action plan met the diverse objectives of each group as well as promoted the abatement of harmful air emissions. The Program was then formulated using (i) the findings of ADB missions, (ii) information provided by the Government, (iii) discussions with other development partners and private sector representatives, (iv) dialogue with nongovernmental organizations, and (v) TA consultants' recommendations.

B. Program Outputs

9. **Policy Loan.** The first tranche of the policy loan for \$100 million was released on loan effectiveness in December 1998. ADB then closely monitored the loan implementation and continued its policy dialogue with the Government.

10. According to schedule 3, para. 5 of the policy Loan Agreement, no withdrawals are to be made from the second tranche unless ADB is satisfied, after consultation with the Government, that (i) sufficient progress has been achieved by the Government in carrying out the Program and, (ii) the Government has fulfilled eight conditions as specified in the Loan Agreement for the release of the second tranche. Despite the challenges encountered, the Government made satisfactory progress by 2003—of the eight conditions, seven were complied with and one was substantially complied with.

11. The substantially complied with condition is the commencement of a phased MVIS. As an alternative to MVIS, DOTC was accrediting and monitoring the private emission testing centers for over 7 years, enabling the condition to be substantially complied with. However, the MVIS in Metro Manila is still not yet fully operational. The existing MVIS lanes,⁸ built over 20 years ago, are in need of urgent rehabilitation. In 2003, DOTC estimated that the rehabilitation costs would be approximately \$30,000 per lane. Based on past studies, DOTC planned that the operation of the MVIS lanes would best be contracted out through a bidding process (i.e., through service contracts with private operators). The winning bidders would then undertake the rehabilitation and maintenance of the lanes. ADB provided assistance (as a study) to DOTC to prepare the implementation plan and related bidding documents for this by utilizing the savings from the Metro Manila Air Quality Improvement Project (see footnote 6).

12. The study was completed satisfactorily in 2004, and the final report was accepted by ADB and DOTC on 13 December 2004. However, a change of management in DOTC and LTO in December 2005 resulted in a disagreement with the study findings and, in March 2005, DOTC informed ADB of its intention to adopt an implementation scheme with financing from LBP. DOTC was then unable to provide a concrete plan for this, so the process was substantially delayed. DOTC's management changed again in mid-2006, and the new management proposed implementing the MVIS in-house to meet the policy loan's conditionality, to be financed through the Special Vehicle Pollution Control Fund under the Road Fund or motor vehicle user charges. Although DOTC advised ADB that most of the technical recommendations in the aforementioned ADB-assisted study had been incorporated into the proposed scheme, the conceptual plan submitted by DOTC was not clear on targeted implementation dates, content, and sustainability.

13. Despite ADB's requests for the proposed MVIS action plan, DOTC did not submit it until August 2007 when the planned MVIS implementation was discussed with an ADB review

⁸ MVIS is a system in which a vehicle for inspection is driven into a lane of equipment ("MVIS lane") that allows an automated check of the vehicle's mechanics for roadworthiness. Also, a manual inspection of the under chassis is possible due to an open space below the lane's floor, permitting an inspector to go underneath the vehicle.

mission. LTO started implementing the MVIS following initial procurement in September 2007 and conducted initial trial operations in two lanes. Currently, there are four operating motor vehicle inspection centers (MVICs): National Capital Region North MVIC (5 lanes), National Capital Region South MVIC (5 lanes), San Fernando–Pampanga MVIC (3 lanes), and Cebu MVIC (3 lanes). The MVIS's fee structure and financial sustainability is still not clear since DOTC has never given this matter appropriate attention. It is unlikely that MVIS operations will be successfully sustainable in the long term.

14. There were also other nontranche release conditions in the policy Loan Agreement. Overall, issues on compliance were observed in two conditions: (i) on MVIS; and (ii) to demonstrate the effectiveness of an upgraded ambient air quality monitoring network, which was compliant later in 2004, as stated in para. 11. However, due to a contractual dispute between DENR and the contractor, this air quality monitoring network is no longer in operation (paras. 18–22).

15. **Facility Loan.** The facility loan provided a credit line through LBP to set up an air pollution control facility. Although extensive work was undertaken by LBP to market the air pollution control facility, the number of subborrowers remained limited over the 5 years of implementation, as only five subloans (one of which was canceled) were approved by LBP and ADB. The low utilization of the fund has been attributed to the initially slow implementation of the Clean Air Act and enforcement of the implementing rules and regulations. LBP's review of potential borrowers revealed that many were not financially sound, did not want to borrow money from LBP, or were not eligible. The full disbursement of the four ongoing subloans in 5 years was only ₱308 million equivalent (approximately \$6 million). These subloans were used to (i) modernize and refleet buses, (ii) acquire and install air quality monitoring equipment, and (iii) for an air pollution abatement facility. With such a low achievement rate, the loan was closed in December 2003, cancelling 76% of the loan amount.

16. **Investment Loan.** Under the investment loan, seven major components were targeted: (i) an ambient air quality monitoring network, (ii) outsourcing of stack emissions measurement, (iii) road rehabilitation, (iv) traffic management and engineering, (v) antismoke belching program, (vi) motor vehicle emission testing equipment procurement, and (vii) public health monitoring. The first two components consisted of eight subcomponents and were under the management of DENR, as the lead coordinating agency for the Program. DPWH was responsible for design and construction of the road rehabilitation program; MMDA was responsible for traffic engineering, management, enforcement, and the antismoke belching program; DOTC was responsible for motor vehicle emission testing equipment procurement; and DOH was responsible for the public health monitoring program.

17. **Ambient Air Quality Monitoring Network.** The contract for the rehabilitation, upgrading, and 4-year operation and maintenance of 10 ambient air quality monitoring stations (including one mobile station) commenced on 26 November 2002. With equipment delivered from July to August 2003, nine stations commenced data collection in 2004, and the other began in 2005. Due to a contractual dispute between DENR and the contractor—resulting from noncompliance with contractual obligations—DENR suspended the contractor's progress payments from November 2004.

18. Since that time, ADB assisted DENR through intensive staff inputs to resolve the contractual dispute. Via the agreement it had with USEPA, ADB also offered to provide TA on matters related to USEPA standards, especially the quality assurance project plan. DENR accepted, and as a result, a USEPA expert visited and conducted a review on technical matters

leading to the dispute in September 2005. Following detailed technical discussions and field visits, the expert concluded that all the monitoring stations were producing data in compliance with USEPA standards and recommended finalizing the quality assurance project plan and implementing performance audits to validate the data obtained from the network. DENR initially agreed with these findings, but subsequently disagreed.

19. Nevertheless, the succeeding ADB missions held meetings with DENR to discuss this contractual dispute, and strongly encouraged DENR to resolve the issue to achieve the Program's development objectives. In December 2006, the contractual dispute was resolved with an agreed action plan between DENR and the contractor that the remaining works be completed in 2007, during the extended loan period. However, DENR's secretary changed in mid-2007, and the new secretary terminated the contract itself in October 2007.

20. In December 2007, DENR signed a new agreement with the contractor and his local joint venture partner to resolve the matter. The agreement required that the contractor refurbish the closed stations, making them operational prior to handing them over to DENR, in exchange of their outstanding progress billings since 2004. The Project Completion Review Mission witnessed the ongoing refurbishment work but noted that it was progressing at a slow pace. DENR informed ADB that the independent audit to validate the air quality monitoring data and sustainability of the 10 stations are included in their work and financial plan for 2009. Also, the budget for these purposes seems to be allocated for this year. However, the stations have not yet been turned over to DENR, though this was planned for September 2008; therefore, DENR may not operate the stations until early 2009. Nevertheless, the mission did not receive sufficient information from DENR to ascertain if there are any concrete plans on the independent audit and future sustainability of the stations.

21. The Program included the aforementioned independent audit as a separate consulting service within the same component. These consulting services started in April 2004, with training of DENR staff for the planned audit after the stations were operational. Due to the insufficient considerations during the design of this contract (see section J), disagreements occurred between the contractor for the air quality monitoring network and these audit consultants. It was fortunate that the aforementioned USEPA assistance resolved these disagreements and helped produce the much-needed quality assurance project plan for the successful audit and network operations thereafter, but the process was lengthy and contributed to the current uncertain status of the network. Overall, this subcomponent is *partly successful*.

22. **Outsourcing of Stack Emissions Measurement.** This subcomponent was associated with outsourcing of stack monitoring as well as quality assurance and quality control in monitoring industry emissions. This commenced in March 2004, with capacity-building activities for DENR successfully completed to sustain project initiatives and benefits, through (i) appropriate training of personnel, (ii) incorporation of these activities in the Environment Management Bureau's (EMB) work plan and key results areas, (iii) technical guidance to DENR on continuous emissions monitoring system, (iv) provision of regulatory support, (v) assistance to DENR on third-party emissions testing firms' accreditation, and (vi) training of DENR's laboratory staff to use USEPA's methods for analyses. This subcomponent was *successful*.

23. **Institutional Strengthening and Capacity Building.** This component was intended to support the TA grant (see para. 41) for DENR's Pollution Adjudication Board (PAB). It was to improve PAB staff's capacity to enforce the Clear Air Act, to prepare the implementing rules and regulations, and to develop air quality policy, which were all completed. PAB issued a resolution on 12 December 2003 to adopt an action plan on its reform, and guidelines on the

fine rating system under the Clean Air Act's implementing rules and regulations were also issued in December 2003. Activities with user groups in EMB's central and regional offices to define needs and implement solutions through the air quality compliance monitoring system—a web-based networked system linking the DENR central office, regional offices, and PAB—were completed. It also provided technical training in database software applications, developed technical guidelines on air pollution techniques, and created an enhanced permitting system to manage industry performance better and to provide a firmer basis for enforcement and adjudication through standardized permit conditions. This component also provided a combination of training, policy advice, and job support for a systematic approach to enforcement and adjudication.

24. During the final extension period of the investment loan in 2007, this component provided further assistance to DENR for (i) assessing and demonstrating professional competency; (ii) further policy and procedure development regarding enforcement and adjudication; (iii) institutionalizing the air quality compliance monitoring system and implementing EMB's management information system policy; (iv) further formal and on-the-job training in permitting and assessment, with a focus on high priority establishments; and (v) strategic planning and sustainability issues, including the Air Quality Management Fund.

25. One important activity of this component was the capacity building and institutional strengthening proposal that recommended the creation of new permanent staff positions for currently engaged staff in the Program, to remedy the understaffed DENR structure.⁹ With the Program, DENR's current rationalization plan was expected to achieve some positive outcomes in staffing issues. However, this has not progressed, and the Program's sustainability, based on DENR's staff resources, cannot be confirmed. Overall, this component is rated as *partly successful*.

26. **Project Coordination and Monitoring Unit Consultancy Services.** This component was initially a separate consulting task. However, after DENR terminated its consultants in 2003, the component and activities were combined with the institutional strengthening and capacity building component outlined previously. The outputs were as reported in paras. 23–25.

27. **Consulting Services for Public Awareness.** The Program's TA grant (see para. 40), completed the consulting services to raise public awareness about air quality issues and measures of improvement successfully.

28. **Consulting Services for a Metro Manila Airshed Technical Secretariat.** This component focused on consultancy services to the technical secretariat of the Metro Manila airshed for building its capacity for strategic planning and air quality fund management. This component was also completed with successful outputs.

29. **Capacity Building.** This component was to support the pooling of resources for capacity building of existing institutions, coordinated by the project coordination and monitoring unit into a capacity-building master plan for the IAs. The IAs used pooled resources to fund staff members' attendance at relevant trainings, programs, and workshops. This component was successfully completed.

⁹ This is very important in Regions III and IV-A where approximately 50% of technical staff members are contractual, with no assurance of staff resources in future.

30. **Miscellaneous Civil Works and Procurement.** Under this component, DENR completed construction of an air quality management training center. There were also three packages for procurement: (i) office equipment by direct purchase, (ii) stack sampling monitoring equipment by international shopping, and (iii) laboratory equipment by international shopping. However, DENR successfully completed only the first and second packages. After rebidding in 2006, DENR could not finalize the contract documents before loan closing in December 2007 due to its slow internal processes.

31. **Road Rehabilitation.** The objective of this component was to reduce vehicle emissions through better road conditions and smooth traffic flow on Metro Manila's arterial roads. Requested by DPWH in August 2001, ADB approved the change of this component from eight packages to three packages, with focus on EDSA's¹⁰ rehabilitation. The detailed design was effectively concluded, and DPWH initiated the initial steps of procurement of civil works in late 2002. DPWH then faced a legal deadlock with the MMRDC¹¹ chairman, who opposed the design and ordered a change from asphalt to concrete reblocking.

