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Report No: 31578-PH

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF JAPANESE YEN 6,592.00 MILLION
(US$64 MILLION EQUIVALENT)

TO THE

LAND BANK OF THE PHILIPPINES WITH THE GUARANTEE
OF THE REPUBLIC OF THE PHILIPPINES

FOR A

Manila Third Sewerage Project

May 20, 2005

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 2005)

Currency Unit	=	Peso
PhP 55	=	US$1
PhP 1.00	=	US$ 0.18

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BOD	Biochemical Oxygen Demand
DENR	Department of Environment and Natural Resources
DOF	Department of Finance
DPWH	Department of Public Works and Highways
ECC	Environmental Compliance Certificate
ESAF	Environmental and Social Assessment Framework
GEF	Global Environment Facility
GOP	Government of the Republic of the Philippines
MM	Metro Manila
JICA	Japan International Cooperation Agency
LBP	Land Bank of the Philippines
LLDA	Laguna Lake Development Authority
MMDA	Metro Manila Development Authority
MWCI	Manila Water Company Inc. (East)
MWSI	Maynilad Water Services Inc. (West)
MWSS	Metropolitan Waterworks and Sewerage System
MTSP	Manila Third Sewerage Project
MSSP	Manila Second Sewerage Project
MWSS/RO	Metropolitan Waterworks and Sewerage System/ Regulatory Office
NEDA	National Economic Development Authority
STP	Wastewater Treatment Plant
SPTP	Septage Treatment Plant

Vice President:	Jemal-ud-din (Jamil) Kassum
Country Manager/Director:	Joachim von Amsberg
Sector Manager:	Keshav Varma
Task Team Leader:	Luiz Claudio Martins Tavares

PHILIPPINES
Third Manila Sewerage Project

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PHILIPPINES

MANILA THIRD SEWERAGE PROJECT

PROJECT APPRAISAL DOCUMENT

EAST ASIA AND PACIFIC

EASUR

Date: May 20, 2005	Team Leader: Luiz Claudio Martins Tavares
Country Director: Joachim von Amsberg	Sectors: Sewerage (70%); Sanitation (30%)
Sector Manager/Director: Keshav Varma	Themes: Pollution management and environmental health (P);Access to urban services and housing (S)
Project ID: P079661	Environmental screening category: Full Assessment
Lending Instrument: Specific Investment Loan	Safeguard screening category: Limited impact

Project Financing Data

[X] Loan [ ] Credit [ ] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Total Bank financing (US$m.): 64.00
Proposed terms: VSL

Financing Plan (US$m)

Source	Local	Foreign	Total
BORROWER	9.90	10.56	20.46
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	31.10	32.90	64.00
Total:	41.00	43.46	84.46

Borrower:
Land Bank of the Philippines
1598 M. H. Del Pilar St. with Dr. Quint
Malate
Metro Manila
Philippines
1004
Tel: (632) 812-4056 Fax: (632) 812-4056
cborromeo@mail.landbank.com

Responsible Agency: Land Bank of Philippines

Estimated disbursements (Bank FY/US$m)									
FY	6	7	8	9	10	11	0	0	0
Annual	2.00	12.00	20.00	15.00	10.00	5.00			
Cumulative	2.00	14.00	34.00	49.00	59.00	64.00			

Project implementation period: Start July 1, 2005 End: March 31, 2010
Expected effectiveness date: November 30, 2005
Expected closing date: June 30, 2010

Does the project depart from the CAS in content or other significant respects? ***Ref. PAD A.3***	[]Yes [X] No
Does the project require any exceptions from Bank policies? ***Ref. PAD D.7***	[ ]Yes [X] No
Have these been approved by Bank management?	[X]Yes [ ] No
Is approval for any policy exception sought from the Board?	[ ]Yes [X] No
Does the project include any critical risks rated "substantial" or "high"? ***Ref. PAD C.5***	[X]Yes [ ] No
Does the project meet the Regional criteria for readiness for implementation? ***Ref. PAD D.7***	[X]Yes [ ] No

Project development objective ***Ref. PAD B.3, Technical Annex 3***
The development objectives of the Manila Third Sewerage Project are to: (a) increase the coverage and effectiveness of sewerage service delivery in participating areas of Metro Manila through an integrated approach involving septage management, sewage management, and heightened consumer awareness of water pollution problems and their solutions; and, (b) establish the financial and technical viability of new approaches for sewage management in MM.

Project description ***Ref. PAD B.4, Technical Annex 4***
The proposed project comprises three components: (a) sewage management component will include construction of 10 sewage treatment plants, upgrading of two communal septic tanks to secondary treatment, rehabilitation and construction of collection networks; (b) septage management component will include vehicles for pumping-out septage from septic tanks, two septage treatment plants and safe disposal of treated septage; and (c) technical assistance component will include specialized consulting services during implementation, a public information campaign on the benefits of sewerage and sanitation services, and assist in preparation of follow-up programs for wastewater and sanitation improvements.

The lending instrument is Specific Investment Loan.

Which safeguard policies are triggered, if any? ***Ref. PAD D.6, Technical Annex 10***
In accordance with the Bank guidelines the project has been classified as Environmental Category A because of potential environmental and social issues associated with infrastructure works and operation of wastewater treatment facilities. Philippines assessment and reporting requirements "the Environmental Impact Statement" are to a large extent compatible with the Bank Safeguards. Through the Administrative Order No. 2003-30 (DAO 2003-30) of the Department of Environment and Natural Resources (DENR), the national regulatory framework requires the MWCI to obtain an Environmental Compliance Certificate (ECC) prior to the start of construction activities. The ECC was obtained on April 12, 2005.

Significant, non-standard conditions, **if any**, for:
Ref. PAD C.6
Board presentation:
June 21, 2005
Loan/credit effectiveness:
December 14, 2005
Covenants applicable to project implementation:
1. Loan effectiveness:
    i. Signing of subsidiary loan agreement between LBP and MWCI.
    ii. Adoption of the financial management manual by MWCI.

Receipt by MWCI of the Environmental Compliance Certificate (ECC) for the sewage management and septage management components from the Department of Environment and Natural Resources (DENR).