32. Although DPWH proved that the design proposed by MMRDC would incur an economic cost over five times more with an economic rate of return three times less than the original design, MMRDC was still opposed. Though ADB indicated to MMRDC and MMDA,¹² DENR, and DPWH that this is in violation of the Loan Agreement between DOF and ADB, neither DENR nor DPWH made efforts to revoke this objection. In addition, DOF, NEDA, and any other oversight agency failed to support DPWH in resolving this issue. Finally, in July 2005, this disagreement was resolved. Unfortunately, in October 2005, the Office of the President issued an order to cancel this component. Thus, the component is rated as *unsuccessful*.

33. **Traffic Management and Engineering.** For MMDA, this component, with embedded capacity building, was intended to improve traffic management in Metro Manila to ensure smooth traffic flow, thereby reducing vehicle emissions. However, after completing some of the capacity-building activities in 2003, MMDA decided not to pursue this component except for the geographic information system. Thus, activities regarding construction of footbridges, capacity building for traffic engineering and management training, upgrading of the metro base communication system, procurement of traffic enforcement equipment, public transport policy studies, traffic signs and road markings, and traffic signal equipment refurbishment—which would have helped Metro Manila to reduce congestion and emissions—did not happen.

34. However, in 2005, MMDA requested that ADB reallocate this component's funds to rehabilitate some major arterial roads within Metro Manila. ADB assisted MMDA by recruiting a consultant under the Program's TA grant (see footnote 6) to plan this activity, detailed engineering design, and procurement. Despite the consultant's mobilization in June 2005, MMDA requested cancellation of this component in early 2006, due to nonavailability of a counterpart budget to implement the component.

35. **Antismoke Belching Program.** MMDA implemented this component according to its schedule and completed all procurement in 2002. However, in 2005, MMDA unilaterally discontinued antismoke belching operations, requesting that the cities of Metro Manila resume

¹⁰ EDSA, not usually known by its longer name of Epifanio de los Santos Avenue, is a 10–12 lane major arterial connecting north and south Metro Manila, linking the North Luzon Expressway and South Luzon Expressway.

¹¹ The council's responsibilities—as far as rehabilitation projects like this in Metro Manila—are limited to traffic management. It does not have any authority on endorsement of design of DPWH projects, though DPWH needs to coordinate with the council for traffic management activities.

¹² The MMDA chairman was also the MMRDC chairman.

the operations and transferring the equipment to them, although there was no agreement for such actions. Therefore, MMDA nor the cities are no longer operating antismoke belching operations. The Project Completion Review Mission observed that even the geographic information system component, though completed in 2006, is not currently being utilized by MMDA. Thus, the two components of MMDA were *unsuccessful*.

36. **Motor Vehicle Emissions Testing Equipment.** In December 2002, ADB approved DOTC's request to use \$1.55 million from the unallocated proceeds of the investment loan to procure vehicle emissions testing equipment intended to ensure vehicles' compliance with emission standards and to improve LTO's technical capacity for emission testing. The first batch of procurement¹³ of 25 opacimeters and gas analyzers was completed in January 2003, which DOTC deployed to LTO offices in Metro Manila. Also, DOTC procured 12 service vehicles in 2004. However, DOTC could not complete the procurement of the second batch of 52 gas analyzers and 45 opacimeters in 2005, after a change of its management in December 2004. Although procurement had occurred in 2004, DOTC was unable to submit a proper bid evaluation report, even after several rounds of consultation with ADB. The issue could have been rectified by rebidding. Eventually, in 2006, DOTC decided not to procure this equipment. Based on such outputs, this component was *partly successful*.

37. Although it was not a loan condition, during every mission since late 2004, ADB requested DENR to coordinate the antismoke belching programs of DOTC, DENR, and cities of Metro Manila. This was intended to be effective enough to eliminate loopholes in the current antismoke belching programs. With the appointment of new management in March 2006, DENR's focus seems to have strengthened such a coordinated program.

38. In light of this, the program coordination and monitoring unit consultants prepared a report (based on their Master Capacity Building Plan) on the assessment and recommendations in December 2006. This was presented to and discussed with DOTC with the objective of implementing a successful joint DOTC–DENR–cities of Metro Manila antismoke belching and countrywide private emission testing center monitoring programs in early 2007. However, none of these agencies continued these efforts and, as a result, the Project Completion Review Mission learned that present antibelching operations (nonplanned and nonscheduled) are not effective.

39. **Public Health Monitoring.** Under DOH, this component was successfully completed through four subcomponents: (i) health risk assessment, (ii) a prospective study on sentinel communities, (iii) a risk perception survey, and (iv) equipment procurement.

40. **Technical Assistance.** ADB provided a piggybacked advisory TA grant¹⁴ to assist DENR in conducting seven air emission policy studies. These studies were related to policies that may help reduce air pollution. Apart from the above, DENR and the Department of Energy prepared proposals on other air quality issues such as alternative fuels and improvement of tricycle emissions, which this TA grant supported through its uncommitted funds. It also assisted, through a major change in scope, the United Nations Development Programme's ongoing Hazards Mapping and Assessment for Effective Community-Based Disaster Risk

¹³ DOTC programmed a procurement plan under the Special Vehicle Pollution Control Fund of the Road Fund.

¹⁴ ADB. 1998. *Technical Assistance to the Republic of the Philippines for Air Emission Policy Studies*. Manila (TA 3128-PHI for \$1.5 million).

Management Project (see para. 49). The TA grant began in May 1999 and was completed in October 2008.¹⁵

41. Appendix 3 provides details of the Program's outputs, planned and actual. Overall, the Program was *partly successful*; the policy loan still did not comply fully with the eighth condition for second tranche release of funds, as the MVIS is not yet fully operational. As for the facility loan, it used only \$5.92 million to achieve the originally planned outputs while it canceled the remainder, about 76%. The investment loan achieved less than 50% (based on physical accomplishment 45%, and based on a financial accomplishment of 41%) of the originally planned outputs.

C. Program Costs

42. Program costs at appraisal and actual program costs are summarized in Appendix 4. There was no program cost overrun. In fact, the actual program cost (\$35.9 million) was much lower than that estimated at appraisal (\$122.3 million) due to the many cancellations of program components. Despite nearly a decade of implementation, such cancellations made the program less meaningful as far as its objectives are concerned.

D. Disbursements

43. Total disbursements under the Program were: (i) for the policy loan, \$200.00 million (100%); (ii) for the facility loan, \$5.92 million (24%); and (iii) for the investment loan, \$29.00 million (41%). Appendix 5 shows the quarterly disbursements. Also, the Program approved an imprest account and a statement of expenditure to disburse the loan proceeds efficiently. The performance of these two procedures was generally *satisfactory*. The auditor's annual opinion did not raise any substantial issues regarding these procedures.

E. Program Schedule

44. Appendix 6 shows the actual program implementation schedule compared with that at appraisal. The Program was declared effective on 29 December 1998, with closing dates of 31 December 2002 for the policy loan, 29 December 2002 for the facility loan, 31 December 2003 for the investment loan, and May 2001 for the TA grant. Program implementation was slow during the first 3 years following loan effectiveness due mostly to the frequent changes of the DENR secretary. As a consequence, the closing dates of policy loan, facility loan, investment loan, and TA grant were extended to 31 December 2003, thus coinciding with the closing date of the investment loan. Since the appointment of a new DENR secretary in December 2002, the Government had demonstrated a higher commitment to improving Metro Manila's air quality and to the Program in particular. This resulted in very significant achievements toward the Program's objectives in 2003. The policy loan and facility loan closed after one extension, in December 2003. The investment loan was extended twice, from 31 December 2003 until 31 December 2006 and then until 31 December 2007. The TA grant was completed in October 2008, after extending it twice since May 2001.

45. In the entire program period of 8 years, DENR had five different secretaries. As mentioned in para. 44, significant achievements toward the Program's objectives were possible

¹⁵ Since the TA's financial closure is unlikely within 2008, this report could not include its completion report. Therefore, the completion report, though intended to be an appendix to this Project Completion Report, is likely to be circulated in early 2009, after the TA's financial closure.

in 2003. Yet, this did not extend to 2004, thanks to contractual disputes, component cancellations, and three persons occupying the position of DENR secretary. DOTC also faced similar senior-level management changes, such as that in charge of LTO-related operations and the MVIS. Such management changes slowed down many processes within DENR and DOTC and weakened their capacity.

F. Implementation Arrangements

46. The Borrower was the Government, represented by DOF. For the policy loan, DENR was the EA. For the facility loan, LBP was the EA. For the investment loan, while DENR was the EA for air quality monitoring and evaluation, the public awareness program, capacity building and institutional strengthening, and overall coordination; there were four IAs: (i) DPWH, for design and construction of the road rehabilitation program; (ii) MMDA, for traffic engineering, management, enforcement, and the antismoke belching program; (iii) DOH, for the public health monitoring program; and (iv) DOTC, through LTO, for implementing the motor vehicle inspection system program. Each IA and EA established project management units with the objective to implement program activities efficiently.

G. Conditions and Covenants

47. For the policy loan, of the 15 total loan covenants, 12 were complied with (two late), two were substantially complied with, none were partly complied with, and one was not complied with. The noncompliant covenant relates to the ambient air quality monitoring network. The two substantially complied with covenants are related to MVIS implementation and the 15-year age rule implementation for buses. For the facility loan, of the 11 loan covenants, all were complied with. For the investment loan, of the 23 loan covenants, 20 were complied with (two late), none were substantially complied with, two were partly complied with, and one was not complied with. The noncompliant covenant is related to the environmental compliance for civil works, which did not occur. The partly complied with covenants are related to the benefit monitoring and evaluation covenant and that for training activities. The former could not be completed since the air quality monitoring network itself was operational by loan closure. The latter failed due to cancellation of most MMDA training components. The status of compliance with loan covenants is given in Appendix 7.

H. Related Technical Assistance

48. As stated in para. 40, the Program included a piggybacked TA, which initially targeted seven subprojects on air emission policies and public awareness:

- (i) market-based policy instruments for Metro Manila air quality management was completed in September 1999, introducing possible policy instruments of air quality management for greater effectiveness in strategy formulation and enforcement;
- (ii) draft implementing rules and regulations for the Clean Air Act were completed in October 2000;
- (iii) a study on public awareness for cleaner air was approved in June 2000, with the purpose to help develop a nongovernment organization partnership for clean air, support its activities as a platform for public-government dialogue on air quality issues, and support an information center of air quality-related activities for public and private sectors, all of which were completed in December 2004;

- (iv) for selecting and designing options for emission charges for both stationary and mobile sources, guidelines for emission charge systems for air quality improvement were completed in August 2002;
- (v) a study on public health monitoring was approved in October 2001 and completed in November 2003, demonstrating how to monitor the public health effects of air quality and to strengthen the capacity of public health monitoring of regional DOH offices;
- (vi) a study on strengthening PAB was completed in October 2003, identifying legal, regulatory, and bureaucratic constraints within PAB and suggesting appropriate actions; and
- (vii) the development of a compressed natural gas master plan was approved in August 2003 and completed in December 2003.

All seven subprojects were completed successfully.

49. As mentioned in para. 40, ADB approved a major change in the TA scope to assist the ongoing United Nations Development Programme project. This assistance used the unutilized TA funds after the TA completed the subprojects of para. 48. The objective of this assistance to the United Nations Development Programme was to augment the project's community awareness raising and mobilization toward preparedness and to assess the country's other needs toward development of a holistic disaster risk management framework, including response and recovery. Main activities included were (i) an assessment of disaster risk management issues in the Philippines, (ii) community preparedness and preparation of community contingency plans, (iii) documentation and dissemination of lessons learned, and (iv) development of a disaster risk management framework. All were completed successfully.

I. Consultant Recruitment and Procurement

50. All civil works and goods procurement were carried out according to *ADB's Procurement Guidelines*. Similarly, the consultants were recruited according to *Guidelines on Use of Consultants by ADB and its Borrowers*. Investment loan rebidding was necessary for procurement of the third laboratory equipment package (DENR), provision of the global information system (MMDA), and emissions testing equipment (DOTC). Procurement of the global information system was successful in the rebidding process, but the other two were not due to the institutional capacity of DENR and DOTC. As for consulting services, none of the recruitments failed. Also, there were no representations from bidders. Generally, recruitment of consultants and the procurement processes did not experience severe delays.

J. Performance of Consultants, Contractors, and Suppliers

51. All consultants, contractors, and suppliers performed satisfactorily in general. There were issues in two cases only, both in the investment loan. First, with the project coordination and monitoring unit consultants, who terminated their contract due dissolution of their company, and second, the contractual dispute between the air quality network contractor and DENR—which substantially affected the success of the investment loan. The reasons for this failure were complicated, as described below.

52. When ADB designed the Program for the air quality monitoring network, it included two contracts: one for construction of the network and the other for an audit. Issues of conflict of interest, two contracts working together, importance of quality assurance project plan preparation by both parties at initial stages of contracts, and use of a third-party independent

audit rather than a DENR-recruited consultant were not given sufficient consideration at design stage. This led to initial disagreements between the contractor and audit consultant that might have been due to personality weaknesses of both parties. This then escalated to noncompliance with contractual obligations by the contractor. Ultimately, the issue became an acute contractual dispute, which DENR did not handle in an efficient and constructive manner, even though ADB facilitated DENR with extensive staff resources and third-party independent assistance. Further, DENR did not choose to benefit from these interventions, even during the final extension (1 January to 31 December 2007) of the investment loan that was specifically intended to achieve at least some important development objectives.

K. Performance of the Borrower and the Executing Agency

53. The change of DENR's secretary five times (see para. 45) during the Program period of 8 years had a significant impact on progress. It delayed the Program initially during its first 3 years, but substantial progress was possible in 2003. Thereafter, the aforementioned contractual dispute combined with three further changes in the secretary position slowed the Program's progress. Apart from such management changes, DENR did not exert adequate efforts to bring the Program back on track, despite ADB's continuous facilitation to resolve disputes.

54. Regarding the policy loan, DOTC's change of management at the LTO level affected MVIS implementation. Ultimately, the MVIS is still not fully operational and is without any assurance of sustainability.

55. Regarding the investment loan, one significant component of road rehabilitation by DPWH did not happen at all. Even today, EDSA is in a rapidly deteriorating state, contributing to lower travel speeds, more congestion, and thereby more emissions. MMRDC's intervention contributed largely to this failure. In addition, no party—DPWH as the IA for the component, the Program's EA (DENR), or oversight agencies (DOF, NEDA, etc.)—made a constructive effort to stop the failure. Thus, all these parties demonstrated insufficient integrity and ownership toward the Program.

56. Though MMDA was responsible for two key components that could have significantly contributed to air quality improvement, it did not show any keen interest in their success.

57. Finally, one process that has a direct impact on air quality improvement, which did not have any difficult issues to be resolved, was a joint operation by DOTC, DENR, and the cities of Metro Manila for antismoke belching. These parties launched several programs starting 2004 to supplement MMDA's ceased operations. However, none of those programs, individually or overall, effectively reduced smoke belching violations, despite prolonged and continuous encouragement by ADB during the Program. Therefore, the performance of the Borrower, EA, and IAs was *unsatisfactory*.

L. Performance of the Asian Development Bank

58. ADB conducted 14 review missions during the program period. There was also a progress mission in 2003, which submitted a progress report for Board approval to release the second tranche of the policy loan and served as a midterm review. ADB attended to program issues to resolve them, especially from 2004 to 2007, when the contractual dispute between DENR and the contractor for air quality monitoring stations occurred. It intensified its review through monthly progress meetings in 2007, focusing on achieving some progress on the

development objectives of the Program, at least during the remaining loan period. Despite that, the Program did not achieve the major outputs, and most investment loan components were canceled that would have contributed greatly to the Program's development objectives.

59. One major contributing factor was the inadequacy of the Program's design. It had too many complex subcomponents with little regard for the capacity of the EA and IAs. Clearly, the EA's and IAs' capabilities at appraisal, as assessed by ADB, were not accurate. Further, the Program's complexity imposed many difficulties for ADB during implementation. Based on this, the performance of ADB was *partly satisfactory*.

III. EVALUATION OF PERFORMANCE

A. Relevance

60. The Program was highly relevant and timely for the Philippines, especially for the congested economic capital of Metro Manila. However, the Program's complexity demonstrated design inadequacies during its implementation, lowering the Program's rating to *relevant*.

B. Effectiveness in Achieving Outcome

61. The Program was able to achieve one significant outcome of eliminating of lead from atmosphere over Metro Manila. However, it could not fully achieve other outcomes to improve the air quality in the Metro Manila airshed. Thus, it is rated *less effective*.

C. Efficiency in Achieving Outcome and Outputs

62. The Program did not have cost overruns, but it was significantly delayed. It could not achieve its significant outcomes and outputs, though it achieved certain outputs efficiently. Thus, it is rated *less efficient*.

D. Preliminary Assessment of Sustainability

63. The likelihood of Program's sustainability is *less likely*. DENR does not have adequate permanent staff positions to sustain the program efficiently, and the air quality monitoring network is currently not operational. Further, the MVIS has no assurance of financial sustainability.

E. Impact

64. There were no economic, social, and other impacts due to the Program. The environmental impact was what the Program aimed to achieve—reducing the ambient air pollution in a sustainable manner. During the Program's initial stages, it achieved eliminating lead from gasoline. Nevertheless, the remaining objectives to achieve cleaner ambient air in the Metro Manila airshed did not materialize.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

65. Based on the above, the overall assessment of the Program is *partly successful*.

B. Lessons Learned

66. The Program was complex, with an EA and many IAs involved, which needed many levels of coordination and administration. During program implementation, the EA, IAs, and ADB faced difficulties due to this complexity. The Program could not reach constructive solutions when faced with issues, even after a prolonged period of time. Thus, there was a mismatch between the Program's expectations from the EA and IAs and their capacity to deliver such expectations. Two clear examples in this respect were the road rehabilitation component of DPWH and the ambient air quality monitoring network refurbishment subcomponent of DENR, both of which could not achieve expected outputs. Further, as a result of such complexities, many components were canceled. Therefore, the Program's main lesson learned is that a complex and overambitious program should not have been designed. A step-wise intervention through a simpler program might have been more realistic to achieve better results.

C. Recommendations

1. Program-Related

67. **Future Monitoring.** During future country portfolio management missions, the achievements and sustainability of the MVIS and air quality monitoring stations should be monitored.

68. **Covenants.** The only recommendation is that, regarding the sustainability issue described in para. 63., this is directly related to loan covenants not complied with fully.

69. **Further Action or Follow-Up.** No actions are recommended other than monitoring.

70. **Additional Assistance.** Although DENR seeks additional TA to complete the operation of air quality monitoring stations, given its overall unsatisfactory performance, this is not recommended. However, ADB should consider the assistance from USEPA, if DENR requests it, for the independent audit of the monitoring stations.

71. **Timing of the Program Performance Evaluation Report.** Allowing DENR some time to complete the monitoring stations and to commence operations, plus 1 year of operations, the appropriate time would be the latter-half of 2010.

2. General

72. A program of this nature should have a simple, effective, step-wise design. During program design, the capacities of the EA and IAs should be understood. Agencies with no previous experience in a similar program should be assumed to be in need of full capacity support. In addition, such agencies should be identified as risks in the design and monitoring framework.

PROGRAM FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p>Goal</p> <p>Sustainable improvement in Metro Manila's airshed quality</p>	<p>100% elimination of lead from the atmosphere by 2003</p> <p>75% reduction of particulates from mobile and stationary sources by 2003</p> <p>85% reduction of sulfur oxides from mobile and stationary sources by 2003</p> <p>Reductions in nitrogen oxides, carbon monoxide, and ozone and volatile organic compounds (e.g., toluene, benzene, xylene, and total hydrocarbon according to an action plan developed within 6 months after commissioning of air quality monitoring equipment that measures these substances</p> <p>75% reduction in air pollution-related mortality rates (from 6,000 to 1,500) and morbidity rates</p>	<p>Baseline survey and follow-up monitoring by EMB</p> <p>Department of Health surveys</p> <p>Special studies and surveys carried out by technical secretariat of Air Quality Management Board in first and last year of the Program</p>	<p>Economic growth averages at least 4%.</p> <p>Increase in number of registered vehicles in Manila stays within a 10% increase on an annual basis.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p>Purpose</p> <p>Substantial improvement of air quality management in Metro Manila's airshed</p>	<p>Effective institutional management structure developed and put in place, which allows for appropriate intra- and intersector coordination (e.g., among Metro Manila Air Quality Board, technical working groups, and technical secretariat), 1 year after program commencement</p> <p>Sustainable funding mechanisms in place that ensure adequate levels of monitoring, awareness raising, and enforcement, 1 year before program conclusion</p> <p>Relevant legislation and policies for sector and subsectors in place and regularly updated</p> <p>Capacity-building plans for all participating organizations implemented as planned</p>	<p>Presidential Air Quality Commission transformed into Metro Manila Air Quality Board, and technical secretariat in place</p> <p>Annual air quality fund reports</p> <p>Legislation and policy documents</p> <p>Progress reports, capacity building, output of concerned organizations</p>	<p>Clean Air Act is passed by 11th Congress before Program's midterm.</p> <p>Department of Budget and Management agrees to use limited part of loan proceeds for strengthening staffing and other capacity-building measures of participating departments.</p> <p>There is a broad-based commitment to enforce air quality standards.</p> <p>Cooperation between LLDA and DENR continues to be good.</p>
<p>Outputs</p> <p>1. Air pollution from mobile sources mitigated</p>	<p><u>Policy Legislation</u></p> <p>Required decision making on structure and scope of MVIS completed through approval of relevant administrative order prior to loan effectiveness</p> <p>Supportive modifications of Administrative Order No. 91-0005 and Presidential Decree No. 1181, in support of MVIS and improved antismoke belching approved by 1 January 1999</p> <p><u>Capacity Building</u></p>	<p>Approved administrative order minutes, National Economic and Development Authority Investment Coordination Committee</p> <p>Modified approved administrative order and presidential decree text</p>	<p>Contract negotiations between Department of Transportation and Communications, Land Transportation Office, and private sector firms on Motor Vehicle Inspection System result in agreement that is in line with government rules and regulations.</p> <p>Implementation of Information Technology Project in Land Transportation Office starts before 31 December 1998.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>By 30 June 2000, all private vehicles and commercial vehicles in Metro Manila's airshed have been tested</p> <p>By 31 December 1999, audit firm in place that reports on regular basis on quality of MVIS</p> <p>MMDA database, to register motorists apprehended for antismoke belching, running by 31 December 1999</p> <p>An integrated, Metro Manila-wide antismoke belching campaign, which combines garage and roadside testing, developed and approved by DENR, MMDA, and strategically located LGUs in Metro Manila (e.g., Quezon City, Manila, Makati, Caloocan, and Muntinlupa) by 30 June 1999 and for other LGUs in the airshed by 31 December 2000</p> <p>By 31 December 1999, the strategically located LGUs in Metro Manila will have functioning antismoke-belching units of a size corresponding to that agreed upon by the campaign</p> <p style="text-align: center;"><u>Investment</u></p> <p>By 30 June 1999, contract signed between the Government and private sector companies that outlines implementation arrangements of MVIS</p> <p>By 31 December 1999, contract signed between MMDA, LGUs, and private sector firms to carry out antismoke belching activities on a contract basis</p>	<p>Reports by MVIS contractors</p> <p>Reports by MVIS auditors</p> <p>MMDA database reports</p> <p>Strategy document</p> <p>LGU budget documents and staffing plans</p> <p>MVIS contract between the Government and participating firms</p> <p>Handing over protocol between MMDA and LGUs</p>	<p>The Land Transportation Office's national vehicle database in place and running by 30 June 2000.</p> <p>MMDA Council resolution on antismoke belching that calls for private sector involvement is passed before 30 June 2000.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
2. Air pollution from stationary sources mitigated	<p align="center"><u>Policy Legislation</u></p> <p>Industrial air emissions standards reviewed and adjusted by 31 December 1998</p> <p>Fines for breaking emission standards increased to level that forms adequate deterrent prior to loan effectiveness</p> <p>Personal liability for quality of information of industry managers/owners established by 1 January 2000</p> <p>Emission compliance monitoring based on facility emissions rather than ambient data, prior to loan effectivity</p> <p>Mandate of PAB restructured by 31 December 1999 to enable proactive role in enforcement of air quality standards</p> <p>Continuation of incentives for purchase and installation of pollution control and monitoring equipment for Board of Investments-registered companies up to 31 December 2001</p> <p>Feasibility of air emission charges system established by 31 December 1999; if positive, approved introduction plan available by 30 June 2000</p> <p align="center"><u>Capacity Building</u></p> <p>Phase I database of major sources of industrial air pollution completed by 31 December 1997 and phase II by 31 December 1999</p> <p>30% of all registered companies in Metro Manila's</p>	<p>Relevant administrative order, presidential decree, or Clean Air Act</p> <p>Relevant administrative order, presidential decree, or Clean Air Act</p> <p>Relevant administrative order, presidential decree, or Clean Air Act</p> <p>Revised and approved PAB mandate</p> <p>Relevant guideline</p> <p>Technical assistance study, and, if relevant, introduction plan and relevant administrative order, presidential decree, or Clean Air Act</p> <p>Database</p> <p>Progress report stack monitoring</p>	<p>Government is willing to continue supporting the polluter-pays principle also in case of initial opposition by industry.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>airshed checked at least once through site inspection during program</p> <p>At least 5 private laboratories accredited to undertake air emissions samples by 1 January 2000</p> <p>Detailed strategy for strengthening EMB, DENR-National Capital Region, DENR-Region III, and DENR-Region IV with regard to supervision of stack monitoring, and follow up through permitting and enforcement available by 31 December 1999 and subsequently implemented according to targets outlined in strategy</p> <p style="text-align: center;"><u>Investment</u></p> <p>EMB, DENR-National Capital Region, DENR-Region III, and DENR-Region IV, as well as LLDA, have been equipped to supervise and complement outsourced stack monitoring</p> <p>Contract DENR and private sector to monitor source pollution by 30 December 1999, and consultants in place by 31 December 1999</p> <p>30% of companies identified as in need of air pollution abatement equipment made use of air pollution control facility set up under the Program, or have made required adjustments through own initiative by program end</p>	<p>Accreditation reports</p> <p>Strategy document and follow-up reports, permitting database</p> <p>Commissioning reports for new equipment</p> <p>Contract, inception report, consultants</p> <p>Loan agreements, and Land Bank of the Philippines compliance reports submitted by industry</p>	
3. Fuel quality improved	<p style="text-align: center;"><u>Policy Legislation</u></p> <p>Unleaded gasoline is 100% of total gasoline offered by 1 January 2001</p> <p>Sulfur content in diesel</p>	<p>Progress reporting by oil companies</p> <p>Progress reporting</p>	Oil companies demonstrate interest in testing alternative fuels for various purposes.