2. Implementation covenants:

i. Six months prior to the Rate Rebasing 2008, the Guarantor shall cause MWSS RO to update and review with the Bank the financial projections and service targets of MWCI for the next succeeding five years and take all necessary or required actions to ensure that MWCI's new service targets, and water and sewerage tariffs to be negotiated during the Rate Rebasing 2008 will not negatively affect the financial viability of MWCI.

ii. The Guarantor shall, through the Department of Public Works and Highways (DPWH), take all such actions as are necessary or required to implement the resettlement action plan for the Taguig Sewerage System, in a manner satisfactory to the Bank.

iii. MWCI shall:

(a) carry out the Project in accordance with the Environmental Management Plan, the Resettlement Action Plans, the Environmental and Social Assessment Framework, and the Land Acquisition, Resettlement and Rehabilitation Policy Framework, in a manner satisfactory to the Bank;

(b) furnish any proposed revision of the safeguards documents referred to in the above sub-paragraph (a) to the Bank for its prior approval;

(c) maintain policies and procedures adequate to enable it to monitor and evaluate on an ongoing basis the carrying out of the safeguards measures set forth in the documents referred to in the sub-paragraph (a) above, in accordance with indicators acceptable to the Bank; and

(d) commencing June 30, 2006, furnish reports of annual audits performed by an independent agency, acceptable to the Bank, to monitor and evaluate compliance with the implementation of the safeguards measures set forth in the documents referred to in sub-paragraph (a) above, and take all actions necessary to ensure compliance with such measures taking into consideration the recommendations from such audits and the Bank's comments thereon.

iv. MWCI, shall, no later than December 31, 2007, carry out a public information campaign on the environmental benefits of sewage and sanitation services, and the best practices of proper disposal of sewage, in a manner, satisfactory to the Bank.

v. MWCI shall take such measures or actions within its jurisdictions as shall be necessary or

required to ensure that MWCI's long-term debt service coverage ratio (including Concession Fees) should not be less than 1.2.

vi. MWCI shall take all such measures or actions within its jurisdiction as shall be necessary or required to ensure that its total liability to equity ratio does not exceed 2.0.

vii. MWCI shall no later than January 01, 2008, prepare the Mid-term Report (integrating the results of the monitoring and evaluation activities performed), on the progress achieved in the carrying out of the Project.

viii. MWCI shall not commence construction of the sewage treatment plants in Manggahan Floodway and Signal Village, until MWCI has made appropriated arrangements with Taguig Municipality, and the Taytay Municipality, according to the applicable laws of the Philippines, for securing public land necessary for implementation of the Manggahan Floodway and Signal Village sewage systems.

ix. In respect to each Taguig Sewerage System in Hagony, Taguig, Tapayan and Labasan:

a MWCI shall not:

i. commence construction of the sewage treatment plant in Tapayan, Labasan, Hagonoy, or Taguig according to the technical design approved by MWCI in December 2004, unless: (A) the land titling claims resulting from the construction of the dike, and the pond in each of the four above-mentioned localities implemented by DPWH, have been resolved in accordance with the applicable laws of the Guarantor and by the Guarantor's relevant authorities; (B) a memorandum of understanding, satisfactory to the Bank, has been duly entered into between MWCI and the Metro Manila Development Authority (MMDA) for the operation of each flood retention pond mentioned above; and (C) MWCI has made appropriate arrangements according to the applicable laws of the Philippines, for securing public land necessary for construction of each of the sewage treatment plants mentioned above; and

ii. commence construction of the sewage treatment plant in Tapayan according to the above-mentioned technical design, unless the Displaced Persons resulting from the construction by DPWH of the dike or the realigned dike at the Lupang Arrienda (near the Tapayan Pond), in each case including the construction of the Tapayan Pond, have been compensated and rehabilitated in accordance with a resettlement action plan, satisfactory to the Bank, in conformity with the Land Acquisition, Resettlement and Rehabilitation Policy Framework.

b Notwithstanding the foregoing paragraph (a), by January 01, 2008, MWCI may start the construction of any of the sewerage treatment plants mentioned in paragraph (a) above, provided that prior to commencing the construction:

(i) MWCI has presented to the Bank for its approval an alternative technical design for the construction of the concerned sewage treatment plant under said Part of the Project and such alternative technical design has been found acceptable by the Bank;

(ii) MWCI has prepared an environmental management plan, satisfactory to the Bank, for the construction of the concerned sewage treatment plant under the above-mentioned alternative

technical design, if the environmental screening carried out in accordance with principles set forth in the Environmental and Social Assessment Framework concludes that such environmental management plan is required. MWCI further undertakes to carry out said environmental management plan, during the construction of the concerned sewerage treatment plant, and furnish any proposed revisions of said plan to the Bank for its prior approval; and

(iii) MWCI has taken all measures necessary to ensure that all Displaced Persons have been resettled and compensated, in accordance with a resettlement action plan, satisfactory to the Bank, in conformity with the Land Acquisition, Resettlement and Rehabilitation Policy Framework, if the construction of the concerned sewerage treatment plant under the above-mentioned alternative technical design involves the involuntary resettlement of any persons. MWCI further undertakes to furnish any proposed revisions of said plan to the Bank for its prior approval.

A. STRATEGIC CONTEXT AND RATIONALE

1. Country and sector issues

Background. Water pollution in the Philippines is a growing problem due to rapid urbanization and industrialization. One major cause of water pollution is untreated domestic wastewater, which accounts for 48% of total BOD pollution. The annual economic losses from water pollution are estimated at PhP 67 billion (US$1.3 billion), and include losses in health, fisheries production, and tourism.

Metro Manila (MM), home to some 12 million people, is an important economic zone, producing 35.7% of GDP in 2003. It comprises 17 cities and municipalities subdivided into 1,700 barangays. All Manila waterways are heavily polluted and the situation is grave – MM's key urban watercourses, Marikina River and Pasig River, are biologically dead. About 65-75% of pollution is caused by residential sewage, with the rest originating from industries such as tanneries, textile mills, food processing, distilleries, chemical and metal plants as well as from solid waste dumped in the rivers. Metro Manila is located in the hydraulically complex Pasig River – Laguna de Bay – Manila Bay watershed, which includes more than thirty tributaries within the urban area. Manila Bay is a pollution hotspot in the southern East Asia Seas region. Laguna de Bay, located in the south of Metro Manila, receives significant water pollution from MM region. Paradoxically, it is also a crucial raw water source for the MM region. The Pasig River provides an important two-way hydraulic connection between Manila Bay and Laguna de Bay, and because of this interconnection, the Pasig River serves as a conduit to transfer pollutant between Manila Bay, the Laguna de Bay, and other urban watercourses.

While water is supplied to about 90% of MM population, only about 15% is connected to a sewerage system; only one half of the latter are provided with sewage treatment. About 85% have septic tanks[1], which are often poorly constructed and inadequately maintained[2]. Most residents rely on open drains to receive effluent from their septic tanks. Only a few living in high-quality developments have constructed separate sewers and small sewage treatment plants. This lack of sanitation facilities, coupled with potential human contact with raw sewage, represents an increased health risk. For example, in 2003, about 9,700 cases of diarrhea attributed to either the absence of water supply or sanitation (or both) were recorded in MM's eastern concession area.

[1] Since the sewerage system is partly combined some of the connected population also have septic tanks.
[2] Regular servicing of tanks has started gradually during implementation of Manila Second Sewerage Project (MSSP).

Policy and Institutional Environment. To mitigate the environmental impacts of water pollution, the Government of the Republic of Philippines (GOP) has enacted many water-related laws, but enforcement is weak due to inadequate resources, poor statistics, institutional fragmentation, and weak cooperation between the central and local government units (LGUs). The latest Government action is the enactment of the *Clean Water Act of 2004*, which is an integrated, holistic, decentralized and participatory approach to abating, preventing and controlling water pollution. This Act attempts to consolidate the different laws and unify efforts to fight water pollution, however, implementation will be challenging because of the severe fiscal situation in the country.

In MM, the Metropolitan Waterworks and Sewerage System (MWSS) is mandated by law to provide water supply, sewerage and sanitation services, which it does through its two concessionaires, Manila Water Company Inc. (MWCI) in the east and Maynilad Water Services Inc. (MWSI) in the west. During the MWSS privatization in 1997, a separate MWSS Regulatory Office (MWSS RO) was established to monitor and enforce compliance with the concession agreements, review water supply and sewerage rates, and respond to service complaints against the concessionaires. The concession agreements are designed to ensure full cost recovery, with an allowable (and necessary) cross-subsidy between water and sewerage/sanitation.

Experience with MWSS privatization has been mixed. MWCI has successfully met or exceeded its concession targets, is in good financial health, and the standards and coverage of water, sewerage and sanitation services have increased significantly since privatization. On the other hand, MWSI has encountered significant problems, which caused it to suspend payment of its concession fee in 2002 and enter arbitration with MWSS. MWSI's restructuring is ongoing, but its fiscal problems have had a profound negative impact on its ability to successfully fulfill its service obligations in the western part of MM.

Ongoing strategy changes and the project. As might be expected in any large utility privatization exercise, the early years of the Manila concessions have been marked by significant shifts in sectoral strategy, largely caused by the Government and concessionaires' deepening understanding of the impact of privatization and the public's willingness to accept and pay for water, sewerage and sanitation services. As a result, there has been an evolution in sectoral planning since the start of the concessions in 1997, resulting in major changes in the performance targets on which the concessionaires' investment programs are based.

The performance targets for sewerage and sanitation services contained within the original concession agreements signed in 1997 were based on a masterplan prepared by JICA for MWSS in 1996 (i.e., before privatization). This plan proposed the provision of large, highly centralized sewerage collection and treatment systems in MM. While this may have been suitable if the provision of these services had remained in the public sector, after privatization it became clear that implementation of this plan and the concessionaires' compliance with the concession agreement performance targets that had been generated from it would be extremely difficult. The main impediments included a lack of available land for the proposed centralized treatment plants, the large capital investment required for such systems, unwillingness of the public to pay for the proposed extensive new system, and the local governments' unwillingness to accept disruptions from major construction.

The concession agreements allow renegotiation of performance targets and tariffs every five years during rate rebasing. In 2002, while preparing its submission for the first rate rebasing in 2003, MWCI proposed to adjust its service targets and masterplan to respond to the sewerage and sanitation implementation constraints. MWCI's new approach proposed maximizing the use of existing or upgraded sewage treatment facilities and provision of new, small-scale systems serving clearly defined densely populated areas. This was coupled with an expansion of maintenance services for individual septic tanks.

During the 2003 rate rebasing consultations, the Government agreed that the 1997 performance targets for sewerage should be reduced in order to ensure affordable tariffs and overcome implementation constraints, and as a result, the 2003 rate rebasing agreements decreased sewerage targets and as some compensation, increased sanitation targets. At the same time, the Government agreed that alternatives to separate sewerage systems (e.g., combined systems[3]) could be considered for MM. Bank assistance to MWCI through this project will enable this concessionaire to respond to and fully meet its performance targets agreed in the 2003 rate rebasing, through provision of a series of combined and separate sewerage systems and treatment plants. As combined sewerage systems are new to the Philippines, Bank assistance is providing crucial support for the demonstration of the technical and financial viability of such systems in the Philippine context.

The Government and MWCI are currently beginning preparations for the next important milestone in the concessions, the 2008 rate rebasing. The Government and concessionaires recognize that further optimization of the performance targets for sewerage and sanitation is necessary to ensure that MM's environmental goals are met. While it is envisaged that the main strategy established in 2003 of following a decentralized, phased approach to sewage collection and treatment in MM will continue to be pursued during and after 2008, the Government is planning to modify the prioritization of service provision such that the concessionaires' performance targets will require them to focus their future infrastructure development in identified environmental hotspots. However, there is currently very little information available to assist the Government to identify environmental priorities in MM. Bank assistance through this project and through the proposed GEF support from the World Bank/GEF Pollution Reduction Investment Fund for Large Marine Ecosystems of East Asia will help the Government to establish the environmental priorities that will form the basis of the 2008 rate rebasing. The GEF grant is scheduled for FY06 and the PDF-B application was submitted to GEF on May 16, 2005.

A major support to the project would be the activities in relation to the GEF. GOP intends to request GEF support from the Pollution Reduction Investment Fund for Large Marine Ecosystems of East Asia, to: initiate institutional coordination for the Pasig River, Laguna de Bay and Manila Bay watersheds; identify environmental risk areas; prepare standard and allowable discharge regulations; and help GOP prioritize the environmental clean-up of Manila Bay.

[3] Combine sewers provide one pipe for both surface water drainage and for sewage, which is required to first pass through septic tank to remove solids. Hygienically superior separate systems provide separate pipes fro each service.

2. Rationale for Bank involvement

There is a strong rationale for the Bank to continue its involvement in the sewerage and sanitation sectors in MM. Through the previous sewerage projects, the Bank assisted MWSS in major expansion of septic tank management activities, and in piloting land-based septage treatment, both of which will be used and expanded in this project. The project will support use of pilot sewerage technology, for which there is no indigenous experience. IFC's support has provided international experience to the government and MWCI in water supply management. Finally, the Bank's financing terms are better than those from other private sources, which is important for social services such as the sewerage and sanitation sector.

The Bank brings to the Project its experience in the planning of the sewerage and sanitation sector, in the design of tariffs for sewerage and sanitation, and in efficient utility management. These are all key elements of the Bank's support for the Government as it plans for a change in sector focus for the new concession targets after the 2008 rate rebasing. In addition, the Bank's involvement enables the Government to seek financing from the Global Environment Facility (GEF) and other sources to bring clarity to the fragmented institutional and regulatory arrangements for the sector, as well as to study and prioritize the environmental hotspots in the region.

3. Higher level objectives to which the project contributes

The project supports GOP's goal of mitigating the environmental impacts of water pollution as stipulated in the 2004 Clean Water Act, as MM has a very significant influence on national water quality. The project also addresses the CAS theme to support the Private Sector platform growth for enhanced access of the poor and disadvantaged groups to basic services.

B. PROJECT DESCRIPTION

1. Lending instrument

The lending instrument is Specific Investment Loan.