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>reduced to about 0.20% by 1 January 2000 and plans for further reduction to about 0.05% before 1 January 2003, and sulfur content in fuel oil is reduced to 1.0% by 1 January 2000</p> <p>Revised gas station standards developed, approved, and implemented by 1 January 2000</p> <p>Potential for cleaner fuel has been examined through testing of alternative fuels by 31 December 2001</p>	<p>by oil companies</p> <p>Relevant administrative order or presidential decree</p> <p>Test results alternative fuel program</p>	
<p>4. Emissions from vehicular use reduced</p>	<p><u>Policy and Legislation</u></p> <p>Introduce and extend compulsory use of catalytic converters on new gasoline-powered vehicles by 1 January 2000</p> <p>Viability of introduction of particulate traps and diesel catalytic converters on diesel-powered public transport vehicles established and formulated into law, if desired, by 31 December 2001</p> <p>Phase-out of public transport vehicles older than 15 years initiated by 30 September 1999 and completed by 31 December 2001</p> <p>Revise import regulations for second-hand vehicles to ensure environmental compliance developed and approved by 30 September 1999</p> <p><u>Capacity Building</u></p> <p>Capacity of Bureau of Customs to ensure environmental compliance of second-hand imported vehicles improved: 100% of</p>	<p>Relevant legislation</p> <p>Study reports and relevant legislation, if appropriate</p> <p>Legislation, vehicle registration database</p> <p>Concerned regulations</p> <p>Bureau of Customs records</p>	<p>Phase-out of public transport vehicles older than 15 years has broad public support.</p> <p>Land Bank of the Philippines agrees to make air pollution control facility available for replacement of old public transport units.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	vehicles through yellow channel by 31 December 1999		
5. Traffic congestion reduced through improved traffic flow	<p data-bbox="565 384 769 411"><u>Policy Legislation</u></p> <p data-bbox="483 443 829 621">Transport policies adopted based on outputs of JICA study, which improve accessibility and minimize congestion by 30 September 1999</p> <p data-bbox="483 684 841 926">Public transport policies adopted based on JICA study, which promote further rail mass transit and facilitate integration of multimodal transport facilities, and continuous to 31 December 2001</p> <p data-bbox="565 989 769 1016"><u>Capacity Building</u></p> <p data-bbox="483 1050 846 1171">MMDA's capacity for traffic engineering substantially increased through training of 8 persons for at least 3 years</p> <p data-bbox="483 1203 829 1409">Training program for traffic engineering (for MMDA as well as LGUs) strengthened through training of trainers, development of curricula and teaching aids, and testing of trainees</p> <p data-bbox="597 1446 732 1474"><u>Investment</u></p> <p data-bbox="483 1507 829 1629">Prioritized transport plan and program for investment developed and agreed upon by 31 December 1999</p> <p data-bbox="483 1661 829 1866">Traffic engineering program addressing short-term and low-cost traffic engineering and management constraints initiated and completed from 30 September 1999 to 31 December 2001</p>	<p data-bbox="873 443 1122 653">Technical assistance studies and meeting minutes of Department of Transportation and Communications and MMDA</p> <p data-bbox="873 1050 1122 1171">MMDA organizational structure, staffing list, and training records</p> <p data-bbox="873 1234 1122 1356">Monitoring reports on MMDA traffic engineering training program</p> <p data-bbox="873 1507 1097 1566">Transport plan and investment plan</p> <p data-bbox="873 1661 1068 1749">Metro Manila Development Authority reports</p>	<p data-bbox="1154 443 1414 684">JICA studies are completed on schedule, and basic results are in line with overall thinking on the future of Metro Manila's transport sector.</p> <p data-bbox="1154 716 1414 957">The Government, MMDA, and local governments are able to develop improved communication and coordination in the area of transport planning.</p> <p data-bbox="1154 1050 1414 1262">Funding levels, from either the public or private sector for improvement of Metro Manila's transport infrastructure, are appropriate.</p> <p data-bbox="1154 1507 1414 1656">Improved links between transport planning and land use planning in Metro Manila are achieved.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	Road rehabilitation component completed according to agreed upon detailed engineering standards by 31 December 2002	Department of Public Works and Highways reports	
6. Ambient air quality monitoring strengthened	<p align="center"><u>Policy Legislation</u></p> Revised ambient air quality guidelines in place by 30 June 1999	Revised text of Administrative Order No. 91-0005 and Presidential Decree No. 1181	DENR can alter organizational setup of the department.
	<p align="center"><u>Capacity Building</u></p> Air quality division established in EMB by 30 June 1999 and fully staffed by 31 December 1999 Operational air quality monitoring strategy in place, developed, and agreed upon by all concerned by 31 December 1999 Comprehensive air quality management system, specifying users and types of use, defined by 30 June 2000 and gradually implemented in years after <p align="center"><u>Investment</u></p> Agreed upon air quality monitoring system tendered by 30 September 1999 and producing regular data by 30 June 2000	Administrative order and staffing list Strategy document and memorandum of agreement between concerned parties Reporting format and individual reports produced Tender documents, commissioning reports, data reports	
7. Public awareness improved	<p align="center"><u>Capacity Building</u></p> Detailed needs assessment on areas for awareness raising (e.g., themes and targets groups) and skills by 30 September 1999 Impact assessment methodology for awareness-raising activities developed and in place by 30 September 1999	Needs assessment report and minutes of meetings discussing it Impact assessment strategy document	Willingness exists among public sector, private sector, and civil society to intensify cooperation efforts for public awareness-raising activities.

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>Informal air awareness units established in Concerned Citizens Against Pollution. EEID, EMB, LLDA, and Philippine Business for Social Progress by 30 September 1999, and detailed joint work plan by 31 December 1999</p> <p>Awareness-raising strategy developed and agreed upon by 1 March 2000</p> <p>Management skills as well as technical skills of staff involved in awareness raising upgrade in line with recommendations of needs assessment</p>	<p>Staffing schedules, organizational structure</p> <p>Strategy document</p> <p>Work plan awareness units and staff appraisals</p>	
	<p style="text-align: center;"><u>Investment</u></p> <p>EEID's technical facilities improved in line with its future focal role</p> <p>Awareness-raising campaigns implemented according to strategy, whereby role of EEID and LLDA is limited to initiating, and private sector handles actual implementation</p>	<p>Inventory lists</p> <p>Campaign outlines, contracts with private sector firms</p>	
<p>8. Air sector appropriately legislated, and its management monitored</p>	<p style="text-align: center;"><u>Policy Legislation</u></p> <p>Appropriate legislation promulgated to facilitate integrated management of air resources and to arrest deteriorating air quality by 30 June 2000</p> <p style="text-align: center;"><u>Capacity Building</u></p> <p>Sector coordination and management framework has been established through start-up of Presidential Air Quality Commission and attached technical secretariat by 30 September 1999</p> <p>Supportive financial instruments introduced in</p>	<p>Clean Air Act passed by 11th Congress</p> <p>Minutes of first meeting of Presidential Air Quality Commission, contracts with consultants for technical secretariat</p>	<p>Political support at national and local levels for proposed institutional arrangements is adequate.</p>

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
	<p>Clean Air Act, such as air quality fund, and air emission charges fully operational prior to release of the second tranche of loan</p> <p>Executive committee with full responsibility for oversight of program implementation in place and functioning prior to loan effectiveness</p>	<p>Implementing rules and regulations for fund and emission charges</p> <p>Minutes of meeting and attendance lists</p>	
<p>9. Capacity building and institutional development plan implemented as planned</p>	<p><u>Capacity Building</u></p> <p>Individual capacity building plans, specifying additional human resources, development of new procedures, detailed training plans, and additional equipment, developed, which are based on the Program's general capacity-building plan by 31 December 1998 and reviewed by relevant internal and outside groups</p> <p>Additional staff in place by 30 June 2000</p> <p>Training activities proceed according to schedule outlined by technical secretariat and project coordination and monitoring unit</p>	<p>Capacity building plans and minutes of meetings</p> <p>Staffing lists</p> <p>Training records</p>	

DENR = Department of Environment and Natural Resources, EEID = Environmental Education and Information Division, EMB = Environmental Management Bureau, JICA = Japan International Cooperation Agency, LGU = local government unit, LLDA = Laguna Lake Development Authority, MMDA = Metro Manila Development Authority, MVIS = motor vehicle inspection system, PAB = Pollution Adjudication Board,

CHRONOLOGY OF EVENTS

I. FOR LOAN 1663-PHI

A. Project Processing

Fact Finding	
24 August–11 September 1998	Appraisal Mission
19–21 November 1998	Loan Negotiation
16 December 1998	Loan Approval
21 December 1998	Loan Signing
29 December 1998	Loan Effectiveness

B. Implementation

29 December 1998	Released first tranche of program loan
12 May 1999	Received final version of the Clean Air Act
13 May 1999	Senate and House of Representatives approved the Philippine Clean Air Act of 1999
24 June 1999	President of the Republic of the Philippines signed Clean Air Act of 1999
30 January 2002	Received Memorandum Circular No. 2002-01 on the initial designation of Metro Manila airshed from the Department of Environment and Natural Resources (DENR)
29 November 2002	Received, from DENR, a request to consider changes in compliance with the motor vehicle inspection system (MVIS)-related loan condition, which requires the commencement of a phased introduction of the MVIS for release of the second tranche
3 December 2002	Received, from DENR, a letter of request for a 1-year extension of the program loan up to 30 June 2004
12 December 2002	Amended and restated Loan Agreement signed
13 December 2002	Effectivity date of the transformation of loans to London interbank offered rate (LIBOR)-based lending terms
16 December 2002	Response from Asian Development Bank (ADB) on DENR's request of 29 November 2002
2 January 2003	Received the Department of Finance's (DOF) letter of 26 December 2002 requesting an extension of the loan closing date to 30 June 2004
26 February 2003	Received DOF's letter of 20 February 2003 justifying the 18-month extension of the closing date

II. FOR LOAN 1664-PHI

A. Project Processing

Fact Finding

24 August–11 September 1998

19–21 November 1998

16 December 1998

21 December 1998

29 December 1998

Appraisal Mission

Loan Negotiation

Loan Approval

Loan Signing

Loan Effectiveness

B. Implementation

1. General

9 June 2000

Received request from Land Bank of the Philippines (LBP) to amend some provisions of the Loan and Guarantee Agreement: (i) to denominate the loan from the MBL-US dollar to the MBL-Japanese yen using a variable LIBOR-based lending rate, and (ii) to extend the subloan maturity period from 7 to 15 years