2. [If Applicable] Program objective and Phases

Not Applicable

3. Project development objective and key indicators

The development objectives of the Manila Third Sewerage Project are to: (a) increase the coverage and effectiveness of sewerage service delivery in participating areas of Metro Manila through an integrated approach involving septage management, sewage management, and heightened consumer awareness of water pollution problems and their solutions; and, (b) establish the financial and technical viability of new approaches for sewage management in MM.

4. Project components

The project has three components, all located in the east concession area:

a) **Sewage Management** component would include construction of 10 sewage treatment plants (STPs), upgrading of two communal septic tanks to secondary treatment, rehabilitation and construction of collection networks;

b) **Septage Management** component would include vehicles for pumping-out septage[4] from septic tanks (fecal tankers), two septage treatment plants (SPTPs), and safe disposal of treated septage; and

c) **Institutional Strengthening** component would include (a) the carrying out of a public information campaign on the benefits of sewerage and sanitation services, and on the best practices of proper disposal of sewage, and (b) assistance in preparation of follow-up programs for wastewater and sanitation improvements.

5. Lessons learned and reflected in the project design

The key lessons applicable for the design of this project have been learnt during past MWSS activities.

Design Parameters. Various modifications of sewerage master plans and implementation of MSSP established that: centralized sewerage system is not affordable at this time; public land available for sewerage and sanitation is generally in small easements, not suitable for large treatment plants; private land is both limited and costly, and LGUs have low tolerance for disruption during construction. Accordingly, this project includes small systems, often built underground under public land, such as small parks. Local governments were consulted to ensure their full cooperation. Innovative solutions are demonstrated in the Taguig and the Poblacion systems, with the dual use of flood control retention ponds for sewage treatment is proposed.

Connection fees. There is insufficient willingness to pay the one-time sewer connection fee levied on separate sewerage connections. The project therefore includes combined sewerage systems, (which were agreed during the 2003 rate rebasing negotiations), and thus avoids charging a connection fee.

Septage disposal. In the past, septage from MM was disposed in the ocean, as a temporary solution until a land-based trial was completed. However, after more than a year it was clear that ocean disposal did not have sufficient support from the local community and the operation had to be discontinued. This project built on these experiences by conducting in-depth analysis, including local consultations, of possible disposal sites for treated septage.

[4] The term "Septage" in this project refers to the material removed from residential septic tanks. Industrial septage, containing toxic compounds, heavy metals, oils and other materials requires special handling, treatment and disposal, and is not the subject of this project.

6. Alternatives considered and reasons for rejection
Provision of centralized sewerage and sanitation services is costly and requires sizeable land. MWSS and MWCI have recently considered various alternatives for the provision of services and rejected those with large land requirements.

The project design evaluated various alternatives to determine least-cost solutions. For example, within each component, different catchments, their agglomerations and small multi-catchments were analyzed to determine the optimal design. In the Taguig system, on-line versus off-line treatments were considered and off-line with minimal environmental risks selected. The design of septage treatment and disposal considered the number, size and location of SPTPs, and alternative disposal methods.

C. IMPLEMENTATION

1. Partnership arrangements (if applicable)
Not Applicable

2. Institutional and implementation arrangements
Initially it was planned that MWSS would be the Borrower and channels the loan to MWCI as a concession fee loan. However, MWSS's financial position was weak because of the west concessionaire's financial problems. As a result, and because of the urgent need to preserve MWSS' remaining borrowing capacity for critical loans to restructure and revitalize the west concession, the Government decided that the Land Bank of Philippines (LBP), a government financial institution, would be the Borrower, and would on-lend directly to MWCI, which would implement the project.

LBP is a government bank functioning as an intermediary financing institution for various multilateral and bilateral agencies, including the Bank. MWCI is one of two private concessionaires of the MWSS, a government corporation responsible for providing the services and the owner of water supply and sewerage facilities in MM. LBP has experience with the Bank procedures and MWCI has extensive experience in the preparation and implementation of water supply and sewerage projects.

3. Monitoring and evaluation of outcomes/results
Annex 3 lists the project outcome indicators, arrangements for monitoring results, and projected results for each component. Further indicators are specified in the various documents prepared for the project and listed in the Project File (financial monitoring report, environmental management plan, and environmental and social assessment framework). LBP will ensure that the implementing agency (MWCI) would collect data and information required for project monitoring, and would submit reports in a suitable format and at agreed dates.

4. Sustainability
MWCI is strongly committed to the targets for sewerage and sanitation stipulated in its concession agreement and amendments. The project would help to achieve those targets. Since the start of the concession in 1997, MWCI has maintained good and steadily improving standards of service and complies with service coverage targets. MWSS helped to design the implementation arrangements and has obtained the concurrence of involved community leaders

and heads of local governments. MWCI is in good financial health and financial projections indicate that that status will be maintained after implementation of this project. The Bank's appraisal confirmed that the project would be sustainable, if it is implemented as designed.

5. Critical risks and possible controversial aspects

Risks	Risk Mitigation Measures	Risk Rating with Mitigation
To project development objectives		
If Mayors of the cities and municipalities involved in physical construction change during the next election, license for construction of facilities could be difficult to obtain	Approval of the Project from MMDA, endorsed by all Mayors. Public disclosure carried out in communities. Public information campaign on project environmental benefits should be carried out. (This is a requirement of the loan agreement).	M
MMDA changes the traffic regulations for trucks, restricting the use of bigger vacuum tankers	Review legislation prior to acquisition of equipment.	L
To component results		
Land purchase agreements cannot be signed	Minimize the use of private land, use public land where possible. MOUs with public landowners already prepared. Purchase agreements for key components signed before appraisal. Negotiations already ongoing with owners of other sites.	M
Lack of continuity with MSSP because MWSS no longer the Borrower	Continued dialogue with MWSS, including through associated activities such as PHRD grant, proposed GEF project etc.	L
MWCI follow own procurement practices not Bank guidelines.	Training to be provided to MWCI. The same staff involved in MSSP on behalf of MWCI will continue with procurement in this project.	L
Implementation schedule risk and reputational risk from dual use of flood control ponds in Taguig sewerage component	Significant due diligence already completed on resettlement conducted by DPWH when constructing the ponds. Procurement Plan takes into account land acquisition and the construction schedule of ponds.	S
Stable implementation of Taguig sewerage system components	MOUs with MMDA, the operator of the ponds, already under negotiation, and are expected to be agreed before disbursement for the Taguig sewerage systems.	M
Overall risk rating	Modest/Substantial risk	**M**

6. Loan/credit conditions and covenants

a) Loan effectiveness:
   i. Signing of subsidiary loan agreement between LBP and MWCI.
   ii. Adoption of the financial management manual by MWCI.
   iii. Receipt by MWCI of the Environmental Compliance Certificate (ECC) for the sewage management and septage management components from the Department of Environment and Natural Resources (DENR).