24 July 2000

Approved LBP's request to amend provisions of the Loan Agreements

1 November 2000

Effective date of amendment to loan and other agreements

5 December 2002

Received LBP's letter of 29 November 2002 requesting an amendment of the project implementation arrangements defined in the Loan Agreement: (i) to decrease the minimum withdrawal amount from \$500,000 to \$50,000, and (ii) to extend the deadline for the submission of the subloan project applications from 29 December 2002 to 31 October 2003

19 December 2002

Approved LBP's request to amend the project implementation arrangement

7 March 2003

Effective date of the amendment to the project implementation arrangement (the date ADB received the confirmed counterpart of the letter duly countersigned)

29 December 2003

Final cancellation of loan balance and closing of the loan account

2. Procurement

9 October 2001

Received LBP's request for an imprest account

31 October 2001

Credited the imprest account to LBP

13 May 2003

Received LBP's letter of 12 May 2003 requesting a one-time waiver of section 3.04 of the Loan Agreement to accept retroactive expenditures incurred more than 90 days prior to receipt by ADB

	of the subloan application as eligible costs to be financed in the 90-day prescription period for eligible expenditure under section 3.04 of the Loan Agreement
20 June 2003	Approved LBP's request for a one-time waiver
11 August 2003	Received DOF's letter endorsing LBP's proposal for partial loan cancellation and to waive the cancellation fee of 0.125% of the principal amount of the loan to be canceled
4 November 2003	Received DOF's letter endorsing LBP's request to withdraw their proposal of 11 August 2003
17 November 2003	ADB's letter acceded to DOF's withdrawal of request for partial cancellation
22 December 2003	Loan closed and final cancellation of unutilized of loan balance

III. FOR LOAN 1665-PHI

A. Project Processing

Fact Finding	
24 August–11 September 1998	Appraisal Mission
19–21 November 1998	Loan Negotiation
16 December 1998	Loan Approval
21 December 1998	Loan Signing
29 December 1998	Loan Effectiveness

B. Implementation

1. General

19 November 2001	Received the Department of Finance's letter of 13 November 2001 proposing reallocation of the loan proceeds for investment component
14 January 2002	Approved minor change in implementation arrangements and related reallocation of loan proceeds to finance the procurement of equipment and vehicles for the phased implementation of the motor vehicle inspection system (MVIS)
15 December 2002	Actual date for loan effectiveness of LIBOR-based loan regulations
21 May 2003	ADB's approval requested during meeting for the proposed changes in scope for the seven subcomponents of the project
23 May 2003	Requested MMDA to submit the scope of work for the seven subcomponents
28 May 2003	Received MMDA's letter of 26 May 2003 requesting the reallocation of funds from the loan proceeds to finance the upgrading of the Metro Base Communication System

17 June 2003	Requested MMDA to submit documents for the change of scope before reviewing the proposed reallocation
8 July 2003	Received MMDA's scope of works for the seven subcomponents with its letter of 4 July 2003
11 July 2003	Received DENR's letter of 9 July 2003 requesting extension of the loan closing date to 3 years to 31 December 2006
23 December 2003	Received DOF's letter of 22 December 2003 requesting a 3-year extension of the loan closing date to 31 December 2006
12 February 2004	Approved first extension of loan closing date to 31 December 2006
23 March 2004	Requested that the Metro Manila Development Authority (MMDA), in response to a 11 February 2004 letter, submit a detailed breakdown of the remaining activities to be implemented and proposed modalities for executing the functions of (i) capacity building within MMDA, (ii) subcomponents remaining, and (iii) implementation of the procurement process in the absence of the international consultant
1 June 2004	Received MMDA's letter of 18 May 2004 of its intention to pursue the remaining civil works components to be implemented and to cancel others
7 July 2004	Commented on MMDA's letter of 18 May 2004
26 July 2004	Received MMDA's justification on the implementation of the remaining civil works, as requested
17 October 2004	Received the Department of Health's letter of its decision not to pursue the procurement of additional equipment for use of public health monitoring
22 February 2005	Approved DOF's letter of 14 February 2005 requesting for partial cancellation of unutilized loan proceeds for the Department of Health component and the effectivity date
16 March 2005	Received MMDA's letter of 14 March 2005 proposing restructuring their components
29 March 2005	Approved DOF's letter of 29 March 2005 requesting additional partial cancellation of loan proceeds under the Department of Health component and the effectivity date
22 April 2005	Advised DOF of ADB's approval of the two requested partial cancellation of loan proceeds under the Department of Health component
17 May 2005	Received MMDA's request to change the percentage of ADB financing on civil works from 50% to 70%

5 September 2005	Received MMDA's letter of 24 August 2005 of its intention to cancel the remaining components
31 January 2006	Received a copy of DENR's letter of 16 January 2006 to DOF endorsing the cancellation of MMDA and Department of Public Works and Highways (DPWH) components
28 February 2006	Approval and effectivity date of the partial cancellation of the unutilized loan proceeds for the DPWH component
12 December 2006	Received a copy of DENR's letter of 10 November 2006 to the National Economic Development Authority requesting a 1-year extension of the loan closing date to 31 December 2007
8 January 2007	Received DOF's letter of 10 December 2006 requesting ADB's approval to extend the loan closing date by 1 year to 31 December 2007
14 February 2007	Approved the second and final extension of the loan closing date to 31 December 2007
7 August 2007	Received the Department of Transportation and Communications's letter of 18 July 2007 advising of its intention to cancel the unutilized loan balance of its component
24 January 2008	Approval and effectivity date of the partial cancellation of the unused portion of the Department of Transportation and Communications component

2. Procurement

a. Department of Public Works and Highways

15 August 2001	Approved the change of DPWH's road rehabilitation component from eight to three packages, and had no objection to fund additional work such as landscaping, tree planting, and a drainage system, which would be incorporated into packages 1A and 1B
18 December 2002	DPWH suspended the ongoing works of packages 1A and 1B, and changed the design of these two packages from asphalt concrete overlay, approved by both DPWH and ADB and ready for procurement, to concrete overlay
12 January 2003	DPWH again changed the design of packages 1A and 1B to concrete reblocking
31 January 2003	Requested from DPWH clarifications and technical justifications for these changes
4 July 2003	DPWH submitted the technical justification for the design changes
11 July 2003	Advised DPWH to resume the suspended procurement process for this original design, due to higher economic cost of concrete reblocking

19 October 2004	DPWH communicated to ADB officially that it would cancel the DPWH component from the loan, since the Metro Manila Regional Development Council chairman disagreed on the original design of asphalt concrete overlay
21 July 2005	DPWH informed ADB that the disagreement with the Metro Manila Regional Development Council chairman was resolved, and it was the DPWH's proposal to overlay the most traveled section of EDSA through the original design
15 September 2005	The Office of the President recalled this aforementioned decision, cancelling the DPWH component

b. Department of the Environment and Natural Resources

i. Consulting Services (Technical Secretariat)

8 April 2003	Received terms of reference
20 November 2003	Received draft invitation documents and proposed short list
14 January 2004	Convened Consultants' Selection Committee meeting to review the proposed short list and draft invitation documents
8 June 2004	Received the revised short list and draft request for proposals
10 December 2004	Convened Consultants' Selection Committee meeting to review and approve the Borrower's evaluation of technical proposals
7 February 2005	Convened Consultants' Selection Committee meeting to review and approve the Borrower's reevaluation of technical proposals
27 April 2005	Received financial evaluation report
23 May 2005	Convened Consultants' Selection Committee meeting to review and approve the Borrower's financial proposal evaluation
7 October 2005	Signed contract 19 October 2005
Received signed contract	

ii. Consulting Services (Institutional Strengthening and Capacity Building for Air Quality Management in the Metro Manila Airshed)

30 May 2000	Received terms of reference
2 October 2000	Received proposed short-listed firms and draft invitation documents
19 September 2001	Received draft invitation documents for approval
19 October 2001	Convened Consultants' Selection Committee meeting to review and approve of Borrower's proposed short list and draft invitation documents
21 December 2001	Letters of invitation issued by Executing Agency to short-listed firms

7 June 2002	Received technical evaluation of bids
31 July 2002	Convened Consultants' Selection Committee meeting to review and approve the Borrower's evaluation of technical proposals
15 November 2002	Convened supplementary Consultants' Selection Committee meeting to review the revised evaluation report that clarified the status of the first-ranked firm and ADB's observations on the summary evaluation sheet
25 July 2003	Received signed contract

iii. **Consulting Services (Outsourcing Stack Measurement and Air Emission Monitoring [Support Services and Sampling Activities Contracts])**

8 May 2000	Received terms of reference
22 January 2001	Received proposed short list of consultants
6 September 2001	Received draft letter of invitation with pertinent supporting documents for ADB's approval
25 September 2001	Convened Consultants' Selection Committee meeting to review proposed short list and draft invitation documents
5 October 2001	Approved proposed short list and draft invitation documents
21 January 2001	Received copy of letter of invitation as issued
19 October 2001	Received the revised evaluation criteria and terms of reference
21 December 2001	Original deadline set for the submission of the technical and financial proposals
14 January 2002	Received DENR's request to extend the deadline for submission of proposals to 30 January 2002
18 January 2002	Extension of submission of proposals not approved
14 February 2002	Received DENR's letter of 11 February 2002 advising ADB that the bid process for the outsourcing stack measurement failed
22 March 2002	Requested DENR to open the two bid proposals
19 April 2002	Bid proposals opened
7 June 2002	Received technical evaluation reports of bids for review and approval
31 July 2002	Convened Consultants' Selection Committee meeting to review and approve the technical evaluation reports
27 November 2002	Convened Consultants' Selection Committee meeting to discuss the response of DENR to the issues raised during the meeting held on 31 July 2002
6 December 2002	Requested DENR to submit revised evaluation report
2 January 2003	Received revised technical evaluation report
24 January 2003	Approved technical evaluation report

9 December 2003 Received signed contracts for support services and sampling activities contracts

iv. Consulting Services (Ambient Air Quality Auditing)

13 December 2001 Received draft letter of invitation and proposed short list

12 February 2002 Convened Consultants' Selection Committee meeting to review the proposed short list and draft invitation documents

14 May 2002 Received revised invitation documents as requested

26 June 2002 Letters of invitation issued to short-listed firms

13 August 2002 Received copy of invitation documents as issued

12 September 2002 Received information from DENR of the failure of bidding due to the nonsubmission of bids

19 September 2002 Requested DENR to rebid

8 April 2003 Received the draft request for proposal and proposed short-listed firms for ADB's approval

2 May 2003 Convened Consultants' Selection Committee meeting to review the proposed short list and draft invitation documents

9 May 2003 Requested DENR to resubmit the revised invitation documents

27 May 2003 Received revised invitation documents

2 July 2003 Received copy of invitation documents as issued

6 October 2003 Received the technical evaluation report

11 November 2003 Convened Consultants' Selection Committee meeting to review the technical evaluation report

14 November 2003 Endorsed evaluation of technical proposals and advised DENR to proceed with the opening of financial proposals

28 November 2003 Opening date of financial proposals

11 December 2003 Received the financial evaluation report

14 January 2004 Convened Consultants' Selection Committee meeting to review and approve the financial evaluation report

29 January 2004 Approved financial evaluation report

24 March 2004 Received draft contract for consulting services

16 April 2004 Received copy of signed contract

v. Goods (Ambient Air Quality Monitoring Network Rehabilitation/Upgrading)

2 May 2000 Received from DENR draft tender documents for the procurement of various air quality monitoring stations for the Metro Manila Air Quality Improvement Sector Development Program

27 June 2000 Received the revised draft tender documents for the procurement of various air quality monitoring

stations for the Metro Manila Air Quality Improvement Sector Development Program.

c. Metro Manila Development Authority (MMDA)

i. Goods (Antismoke Belching Component)

27 July 2000	Received copy of signed memorandum of agreement between MMDA and Kevin Rolfe & Associates, Ltd., international consultant for the antismoke belching component
14 November 2000	Received copy of signed memorandum of agreement between MMDA and Donato De La Cruz, local consultant, for the capacity building for the antismoke belching component
29 October 2001	Contract signed for the supply and delivery of 25 opacimeters
15 November 2001	Received signed contract for the supply and delivery of 25 opacimeters
19 December 2001	Signed contract for 25 computers and peripherals
24 April 2002	Received signed contract for 25 computer and peripherals

ii. Goods (Traffic Enforcement and Management Component)