Covenants applicable to project implementation

b) Disbursement conditions:
   i. LBP shall pay the Bank the front-end fee in full.

c) Implementation covenants
   i. Six months prior to the Rate Rebasing 2008, the Guarantor shall cause MWSS RO to update and review with the Bank the financial projections and service targets of MWCI for the next succeeding five years and take all necessary or required actions to ensure that MWCI's new service targets, and water and sewerage tariffs to be negotiated during the Rate Rebasing 2008 will not negatively affect the financial viability of MWCI.

   ii. The Guarantor shall, through the Department of Public Works and Highways (DPWH), take all such actions as are necessary or required to implement the resettlement action plan for the Taguig Sewerage System, in a manner satisfactory to the Bank.

   iii. MWCI shall:
   (a) carry out the Project in accordance with the Environmental Management Plan, the Resettlement Action Plans, the Environmental and Social Assessment Framework, and the Land Acquisition, Resettlement and Rehabilitation Policy Framework, in a manner satisfactory to the Bank;
   (b) furnish any proposed revision of the safeguards documents referred to in the above sub-paragraph (a) to the Bank for its prior approval;
   (c) maintain policies and procedures adequate to enable it to monitor and evaluate on an ongoing basis the carrying out of the safeguards measures set forth in the documents referred to in the sub-paragraph (a) above, in accordance with indicators acceptable to the Bank; and
   (d) commencing June 30, 2006, furnish reports of annual audits performed by an independent agency, acceptable to the Bank, to monitor and evaluate compliance with the implementation of the safeguards measures set forth in the documents referred to in sub-paragraph (a) above, and take all actions necessary to ensure compliance with such measures taking into consideration the recommendations from such audits and the Bank's comments thereon.

   iv. MWCI, shall, no later than December 31, 2007, carry out a public information campaign on the environmental benefits of sewage and sanitation services, and the best practices of proper disposal of sewage, in a manner, satisfactory to the Bank.

v. MWCI shall take such measures or actions within its jurisdictions as shall be necessary or required to ensure that MWCI's long-term debt service coverage ratio (including Concession Fees) should not be less than 1.2.

vi. MWCI shall take all such measures or actions within its jurisdiction as shall be necessary or required to ensure that its total liability to equity ratio does not exceed 2.0.

vii. MWCI shall no later than January 01, 2008, prepare the Mid-term Report (integrating the results of the monitoring and evaluation activities performed), on the progress achieved in the carrying out of the Project.

viii. MWCI shall not commence construction of the sewage treatment plants in Manggahan Floodway and Signal Village, until MWCI has made appropriated arrangements with Taguig Municipality, and the Taytay Municipality, according to the applicable laws of the Philippines, for securing public land necessary for implementation of the Manggahan Floodway and Signal Village sewage systems.

ix. In respect to each Taguig Sewerage System in Hagony, Taguig, Tapayan and Labasan:

a MWCI shall not:

i. commence construction of the sewage treatment plant in Tapayan, Labasan, Hagonoy, or Taguig according to the technical design approved by MWCI in December 2004, unless: (A) the land titling claims resulting from the construction of the dike, and the pond in each of the four above-mentioned localities implemented by DPWH, have been resolved in accordance with the applicable laws of the Guarantor and by the Guarantor's relevant authorities; (B) a memorandum of understanding, satisfactory to the Bank, has been duly entered into between MWCI and the Metro Manila Development Authority (MMDA) for the operation of each flood retention pond mentioned above; and (C) MWCI has made appropriate arrangements according to the applicable laws of the Philippines, for securing public land necessary for construction of each of the sewage treatment plants mentioned above; and

ii. commence construction of the sewage treatment plant in Tapayan according to the above-mentioned technical design, unless the Displaced Persons resulting from the construction by DPWH of the dike or the realigned dike at the Lupang Arrienda (near the Tapayan Pond), in each case including the construction of the Tapayan Pond, have been compensated and rehabilitated in accordance with a resettlement action plan, satisfactory to the Bank, in conformity with the Land Acquisition, Resettlement and Rehabilitation Policy Framework.

b Notwithstanding the foregoing paragraph (a), by January 01, 2008, MWCI may start the construction of any of the sewerage treatment plants mentioned in paragraph (a) above, provided that prior to commencing the construction:

(i) MWCI has presented to the Bank for its approval an alternative technical design for the construction of the concerned sewage treatment plant under said Part of the Project and such alternative technical design has been found acceptable by the Bank;

(ii) MWCI has prepared an environmental management plan, satisfactory to the Bank, for the construction of the concerned sewage treatment plant under the above-mentioned alternative technical design, if the environmental screening carried out in accordance with principles set forth in the Environmental and Social Assessment Framework concludes that such environmental management plan is required. MWCI further undertakes to carry out said environmental management plan, during the construction of the concerned sewerage treatment plant, and furnish any proposed revisions of said plan to the Bank for its prior approval; and

(iii) MWCI has taken all measures necessary to ensure that all Displaced Persons have been resettled and compensated, in accordance with a resettlement action plan, satisfactory to the Bank, in conformity with the Land Acquisition, Resettlement and Rehabilitation Policy Framework, if the construction of the concerned sewerage treatment plant under the above-mentioned alternative technical design involves the involuntary resettlement of any persons. MWCI further undertakes to furnish any proposed revisions of said plan to the Bank for its prior approval.

D. APPRAISAL SUMMARY

1. Economic and financial analyses

Economic Analysis

The project benefits, in particular those related to environmental and public health improvements, could not be reliably quantified. For this reason, the choice of project designs and priority sewerage and sanitation investments has been guided by least-cost solution analysis, applied to the overall design approach in the MWCI concession area, as well as to individual sub-projects.

The design approach alternatives for provision of service have been studied within the last decade in a range of sewerage master plans. The initial plan intended to provide services in the entire area within a short period using the best state-of-the-art design and technology. Other variations were proposed in follow-up plans, with the aim of reducing the prohibitive cost of the initial plan, however, always keeping the accent on high technological design, including the use of separate sewers. The final adopted alternative, used as a basis for this project, discarded these earlier approaches. The services would be provided gradually, starting from highest population densities, implemented in smaller schemes, and using existing facilities such as combined sewerage, not considered in earlier plans. The quality of service would remain acceptable, with substantially lower costs. The individual sub project level, the analysis considered the availability of land, including building synergies with flood control, and urban renewal and housing development projects.

Project benefits in the MWCI concession include increase in sewer service coverage from about 8% to 30%, and sanitation service from around 1.5% to 100%, with about 3.3 million people benefiting from these improvements. Further benefits include: (a) reduction in water pollution in public water bodies within the MWCI concession; (b) improvements in public health and population well-being; (c) improvement in soil condition and crop yields on lahar-affected areas ameliorated with disposed septage; and (d) proving the viability of new technical approaches to affordable sewerage management in Metro Manila.

FINANCIAL ANALYSIS

MWCI. In the early years of the concession MWCI struggled financially, largely because of external factors: the Peso devaluation and severe water shortages caused by El Nino. However, with the large tariff increases implemented under Amendment No. 1, the 2003 rate rebasing, and the passing of El Nino by the end of 1998, the company has now established itself as a commercially viable entity.

Financial projections for 2005-2014 are based on MWCI financial objectives under the concession agreement, including: (a) the revised service targets; and (b) rate of return agreed to under the 2003 rate rebasing. MWCI financial forecasts show that it would be able to provide, operate and maintain the project assets, achieve the stipulated rate of return, cover debt service, and service its concession commitments from its expected revenue stream. (Details are shown in Annex 9).

Land Bank of the Philippines. As the Government financial institution, LBP has been used for channeling loans from multilateral and bilateral agencies to beneficiaries. Its performance in lending and other financial operations has been impressive, as reflected by an improvement in contribution margin of about 69% between 2001 and 2004. Also, LBP showed better operational performance in 2002-2004 through improvement in the quality of its loan portfolio, despite lower net margins. The capital adequacy ratio in 2004 was at nearly 14%, above the Central Bank standard of 10%.

Financial covenants require LBP to take all necessary actions to ensure that MWCI's: (a) debt service coverage ratio of long-term debt, including debt service portion of concession fees, shall not exceed 1.2; and (b) total liabilities to equity ratio shall not exceed 2.0.

2. Technical

The project was formulated and designed by high quality technical staff from MWSS and MWCI, within the mainstream of the agencies' other projects. The choice of the treatment process for the sewage treatment plants has taken into consideration possible variation in the incoming sewage quality, ease of operations, and running cost. The treatment process for septage has been tested for local quality of septage and is acceptable. Disposal of septage and STP sludge on lahar has also been successfully tested and is acceptable. Overall, the project design is sound, representing the least-cost solution (as described in Annex 9), and good engineering practice. The detailed project description is in Annex 4.

3. Fiduciary

In accordance with the Financial Management Sector Board guidelines, the task team conducted an assessment of the financial management arrangements for the project and concluded that it meets minimum Bank financial management requirements, as stipulated in BP/OP 10.02. The project will be using the same financial management policies and procedures as currently used in LBP and MWCI; these were assessed and found to be adequate. To further strengthen the financial management system, MWCI is now consolidating all its policies into a financial management manual.

The Procurement Guidelines on ICB (Section 2), Shopping (Section 3.5) and Direct Contracting (Section 3.6) will be used in implementing the project. During the project preparation the Senior Procurement Specialist carried out an assessment of the capacity of MWCI to implement procurement actions for the project. The assessment reviewed the organizational structure for implementing the project and the interaction between the staff responsible for procurement and other relevant units for administration and finance. The Assessment did not find any major procurement issues.

4. Social

The project will bring overall positive social impacts by reducing health risks from exposure to raw sewage and polluted surface waters. All adverse social impacts will be mitigated. The Environmental and Social Assessment Framework (ESAF) for the project provides for future on addressing unforeseen environmental and social impacts.

Resettlement. A total of 14 households will have to be resettled as a result of the project. Two abbreviated RAPs have been prepared and compensation and relocation procedures will be applied as specified in the Land Acquisition, Resettlement and Rehabilitation Policy Framework.

DPWH Project. MTSP is expected to use four flood retention ponds included in the DPWH Project as secondary sewage treatment facilities. This DPWH project obtained DENR clearance on June 18, 1993. For the Taguig Sewerage System component, a due diligence assessment was conducted by the Bank, with respect to the applied social and environmental safeguards standards, in particular to the land acquisition process as a part of the project preparation. The assessment revealed that while there are differences in the methodologies and procedures in dealing with land acquisition and resettlement between the DPWH project and Bank-assisted projects, these aspects are being addressed (various types of losses are compensated and resettlement assistance is being provided) to the satisfaction of the Bank. The outcomes for the people who were resettled, for the completed parts, are comparable to what they would have been under Bank policies. There are outstanding and unresolved claims regarding land titling, but systems are in place to address grievances. Also, there is strong support from the concerned LGUs to assist displaced persons in seeking redress to their concerns regarding the realignment of the dike, and a commitment on the part of DPWH to ensure that the new resettlements are adequately addressed in the project.

5. Environment

The project will have a positive impact on the region's overall environmental quality. Increase of sewerage revenues will strengthen the basis for a sustainable framework for the funding of the long-term environmental protection in the area. Adverse environmental impacts are minor, mainly related to construction of facilities; risks linked to the disposal of collected septage and sludge is expected to be minimal. All impacts and risks have been satisfactory mitigated, and have been integrated into the environmental management plan (EMP).

The Philippine environmental assessment legal framework is adequate for mitigating and securing environmental safeguards, and is compatible with the World Bank safeguard guidelines. Based on the Environmental Impact Statement (EIS) prepared for the project, MWCI will obtain the Environmental Compliance Certificate (ECC) from DENR, describing the institutional and monitoring arrangements to be applied during the implementation and the operation of the project.

The LBP will have oversight responsibility for ensuring the proper implementation of the ECC and EMP. Day-to-day implementation and monitoring will be carried out by MWCI. Both organizations have sufficient capacity to implement and monitor the safeguard framework and possess designated dedicated staff responsible for the coordination of, and compliance with, the Environmental and Social Safeguard Framework.

Disposal of septage and sludge. Disposal of septage and sludge in lahar areas has been pilot-tested for over a year and has improved the soil condition and benefited the farmers. No adverse impacts have been measured, or are foreseen, because of the strict application of proper selection criteria for disposal sites and application procedures. Considering the lack of long-term experience with sludge/septage disposal in the lahar areas and in the Philippines, an extensive monitoring program has been defined in the EMP.

6. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[ ]	[X]
Cultural Property (OPN 11.03, being revised as OP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OD 4.20, being revised as OP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects in Disputed Areas (OP/BP/GP 7.60)*	[ ]	[X]
Projects on International Waterways (OP/BP/GP 7.50)	[ ]	[X]

a. What is the safeguard screening category of the project? (S1, S2, S3, SF): S2

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

b. What is the environmental screening category of the project? (A, B, C, FI): A

c. If applicable, what are the key safeguard policy issues raised by the project?

Community consultations, environment, and resettlement.
MWCI has documented all consultations, completed EIA, REA, ESAF, RAP, and provided information for the due diligent assessment of the DPWH project.

d. If applicable, what are the main results of any safeguard policy related studies, and how have they been incorporated into the project?

Adverse environmental impacts are (minor mainly construction-related) and risks are linked to the disposal of septage and sludge. Satisfactory mitigation measures for all impacts and risks have been planned, and have been integrated into the environmental management plan (EMP).

e. What is the borrower's capacity to implement the safeguard policies recommendations, and, if the capacity is insufficient, how will this capacity be brought to the required level?