12 July 2001	Signing of contract with Halcrow, consultant
7 August 2001	Received signed contract
22 April 2003	Approved the procurement of 170 hand-held radios
28 May 2003	Executing Agency's request to purchase geographic information system to upgrade MMDA's Metro Base Communications System
29 July 2003	Approved procurement of motorcycles and other vehicles
21 August 2003	Received signed contract for motorcycles and other vehicles
27 October 2003	Requested technical assistance to submit bid evaluation report and implementation schedule for geographic information system
28 October 2003	Received signed contract for the purchase of hand-held radios
12 February 2004	Received consultant's final report on capacity building technical assistance on transport planning, traffic engineering management, and enforcement
9 August 2004	Received technical evaluation for the procurement of geographic information system database
2 September 2004	Approved the technical evaluation for the geographic information system
28 September 2004	Received financial evaluation for geographic information system database

13 October 2004	Approved the financial evaluation and recommendation to award the contract for the geographic information system
16 December 2004	Received signed contract for geographic information system database

d. Department of Transportation and Communications

i. Goods (Emission Testing Equipment)

6 March 2002	Requested DOTC to submit draft bidding documents for the procurement of emission testing equipment, i.e., opacity meters and gas analyzers
30 May 2002	Received draft bidding documents for emission equipment from the Executing Agency
31 July 2002	Bids opened for emission equipment
10 April 2003	Received bid evaluation report for 97 opacity meters
13 May 2003	Approved bid evaluation report for opacity meters
2 June 2003	Received bid evaluation report for 84 gas analyzers
20 June 2003	Approved bid evaluation report for 84 gas analyzers
15 October 2003	Received DOTC's letter of 13 October 2003 requesting the utilization of the unallocated loan proceeds assigned to DOTC to procure additional testing equipment
22 October 2003	Concurred with the utilization of unallocated loan proceeds
8 September 2004	Received from DOTC the pre-bid evaluation report for additional emission equipment, i.e., 45 opacity meters and 52 gas analyzers
22 September 2004	Requested DOTC to submit the final evaluation report documented for ADB's review and approval
22 November 2004	Requested DOTC to submit additional documents and information required for ADB to approve the purchase of the emission equipment
5 June 2005	Requested DOTC to conduct proper bid evaluation based on comments ADB provided
28 June 2005	Received additional information pertinent to the procurement process of the emission equipment
28 July and 31 August 2005	Requested DOTC to conduct full bid evaluation with supporting documents

ii. Goods (Asian Utility Vehicles)

28 October 2004	Received the evaluation report for the procurement of 9 Asian utility vehicles
4 March 2005	Received additional documents requested for the procurement of 9 Asian utility vehicles
2 June 2005	Sent no-objection to award the contract for the 9 Asian utility vehicles to the Executing Agency

PROGRAM OUTPUTS: PLANNED AND ACTUAL

Program Component	Planned Output	Actual Output	Percentage Completed
Policy Loan (1663)	Mitigate air pollution from mobile sources	Issued and implemented policies on emission standards for mobile and stationary sources, and held technical training workshops	100%
	Mitigate air pollution from stationary sources	Recruited consultants for outsourcing stack monitoring, quality assurance and control, institutional strengthening, and capacity building	100%
	Improve fuel quality	Ceased sales of leaded gasoline in Metro Manila area	100%
	Reduce emissions from vehicular use	Implemented antismoke belching program	100%
	Reduce traffic congestion and improve traffic flow	Road rehabilitation was unsuccessful; thus, this component was canceled.	0%
	Strengthen ambient air quality monitoring, evaluation, and reporting	Operated and maintained 10 air monitoring stations within the Metro Manila airshed; trained EMB staff; procured equipment for performance audit; and conducted performance audit, quality assurance and control sustainability, and maintenance of traceability	50%
	Intensify public awareness	A technical assistance grant was approved to assist the Government to undertake air emission policy studies. As implementing agency, DENR conducted public awareness activities. A strategic action plan for public awareness was published; A public awareness program called <i>Bantay Kalikasan</i> was selected to implement the support for clean air campaigns with particular focus on the development of television and radio media materials. Public information messages were broadcast on 12 television and 24 radio channels on a quarterly basis from May 2001 until 31 October 2004.	100%
	Monitor coordination and implementation of the Air Quality Action Plan	Developed and documented a coordination and monitoring mechanism	100%
	Strengthen capacity of involved institutions	Streamlined EMB staffing; strengthened	90%

Program Component	Planned Output	Actual Output	Percentage Completed
		the Management Information System Unit; and increased capability in (i) air pollution management, enforcement of laws, and adjudication of air pollution cases; (b) air quality monitoring; (iii) policy development; and (iv) using the air quality control monitoring system	
Facility Loan (1664)	Purchase and install air emission control and monitoring equipment, establish new processes, source equipment, and procure new and rehabilitate the existing transport fleet	The Land Bank of the Philippines released the loan to four subborrowers out of the five accounts that were processed, evaluated, and submitted to the Asian Development Bank for approval. Out of the \$25.000 million loan, only ₱297.869 million was released to the four subborrowers. The proceeds of the loan were utilized to finance the fixed asset investment of the four subborrowers engaged in transport, manufacturing, and power generation.	23.6% of the Air Pollution Control Facility Fund
Investment Loan (1665)			
A. Road Rehabilitation			
1. Civil Works	Construct road rehabilitation works	None	0%
B. Traffic Engineering and Management			
1. Traffic Signs and Road Markings	Survey the existing road signs and markings of Metro Manila, install new signs and markings, and refurbish road furniture	None	0%
2. Communication System	Supply and install a communication system for MMDA, procure 170 units of handheld radios	Completed	100%
3. Traffic Enforcement Equipment	Procure 60 motorcycles, 20 tow trucks, and 51 service vehicles	Completed	100%
4. Minor Geometric Improvements	Introduce pedestrian schemes; make junction improvements; and introduce public transport lanes and facilities, pedestrian-vehicle separation facilities, and traffic management improvements	None	0%
C. Ambient Air Quality Management			
1. New Ambient Air Monitoring Equipment	Procure necessary equipment and spare parts under the Program	Under Swedish International Development Cooperation Agency financing	100%
2. Rehabilitation of Existing Equipment	Upgrade and rehabilitate nine stationary and one mobile van ambient air quality monitoring stations,	All ten stations installed and commenced data collection in 2005, now not	50%

Program Component	Planned Output	Actual Output	Percentage Completed
	and conduct the operational maintenance of the ambient air quality monitoring network for 4 years	operational after contractual dispute	
3. Laboratory Equipment	Procure three PerkinElmer atomic absorption spectrometers, one UV/Vis spectrometer, and one Dionex ion chromatography system	Procurement completed	100%
4. Support Equipment and Facilities	Office equipment and training center	Construction of Air Quality Management Training Center	100%
5. Regional Office Monitoring Equipment	Laboratory equipment	Procurement failed	0%
D. Public Health Monitoring			
1. Monitoring Equipment and Supplies	Procure public health monitoring equipment and other supplies	Completed as planned	100%
E. Antismoke Belching			
1. Database Equipment	Procure 84 gas analyzers and 97 opacimeters for antismoke belching operations in Metro Manila	Procured as planned, but MMDA ultimately stopped operations and delegated equipment to cities of Metro Manila	100%
F. Capacity Building			
1. Technical Secretariat	Provide assistance in setting up the Governing Board, Executive Committees, and technical working groups; support policy planning and fund management; facilitate public information and stakeholder involvement; coordinate and monitor the Governing Board's action plan implementation; provide technical, advisory, administrative, and reporting support; and promote institutional strengthening and capacity building	All groups established and regular meetings held; house rules developed and a revised action plan developed; developed systems to support the Governing Board in policy, planning, and management; conducted trainings for alternative pollution dispersion models; developed communications strategy operations manual, policy agenda for Governing Board, multimedia materials for information, education, and communication; developed monitoring and evaluation manual for Governing Board to follow in managing action plan activities; advised EMB on air monitoring stations and mass emission standards; added inputs to the annual air quality status report; and assessed Governing Board's institutional role and problems to develop an institutional strengthening program and a training plan	100%
2. Public Awareness	Establish an effective public awareness program	Completed as planned	100%
3. Antismoke Belching Strategic Framework	Strengthen enforcement of industrial air emission standards	Established training programs and carried out training and implement enforcement	100%

Program Component	Planned Output	Actual Output	Percentage Completed
		policy	
4. Pollution Adjudication Board and Enforcement	Assess status of Pollution Adjudication Board as part of the organizational review to be carried out in connection with resubmission of Clean Air Act	Completed as planned	100%
5. Motor Vehicle Inspection System Development	Strengthen enforcement for operation of the motor vehicle inspection system	Established training programs, carried out training, and implemented enforcement policy	80%
6. Ambient Air Quality Auditing	Develop guidelines and procedures for the air quality monitoring network, and assess location of network stations	Only training for DENR staff provided, and no audit occurred	30%
7. Air Quality Management	Conduct training workshops on air quality management policy development, and assist in the revision of EMB enforcement policies and procedures	Completed as planned	100%
8. Air Quality Management Technical Training	Conduct training workshops air quality management policy development, and assist in the revision of EMB enforcement policies and procedures	Completed as planned, and Air Quality Management Training Center was constructed.	100%
9. Traffic Engineering and Management Training	Train MMDA enforcers on traffic engineering, and provide local training, workshops, and training equipment	Only 200 enforcers of 1,800 received training before cancellation of component	6%
10. Traffic Management Technical Training	Provide external scholarships to traffic management personnel of MMDA	None	0%
11. Capacity Building Pool Resources	External training and seminars for executing and implementing agencies' staff	Trained Department of Transportation and Communications and DENR staff in external training	10%
G. Consulting Services			
1. Detailed Engineering Design	Complete the detailed design for road rehabilitation for the Department of Public Works and Highways, and complete procurement	Completed up to the prequalification process of the procurement	80%
2. Supervision of Construction	Supervise the construction of the rehabilitation works above	None	0%
3. Outsourcing Stack Monitoring	Two contracts were signed—sampling activities and support services for the implementation of outsourcing stack measurements of air emissions.	Completed	100%
4. Public Transport and Traffic Policy Studies	Conduct studies on Metro Manila, bus operations, jeepney operations, pedestrian movement, nonmotorized traffic operations, traffic policies, and parking	None	0%
5. Program Coordination and Monitoring	Procure consultancy services to assist DENR in project management	Recruited	100%
H. Program Administration			
1. Program Staff Resources	Provide adequate budgetary resources, and take ancillary measures to implement the Program	Budget was available to implement the program	100%

Program Component	Planned Output	Actual Output	Percentage Completed
2. Operational Resources	Provide adequate operational resources to implement the resources	Operational resources were available	100%

DENR = Department of Environment and Natural Resources, EMB = Environment Management Bureau, MMDA = Metro Manila Development Authority