Both LBP and MWCI have extensive experience in the preparation and implementation of similar Bank-supported projects. Through the implementation of the ongoing Water District Development Project and Rural Finance Projects 2 and 3, LBP has developed effective working procedures for on-lending activities and application of safeguards. MWCI has extensive experience with Bank procedures, as this project is a follow-up to the ongoing MSSP.

f. What type of consultations has been conducted related to safeguard issues? How did these consultations influence project design?

Surveys/interviews, public consultations for concerned barangays and communities, and focus group discussions with local government officials (Barangay and municipal level).

g. When were the safeguard studies made available at the InfoShop?
February 11, 2005

h. When and where were safeguard studies made available in the cooperating country?

On February 14, 2005 one set of reports was sent to every city in the MWCI concession zone, and to concerned municipalities in the Lahar areas with a request to make the set available to the public in the public library, with notices posted in prominent places. Copies were also made available in the libraries of the DENR, MWSS, LBP, and MWCI. The documents were posted in LBP and in MWCI public library; advertisement was posted in the newspaper on February 16, 2005, regarding the availability of the documents for public consultation. LBP also posted a copy of the newspaper advertisement in the public board of its branches in the project area for wider disclosure.

7. Policy Exceptions and Readiness

a. Does the project require any exceptions from the Bank policies? If so, what are they and how are they justified? No exceptions are required.

b. Have these been approved by Bank management? Not applicable.

c. Is approval for any policy exception sought from the Board? No.

d. Does the project meet the Regional criteria for readiness for implementation? If not, in what ways?

Readiness Criteria:

1. Fiduciary (financial management and procurement) arrangements in place: Yes.
2. Project staff and consultants mobilized: The project will be mainstreamed in both involved organizations, LBP and MWCI. No special arrangements for mobilization are required.
3. Counterpart funds budgeted/released: MWCI has allocated adequate counterpart funds.
4. Tender documents for first year procurement have been prepared: Yes.
5. Disclosure requirements met: Yes.
6. Results assessment arrangements completed: Yes. Institutional responsibility for monitoring and evaluation agreed and in place, indicators specified and baseline data collected.
7. Co-financing arrangements signed: Not applicable.
8. Land acquisition plans ready: Yes.

Annex 1: Country and Sector or Program Background

PHILIPPINES: Third Manila Sewerage Project

Background

1. Water quality throughout the Philippines is deteriorating due to high population growth, rapid urbanization and industrialization. Domestic wastewater is a major source of water pollution, accounting for 48% of total biochemical oxygen demand (BOD) pollution.[5] The annual economic losses caused by water pollution are estimated at PhP 67 billion (US$ 1.3 billion), including losses in health, fisheries production, and tourism. To guard against the environmental impacts of water pollution, the Philippines has many water-related laws, but their enforcement is weak and beset with problems that include inadequate resources and implementation rules, poor information, institutional fragmentation, and weak cooperation among government agencies and local government units (LGUs).

2. The Clean Water Act passed by the Congress in 2004 includes an integrated, holistic, decentralized and participatory approach to abating, preventing and controlling water pollution in the country. This important step, taken collectively by various stakeholders, is the first attempt to consolidate different fragmented laws and provide a unified direction and focus for fighting water pollution in the Philippines. However, implementation of this Act would require substantial investment, much of which would not have direct cost recovery potential, and therefore, implementation will be challenging because of the severe fiscal situation in the country.

3. Metro Manila's impact on national water quality is extremely significant - almost 20% of all domestic wastewater in the Philippines is generated by the approximately 12 million Metro Manila residents. Metro Manila is located in the hydraulically complex Pasig River – Laguna de Bay – Manila Bay watershed, which includes more than thirty tributaries within the city's urbanized area. Manila Bay is a pollution hotspot in the southern East Asia Seas region. It is also an important economic resource with competing uses. The surrounding catchment area is home to an estimated 16 million people. The largest harbor in the country is located in Manila Bay with port services catering to both national and international maritime traffic. Increasing urbanization has damaged the coastal habitats, which serve as spawning grounds for many economically important fish species. Laguna de Bay, located in the south of Metro Manila, receives significant water pollution from the city. Paradoxically, it is also a crucial raw water source for the region. The Pasig River is the main watercourse within the urban area. About 60% of the pollution in the Pasig River comes from domestic sources. The Pasig River provides an important two-way hydraulic connection between Manila Bay and Laguna de Bay, and because of this interconnection, the Pasig River serves as a conduit to transfer pollution between Manila Bay, Laguna de Bay and the urban watercourses.

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[5] Data in this paragraph is obtained from the *Philippines Environment Monitor 2003* (World Bank).

State of the Sewerage and Sanitation Sectors in Metro Manila

4. In Metro Manila, about 15% of the population is connected to a sewerage system, although only half is provided with a treatment facility. Around 85% have septic tanks, the majority of which were constructed without adequate leaching fields and are rarely maintained or de-sludged. Most residents rely on drains, (many of which are open), to receive the effluent from their septic tank. Only a relative few, high-quality developments have constructed separate sewers and small sewage treatment plants.

5. Currently, the Metropolitan Waterworks and Sewerage System (MWSS) is mandated by law to provide water supply, sewerage and sanitation services in Metro Manila, which it does through its two concessionaires, Manila Water Company Inc. (MWCI) and Maynilad Water Services Inc. (MWSI). During the MWSS privatization in 1997, a separate MWSS Regulatory Office (MWSS RO) was established to monitor and enforce compliance with the concession agreements, review water supply and sewerage rates, and respond to service complaints against the concessionaires. With the exception of raw water, which is not explicitly costed in the tariffs and is provided free to consumers, the concession agreements ensure full cost recovery, with an allowable (and necessary) cross-subsidy between water and sewerage/sanitation.

6. Experience with privatization has been mixed – the MWCI concession in the east has been successful, while MSWI in the west has run into difficulties. MWCI has in large part met (and in some cases exceeded) its concession targets, is in good financial health, and the standards and coverage of water, sewerage and sanitation services have increased significantly since privatization. On the other hand, the west concession has encountered significant problems. MWSI's heavy debt burden, exacerbated by the Asian Financial Crisis and multiple devaluations of the Philippine peso, and its less successful strategies for service expansion, caused MWSI to suspend payment of its concession fee in 2002 and to enter into arbitration with MWSS. Restructuring of the company is on-going, but in the meantime, MWSI's fiscal problems have had a profound negative impact on its ability to successfully fulfill its service obligations.

7. The Bank's support for the sewerage and sanitation sectors in Metro Manila has spanned more than twenty years, commencing with the Manila Sewerage and Sanitation Project in 1980. Most recently, the Manila Second Sewerage Project (MSSP) was approved in 1996. MSSP was prepared as a public sector project with MWSS as the implementing agency, and included components to rehabilitate several sewerage networks and a sewage treatment plant, to expand septage management in the city, and to conduct pilots of ocean disposal of septage. After privatization, MWCI and MWSI took over implementation of the components in their respective concession areas. Implementation of the project has been satisfactory and is almost completed.