PROGRAM COSTS: APPRAISAL AND ACTUAL

Components	Appraisal					Actual				
	Foreign Exchange		Local Currency		Total Cost	Foreign Exchange		Local Currency		Total Cost
	Bank	Others	Bank	Gov't.		Bank	Others	Bank	Gov't.	
A. Road Rehabilitation										
1 Civil works	19.520			19.520	39.040	0.000				0.000
Subtotal (A)	19.520	0.000		19.520	39.040					
B. Traffic Engineering and Management										
1. Traffic signs and Road Markings	1.000			0.500	1.500					0.000
2. Communication System	1.500			1.500	3.000	0.610				0.610
3. Traffic Enforcement Equipment	4.260			7.390	11.650	0.931				0.931
4. Minor Geometric Improvements	2.250			2.250	4.500					0.000
Subtotal(B)	9.010	0.000		11.640	20.650	1.541				1.541
C. Ambient Air Quality Management										
1. New Ambient Air Monitoring Equipment		4.400		0.360	4.760					
2. Rehabilitation of Existing Equipment	3.720			0.350	4.070	4.069				4.069
3. Laboratory Equipment	1.000			0.050	1.050	0.214				0.214
4. Support Equipment and Facilities	0.770		0.750	0.320	1.840	1.427			0.380	1.807
5. Regional Office Monitoring Equipment	0.550			0.100	0.650				0.280	0.280
6. Equipment for Public Awareness	0.150			0.030	0.180				0.070	0.070
Subtotal (C)	6.190	4.400	0.750	1.210	12.550	5.710			0.730	6.440
D. Public Health Monitoring										
1. Monitoring Equipment and Supplies	0.150			0.010	0.160	0.096				0.096
Subtotal (D)	0.150	0.000		0.010	0.160	0.096				0.096
E. Antismoke Belching										
1. Database Equipment	0.500			0.050	0.550	0.373				0.373
Subtotal (E)	0.500	0.000		0.050	0.550	0.373				0.373
F. Equipment and Vehicles										
1. Equipment - MVIS						0.907				0.907
Subtotal (F)						0.907				0.907
G. Capacity Building										
1. Technical Secretariat	0.800		1.070	0.490	2.360	0.462		0.632		1.094
2. Public Awareness	0.120			0.020	0.140	0.085		0.080		0.165
3. Antismoke Belching Strategic Framework	0.040		0.080	0.040	0.160	0.088		0.070		0.158
4. Pollution Adjudication Board/Enforcement	0.120		0.610	0.160	0.890	0.009				
5. MVIS Development		0.340		0.160	0.500					
6. Ambient Air Quality Auditing	0.600	0.600	0.500	0.130	1.830	0.412		0.158		0.570
7. Air Quality Management	2.260		0.550	0.140	2.950	1.992		0.588		2.580
8. Air Quality Management Technical Training	0.250		0.100	0.200	0.550	0.027				0.027
9. Traffic Engineering and Management training	1.930		0.660	0.160	2.750	1.616		0.543		2.159
10. Traffic Management Technical Training	0.250		0.050	0.050	0.350	0.009				0.009
11. Capacity Building Pool Resources	0.150		0.100	0.090	0.340					0.000
Subtotal (G)	6.520	0.940	3.720	1.640	12.820	4.700		2.071		6.771
H. Consulting Services										
1. Detailed Engineering	0.880		0.580	0.150	1.610	0.748		0.563		1.311
2. Supervision of Construction	1.230		1.360	0.340	2.930					
3. Outsourcing Stack Monitoring	2.100	0.550	1.170	0.310	4.130	2.191		1.091		3.282
4. Public Transport and Traffic Policy Studies	0.500		0.200	0.100	0.800	0.045				0.045
5. Program Coordination and Monitoring	0.800		0.680	0.170	1.650	0.629		0.413		1.042
Subtotal (H)	5.510	0.550	3.990	1.070	11.120	3.613		2.067		5.680
I. Program Administration										
1. Program Staff Resources				0.190	0.190					
2. Operational Resources				4.420	4.420					
Subtotal (I)				4.610	4.610					
I. Contingencies										
Physical Contingency (10%)	4.740		0.850	3.980	9.570					
Price Escalation	1.690			1.690	3.380					
J. Interest and Other Charges	7.860				7.860	7.071				7.071
Bank Loan										
Total	61.690	5.890	9.310	45.420	122.310	24.011	0.000	4.138		28.783

MVIS = Motor Vehicle Inspection System

Source: Asian Development Bank

ACTUAL LOAN DISBURSEMENTS (1998—2008)**Table A5.1: Actual Loan Disbursement—Facility Loan
(\$)**

Subloan	Date of Credit	Amount Disbursed	Cumulative Total
AO1	15-Nov-01	2,449,668	2,449,668
AO3	1-Jul-02	191,484	2,641,152
AO4	11-Mar-03	638,338	3,279,490
AO5	19-Jun-03	2,637,492	5,916,982

Source: Asian Development Bank

Table A5.2: Actual Disbursements (as of 5 August 2008)—Investment Loan
(\$' million)

Year	Quarter	Amount Disbursed	Annual Total	Cumulative Total
1999	I	0.01		0.01
	II	0.01		0.01
	III	1.04		1.05
	IV	0.01	1.06	1.06
2000	I	0.06		1.12
	II	0.01		1.13
	III	1.16		2.29
	IV	0.38	1.61	2.67
2001	I	0.42		3.09
	II	0.09		3.18
	III	1.05		4.23
	IV	0.31	1.87	4.54
2002	I	0.69		5.23
	II	0.45		5.68
	III	0.71		6.40
	IV	0.07	1.93	6.46
2003	I	0.64		7.11
	II	1.75		8.85
	III	1.27		10.12
	IV	2.13	5.78	12.24
2004	I	1.78		14.02
	II	0.67		14.69
	III	1.03		15.71
	IV	0.50	3.97	16.21
2005	I	0.71		16.92
	II	0.50		17.42
	III	1.42		18.84
	IV	1.81	4.44	20.65
2006	I	1.71		22.36
	II	0.55		22.91
	III	1.48		24.39
	IV	0.80	4.55	25.19
2007	I	1.24		26.43
	II	0.21		26.64
	III	1.09		27.73
	IV	0.12	2.65	27.84
2008	I	0.26		28.10
	II	1.07	1.33	29.17
	III	(0.17)	1.16	29.00

Source: Asian Development Bank

Item	1999				2000				2001				2002				2003				2004				2005				2006				2007							
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
C. Ambient Air Quality Management																																								
1. Define Monitoring Strategy and Needs	■	■																																						
Selection of Consultant																																								
Development of Strategy		■																																						
Quality Assurance																																								
2. Equipment Procurement																																								
Prepare Bidding Documents		■																																						
Bidding and Award of Contracts																																								
Installation of Equipment																																								
3. Monitoring and Reporting Implementation																																								
D. Public Health Monitoring																																								
1. Develop Monitoring Strategy																																								
Review of Requirements		■																																						
2. Equipment Procurement																																								
Preparing of Bid Documents		■																																						
Bidding and Award of Contracts																																								
3. Monitoring and Reporting Implementation																																								
E. Anti-Smoke Belching																																								
1. Identify Program Requirements																																								
Selection of Consultants		■																																						
Review of Monitoring Requirements																																								
2. Equipment Procurement																																								
Prepare Bidding Documents		■																																						
Bidding and Award of Contracts																																								
3. Monitoring and Reporting Implementation																																								

^a Task cancelled or not implemented
 Target schedule based on the Appraisal Report
 Actual schedule of implementation
 Sources: Asian Development Bank

STATUS OF COMPLIANCE WITH LOAN COVENANTS

LOAN 1663-PHI

Covenant	Reference in Loan Agreement	Status of Compliance
I. Non-Release Conditions Sector Covenants		
1. <u>Policy Dialogue</u> . The Borrower shall keep ADB informed a policy discussions with other multilateral and bilateral aid agencies that have implications for implementation of the Program and shall provide ADB with an opportunity to comment on any resulting policy proposals. The Borrower shall take ADB's views into consideration before finalizing and implementing any such proposals.	Schedule 5, para. 4	Complied with.
2. <u>Sector Management</u> . Upon completion of work under Air Emissions Policy Studies (TA 3128-PHI), representatives of Borrower shall discuss its findings and recommendations with ADB representatives and implement within 24 months of effectivity an action plan, acceptable to ADB, taking into account such findings and recommendations.	Schedule 5, para. 5	Complied with.
3. <u>Implementation of the Policy Letter</u> . The Borrower shall (i) ensure that the policies adopted and actions taken as described in the Policy Letter prior to the date of the LA continue in effect for the duration of the Program period, and (ii) promptly adopt other policies and take the other actions included in the Program as specified in the Policy Letter, including the AQAP attached to the Policy Letter, and ensure that such policies and actions continue in effect for the duration of the Program period.	Schedule 5, para. 2	Complied with.
4. <u>MVIS</u> . Within twenty-four months of 29 December 1998, DOTC shall ensure that MVIS is fully operational in Metro Manila, and within three years of 29 December 1998, DOTC shall ensure that MVIS is fully operational throughout the country.	Schedule 5, para. 6	Substantially complied with. The DOTC is continuing its phased implementation of the MVIS, which commenced on February 2007 and was financed under the MVUC-SVPCF.
5. <u>Age of Public Transport Vehicles</u> . Within 18 months of 29 December 1998, the Borrower shall adjust the registration date of public transport vehicles, including buses and jeepneys, to the date of manufacture of the engine or chassis, whichever is older, and shall prohibit the commercial use of any such vehicle which is more than fifteen years old.	Schedule 5, para. 7	Complied with. DOTC Department Order (DO) No. 2002-30 sets the age limit of public transport vehicles at 15 years for buses and mini-buses and 10 years for school service vehicles.
6. <u>Monitoring of the Program</u> . Approximately four weeks before the anticipated withdrawal of the	Schedule 5, para. 8	Complied with. A Project Review Mission was

Covenant	Reference in Loan Agreement	Status of Compliance
<p>Second Tranche or such other time as the Borrower and the Bank may agree, a review shall be carried out concerning the Borrower's progress in implementing the policy reforms set out in the Policy Letter and the AQAP including, in particular, the fulfillment of the conditions listed in the release of the second tranche.</p>		<p>conducted prior to the release of the Second Tranche, wherein it was assessed that the conditions for the release of the Second Tranche have been fulfilled</p>
<p>7. <u>Reporting</u>. Without limiting the generality of the provisions of Sections 4.05 (a) and (b) of the LA, the Borrower shall furnish the Bank in December 1999 and 2000 brief reports on the application of the Counterpart Funds, and not later than 30 June 2002 prepare and furnish to the Bank a report, in such form and detail as the Bank may reasonably request, on the utilization of the Counterpart Funds.</p>	<p>Schedule 5, para. 9</p>	<p>Complied with late. A Report on GOP Counterpart Funds was submitted to the ADB on 2002.</p>
<p>II. Conditions for Release of the Second Tranche Sector Covenants</p>	<p>Schedule 3, Attachment 2</p>	
<p>8. Enact a Clean Air Act and establish ancillary regulations</p>		<p>Complied with late. The Clean Air Act was enacted on 19 Jul 1999 and its Implementing Rules and Regulations was approved on 07 Nov 2000</p>
<p>9. Commence the phased introduction of the MVIS</p>		<p>Substantially complied with.</p>
<p>10. Demonstrate the effectiveness of an upgraded ambient air quality system</p>		<p>Not complied with.</p>
<p>11. Strengthen the capacity of DENRs Pollution Adjudication Board and LLDAs Public Hearing Committee</p>		<p>Complied with.</p>
<p>12. Implement an intensified public awareness program</p>		<p>Complied with.</p>
<p>Environment Covenants</p>		
<p>13. Cease sales of leaded gasoline in the Metro Manila area.</p>		<p>Complied with.</p>
<p>14. Either cease normal operation of the Sucat and Manila oil-fired power plants or renovate such plants to satisfy emission standards for newly constructed power plants in the Philippines</p>		<p>Complied with.</p>
<p>Financial Covenants</p>		
<p>15. Provide adequate budgetary resources and take ancillary measures to implement the Program.</p>		<p>Complied with.</p>

LOAN 1664-PHI

Covenant	Reference in Loan Agreement	Status of Compliance
<p>Environmental Covenants</p> <p>1. The Borrower shall require any potential Qualified Enterprise to submit a proposal satisfying the Borrower's normal criteria plus a document specifying the environmental impact of the proposed investment in terms outlined in DENR's standards for the industry concerned. In those instances where the investment is part of an expansion of production capacity and requires DENR clearance, the Borrower shall obtain such clearance prior to obtaining subloan. In any event the Borrower shall satisfy the requirements of the Detailed Implementation Guidelines prior to approving a proposed investment.</p>	Schedule 5, para. 2	Complied with.
<p>Financial Covenants</p> <p>2. The Borrower shall maintain a capital adequacy ratio of at least ten percent (10%), a minimum return on average total assets of one percent (1%) and a loan to deposit ratio not exceeding one hundred percent (100%).</p>	Article V, Section 5.10	Complied with. Capital Adequacy Ratio: 10.6% Return on Assets; 0.69% Loan to Deposit: 51.7%
<p>Other Covenants</p> <p>3. The Borrower shall be the Executing Agency and responsible for the day-to-day operation of the Facility including the approval of Qualified Projects.</p>	Schedule 5, para. 1 (a)	Complied with.
<p>4. The Borrower shall appoint a Coordinator to liaise with the PCMU, the EMB within the DENR, DENR Regional Offices within the Air Shed and the LLDA</p>	Schedule 5, para. 1 (b)	Complied with.
<p>5. The Borrower shall appoint one member to represent the Borrower in DENR's Executive Committee,</p>	Schedule 5, para. 1 (c)	Complied with.
<p>6. The Borrower shall ensure that the Borrower's staff involved in the marketing and evaluation of subloans participate in a training program, including a program concerning procurement procedures, acceptable to the Bank.</p>	Schedule 5 para. 3	Complied with.
<p>7. Except as the Bank may otherwise agree, no withdrawals shall be made unless Detailed Implementation Guidelines in form and substance satisfactory to the Bank have been approved by the Borrower and submitted to the Bank.</p>	Schedule 5 para. 4	Complied with.
<p>8. The Borrower shall not make a subloan to any Qualified Enterprise unless such Qualified Enterprise has at its disposal, or has made appropriate arrangements to obtain as and when required, all</p>	Article V Section 5.04	Complied with.

Covenant	Reference in Loan Agreement	Status of Compliance
<p>funds, including adequate working capital, and other resources which are required by such Qualified enterprise for the carrying out of its Qualified Project in respect of which the subloan is to be made.</p> <p>9. The Borrower shall maintain records and accounts adequate to record the progress of the Project and of each Qualified Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of the Borrower</p> <p>10. The Borrower shall: (a) furnish to the Bank all such reports and information as the Bank shall reasonably request concerning (i) the Loan, and the expenditure of the proceeds and maintenance of the service thereof; (ii) the Project; (iii) the qualified enterprises, the Qualified Projects and the subloans; (iv) the administration, operations and financial condition of the Borrower, and (v) any other matters relating to the purposes of the Loan; (b) furnish to the Bank quarterly reports on the execution of the Project and on the operation and management of the Borrower; (c) promptly after the closing date for withdrawals from the Loan Account but in any event not later than three (3) months after the said closing date or such later date as may be agreed for this purpose between the Bank and the Borrower, prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the utilization of the Loan, the execution of the Qualified Projects, their costs, the performance by the Borrower of its obligations under the Loan Agreement and the accomplishment of the purposes of the Loan.</p> <p>11. The Borrower shall furnish the Bank not later than nine months after the end of each fiscal year, certified copies of audited accounts and financial statements and the report of the auditors relating thereto.</p>	<p>Article V Section 5.05</p> <p>Article V Section 5.06</p> <p>Article V Section 5.07</p>	<p>Complied with.</p> <p>Complied with.</p> <p>Complied with.</p>

LOAN 1665-PHI

Covenant	Reference in Loan Agreement	Status of Compliance
<p>I. Project Management and Implementation Arrangements, Overall Supervision and Project Executing Agencies</p> <p>Coordination and Execution</p> <p>1. Except for the policy coordination DENR acting through its PCMU shall provide overall supervision of Project implementation; maintain records of the progress of all Project activities and be responsible for facilitating decisions of the Presidential Air Quality Commission and DENRs Executive Committee, providing overall technical guidance to other Project Executing Agencies, and ensuring timely Project implementation,</p> <p>2. (a) The Borrower shall cause the Presidential Air Quality Commission to ensure proper coordination of air quality management policy at the national level; (b) DENR Executive Committee shall coordinate and monitor program implementation; and (c) The Borrower shall ensure that loan proceeds are utilized by each Project Executing Agency, including LLDA and MMDA, in a manner acceptable to the Bank</p> <p>Local Participation</p> <p>3. (a) To promote transparency, local ownership, and participation in Part A of the Project, and to facilitate Project implementation, DPWH shall convene meetings prior to finalization of the detailed engineering plan. In addition to DPWH regional and district staff, local government officials, community group leaders and nongovernment organizations interested in the Project shall be invited to attend the meetings and participate in the discussions conducted at such meetings. The main points of discussion and a list of the participants shall be provided to the Bank within one month after each such meeting; (b) With respect to Parts B through E of the Project, the Borrower shall cause each Project Executing Agency during Project implementation to undertake information activities fostering public awareness of and participation in Project activities.</p>	<p>Schedule 6 para. 1</p> <p>Schedule 6 para 2</p> <p>Schedule 6 para. 3</p>	<p>Complied with.</p> <p>Complied with.</p> <p>Complied with. Note that LLDA was excluded from the project's implementation when authority on air quality issues were transferred from LLDA to EMB</p> <p>Complied with.</p> <p>Complied with. Activities for increasing public awareness on air quality issues are on-going.</p>

Covenant	Reference in Loan Agreement	Status of Compliance
<p>Land</p> <p>4. The Borrower shall acquire in a timely manner all such land, properties, rights-of-way, easements, leases, and other property rights as are required for the implementation of the Project.</p>	Schedule 6 para 4	Complied with.
<p>Midterm Review</p> <p>5. Prior to Bank consideration of approval of the Second Tranche, a midterm review, including senior officials from the Project Executing Agencies, shall be conducted. The objective of the midterm review shall be to enable the Borrower and the Bank to make appropriate adjustments in the Project to ensure achievement of its intended objectives.</p>	Schedule 6 para. 5	Complied with. Progress report for the second tranche was approved on 12 Dec 2003.
<p>Benefit Monitoring and Evaluation</p> <p>6. Each Project Executing Agency shall monitor and evaluate the Project benefits by compiling and analyzing necessary air quality data for the Project Area. The nature of the data to be collected, the methodology for the analysis to be used, and the timing for monitoring benefits shall be agreed between the Borrower and the ADB within 6 months of effectivity.</p>	Schedule 6 para 6	Partially Complied with. The guidelines for the assessment of benefits and impact of the MMAQISDP were only prepared in 2006.
<p>Environmental Protection</p> <p>7. The Borrower shall ensure that appropriate environmental protection controls and safety devices are included in the design and implementation of the civil works provided under the Project, and shall implement the Project, and operate and maintain the civil works provided under the Project in accordance with the Borrowers environmental standards.</p>	Schedule 6 para. 7	Not complied with. Civil works was not implemented
<p>II. Financial Matters</p> <p>Sources and Uses of Funds</p> <p>8. The Borrower shall ensure that the Borrower and each Project Executing Agency make funds available for the Project pursuant to an agreed upon table entitled Estimated Budgetary Requirements.</p>	Schedule 6 para 8	Complied with late. The "Estimated Budgetary Requirements" for the year 1999 was received in Jan 2002.
<p>III. Other Matters</p> <p>Training Program</p> <p>9. The Borrower shall cause each Project Executing Agency to obtain the Banks prior approval for each component of the proposed training program in Parts B and C of the Project. The Borrower shall ensure that each recipient of the training serves in a Project related activity for a reasonable period of time after Project conclusion.</p>	Schedule 6 para 9	Partly Complied with. Not all of the personnel trained in air quality management remained employed at the DENR after project conclusion. However, it is assured that the number of trained staff that

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<p>(b) Without limiting the generality of the foregoing, the Borrower undertakes to insure, or cause to be insured, the goods to be imported for the Project and to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the place of use or installation and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such goods.</p> <p>16. (a) The Borrower shall maintain, or cause to be maintained, records and accounts adequate to identify the goods and services and other items of expenditure financed out of the proceeds of the Loan, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, the operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project and operation of the Project facilities, or any part thereof, to the extent relevant to the Project.</p> <p>(b) The Borrower shall cause separate accounts to be maintained by each Project Executing Agency for its respective Part or Parts of the Project as described in Schedule 1 of this Loan Agreement and shall through the PCMU (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) consolidate such accounts (the Project accounts) for submission to the Bank; (iii) have the Project accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to the Bank; (iv) furnish to the Bank, as soon as available but in any event not later than nine months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto; and (v) furnish to the Bank such other information concerning such accounts and financial statement and the audit thereof as the Bank shall from time to time reasonably request.</p> <p>(c) The Borrower shall enable the Bank, upon Bank's request to discuss the Borrower's financial statements for the Project and its financial affairs related to the Project from time to time with the Borrower's auditors, and shall make necessary arrangements for any representative of such auditors to participate in any such discussions requested by the Bank, provided that any such discussion shall be conducted only in the presence of an authorized</p>	<p>Article IV Section 4.06</p>	<p>Complied with.</p> <p>Complied with.</p> <p>Complied with. However, the submission of Implementing Agencies' Audited Project Accounts was sometimes delayed.</p> <p>Complied with.</p>

Covenant	Reference in Loan Agreement	Status of Compliance
<p>officer of the Borrower unless the Borrower shall otherwise agree.</p> <p>17. (a) The Borrower shall furnish, or cause to be furnished to the Bank all such reports and information as the Bank shall reasonably request concerning (i) the Loan, and expenditure of the proceeds and maintenance of the service thereof; (ii) the goods and services and other items of expenditure financed out of the proceeds of the Loan; (iii) the Project; (iv) the administration, operations and financial condition of the agencies of the Borrower responsible for the carrying out of the Project to the extent relevant to the Project and operation of the Project facilities or any part thereof; (v) financial and economic conditions in the territory of the Borrower and the international balance-of-payments position of the Borrower; and (vi) any other matters relating the purposes of the Loan;</p> <p>(b) Without limiting the generality of the foregoing, the Borrower furnish, or cause to be furnished, to the Bank quarterly reports on the carrying out of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form and such detail and within such a period as the Bank shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the quarter under review, steps taken or proposed to be taken to remedy these problems, and proposed program of activities and expected progress during the following quarter;</p> <p>(c) Promptly after physical completion of the Project, but in any event not later than (3) months thereafter or such later date as may be agreed for this purpose between the Borrower and the Bank, the Borrower shall prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the Borrower of its obligations under the Loan Agreement and the accomplishment of the purposes of the Loan.</p>	<p>Article IV Section 4.07</p>	<p>Complied with.</p> <p>Complied with.</p> <p>Complied with late.</p>
<p>18. The Borrower shall enable the Bank's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, and any relevant records and documents.</p>	<p>Article IV Section 4.08</p>	<p>Complied with.</p>
<p>19. The Borrower shall ensure that the Project facilities are operated, maintained and repaired in accordance with sound administrative, financial,</p>	<p>Article IV Section 4.09</p>	<p>Complied with.</p>

Covenant	Reference in Loan Agreement	Status of Compliance
<p>engineering, environmental, road and road transport and maintenance and operational practices.</p> <p>20. (a) It is the mutual intention of the borrower and the Bank that no other external debt owed a creditor other than the Bank shall have any priority over the Loan by way of a lien on the assets of the Borrower. To that end, the Borrower undertakes (i) that except as the Bank may otherwise agree, if any lien shall be created on any assets of the Borrower as security for any external debt, such lien will <u>ipso facto</u> equally and ratably secure the payment of the principal of, and interest and other charges on, the Loan; and (ii) that the Borrower, in creating or permitting the creation of any such lien, will make express provision to that effect.</p> <p>(b) The provisions of paragraph (a) of this Section shall not apply to (i) any lien created on property, at the time of purchase thereof, solely as security for payment of the purchase price of such property; or (ii) any lien arising in the ordinary course of banking transactions and securing a debt maturing not more than one year after its date.</p> <p>(c) The term "assets of the Borrower" as used in paragraph (a) of this Section includes assets of any political subdivision of any agency of the Borrower and assets of any agency of any such political subdivision, including the Bangko Sentral ng Pilipinas and any other institution performing the functions of a central bank for the Borrower.</p> <p>(d) The Borrower shall, within the limits of the laws in force in its territories, make the foregoing undertaking effective with respect to liens on the assets of its political subdivision and their agencies; and to the extent that the Borrower is unable within the limits of the laws in force in its territories to make this undertaking effective, the Borrower shall give to the Bank an equivalent lien satisfactory to the Bank.</p>	<p>Article IV Section 4.10</p>	<p>Complied with.</p>
<p>Specific Assurances</p> <p>21. Other than the tranching conditions stated earlier, the Government has assured the Bank that (i) the policies adopted and actions taken prior to the date of the Loan Agreement, as described in the development policy letter, will continue in effect for the duration of the period of the Program loan; and (ii) it will promptly adopt the other policies and take the other actions included in the Program as specified in the development policy letter and/or Loan Agreement and ensure that such policies and actions continue in effect for the duration of the period of the Program loan.</p>	<p>VIII. Assurances</p>	<p>Complied with.</p>

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<p>Conditions for Loan Effectiveness</p> <p>22. Prior to loan effectivity of the Program Loan, the Government has agreed that (i) DOTC will commit to implement the MVIS in a timely manner acceptable to the Bank; (ii) DENR will issue the implementing rules and regulations for the Presidential Air Quality Commission, (iii) DENR will review and provide the Bank with recommendations concerning fees and penalty charges for exceeding air emission standards for both mobile and point source polluters, (iv) DENR will establish an executive committee with full responsibility for overseeing Program implementation, (v) DENR will establish the PCMU and appoint its staff, and, (vi) the Government will provide adequate budgetary resources to implement the first year of the Program in all agencies. In addition the conditions pertaining to the effectiveness of each of the three Bank loans and guarantee agreement comprising the Program need to be fulfilled.</p>	VIII. Assurances	Complied with.
<p>Conditions of Disbursement</p> <p>23. Prior to loan disbursement of the Air Pollution Control Facility, Land Bank of the Philippines will furnish the Bank detailed implementation guidelines satisfactory to the Bank. Prior to release of the Second Tranche for the Policy Loan, the Government will satisfy the conditions specified in para. 98 of the Report and Recommendation of the President (RRP)</p>	VIII. Assurances	Complied with.