8. Under MSSP septage was dumped into the ocean on a pilot basis during a nine-month period from October 2001 to July 2002. After completion of the trial, and during the evaluation period of the pilot, a complaint was lodged by a Philippine-based NGO to the Inspection Panel (IP). After investigation by the IP, it was concluded that improved septage management should be expanded in Metro Manila through this project, and that ocean disposal should not be continued in Metro Manila. Instead, it was recommended that the lahar-affected area north of the city be investigated for suitability as a treated septage disposal site. This analysis was completed during preparation and is now an integral part of MWCI's sludge management plan.

The proposed project includes a significant septage management component that would achieve the goals set out by the Bank management and GOP in response to the IP.

Opportunities and Limitations of Metro Manila's Concession Agreements

9. Concessions bring opportunities and challenges: while creating strong incentives for the concessionaire to act efficiently to meet contractual obligations, a concession arrangement also constrains the responsiveness of a sector because the incentives are focused on the obligations as strictly defined by the contract. Even when conditions change rapidly, the concession system locks implementation into pre-defined plan, which can only be amended during agreed formal renegotiation periods. In contrast, a public service provider is often provided greater flexibility, and can take a broader view to refine and revise the implementation plan to meet changing circumstances.

10. The Metro Manila concession agreements, originally signed in 1997, include a provision for renegotiation of both rates and service targets during rate rebasing, which is carried out once every five years. The first rate rebasing occurred in 2003, with the second due in 2008. This project has been developed based on the 2003 rate rebasing targets which are the legally enforceable concession conditions.

11. Implementation experience from MSSP shows that there are four key problems which limit the efficient implementation of environmentally optimum sewerage and sanitation projects in Metro Manila:

- The concession agreements and 2003 rate rebasing were based on outdated plans, which do not maximize environmental benefits;
- The public has a very low awareness of the societal benefits of sewerage and sanitation, and is therefore not very sympathetic to the disruption caused when retrofitting sewerage;
- The public's willingness to pay for sewerage and sanitation is low and the current tariff structure does not provide sufficient incentive to make dedicated connections to separate sewerage systems; and
- The capacity and experience of the concessionaires in sewerage provision is limited.

12. The proposed project will bring significant benefits because the activities undertaken during preparation (and planned for implementation) specifically address the above key constraints. With the experience and information gained through the implantation of this project and associated activities, the 2008 rate rebasing is expected to greatly contribute to reducing many of these barriers. Each of the four constraints is discussed in more detail below.

13. *Planning:* The sewerage targets of the 1997 Concession Agreements were based on a master plan which envisaged a highly centralized sewerage system and the phasing out of septic tanks and sanitation services throughout Metro Manila.[6] However, after privatization, it became clear that the public was not willing to pay for such a large and expensive separate sewerage

[6] This masterplan was completed in 1996 using JICA grant financing.

system. Other impediments to implementation of that plan included a lack of available land for the proposed treatment facilities, and little tolerance (from the public and local governments) of the immense disruption during implementation. While these barriers were identified in the late 1990s, the Government has not, to date, undertaken a master plan update to address these concerns.

14. Despite this lack of a formal master plan update, the concessionaires had to create business plans for their own investments. As a result, during the 2003 rate rebasing exercise, MWCI proposed, and the MWSS RO agreed, to downscale the sewerage targets and to allow for a decentralized approach using combined sewerage, where appropriate. This was compensated, at least in part, by an increase in targets for the provision of sanitation services. Significantly, the concessionaires, not the Government, drove the changes made during the 2003 rate rebasing. Therefore, the targets focused on increasing service levels evenly around the consumer base, to minimize the tariff impact in any particular municipality. They did not, however, consider maximizing the environmental benefit that could be achieved from the limited available investment. While not ideal from the environmental perspective, there is merit, at least in the initial stages, of implementing projects throughout the city, to raise awareness and build a constituency for the sector. Moreover, the existing tariff structure would make it very difficult to concentrate on the "hot spots" as households in many of these areas may not have either piped water or the capacity to pay the additional sewerage charge.

15. Spreading service evenly around the city is not justifiable in the long-term because it does not maximize the environmental benefits of investments. The Government has recognized this and wishes to align the concession targets more closely with environmental goals during the 2008 rate rebasing. To achieve this, considerable work needs to be done to strengthen the information base and planning for sewerage and sanitation in Metro Manila.

16. During project preparation, MWCI updated its own sewerage and sanitation master plan, which has led to improvements in the selection of components and design of the project, as well as prospects for improved demonstration effect and environmental benefits from the project investments. MWCI has also undertaken extensive information gathering on existing drainage systems and outfalls within its concession area. The planning work that has been done by MWCI during preparation has increased the awareness of the concessionaire's staff of the importance of prioritizing environmental benefit and seeking the most cost effective solutions for the provision of sewerage and sanitation. This has increased capacity with the company leading to the 2008 rate rebasing. However, MWCI's planning is not a satisfactory replacement for Government strategy, as it does not address sewerage and sanitation issues in the entire Metro Manila region.

17. First, during this planning exercise MWCI has been required to respect its current contractual obligations, the 2003 rate rebasing targets, and therefore the problems described above are still inherent in this master plan update. Second, MWCI can consider, at most, a planning time horizon stretching to the end of the concession period (2022), at which point, according to the concession agreement, the cost of all investments must be recovered. This limits MWCI's capacity to plan implementation of any major projects in the latter half of the concession because recovery of the investment over the remaining short period of the concession would require tariffs to be elevated to unaffordable levels. Third, MWCI's planning does not

consider the transfer of sewage across the boundaries of the two concession areas in order to utilize the most overall cost effective solutions. Finally, no environmental analysis has yet been carried out on MWCI's master plan update, and therefore, the extent to which it would achieve maximum environmental benefits for Metro Manila's waterways is unknown.

18. MWSS (and MWSS RO) are currently carrying out studies on: possible subsidies required for the sector; review of tariff arrangements under the current 2003 rate rebasing; review proposals to reduce barriers to connect to sewerage systems; and, a review and first-stage revision of the sewerage master plan in both concessions. In addition, DENR, as the lead agency on behalf of the Government, and as the agency responsible for the implementation regulations of the Clean Water Act 2004, plans to request support from the Global Environment Facility (GEF) under the *World Bank/GEF Pollution Reduction Investment Fund for Large Marine Ecosystems of East Asia* to initiate institutional coordination for the Pasig River – Laguna de Bay – Manila Bay watershed; identify environmental hotspots in the capital region; and to prepare standards and allowable discharge regulations for the key watercourses in Metro Manila. The outputs of this study would establish priorities for the environmental cleanup in Metro Manila. These ongoing and planned activities would enable Government to provide strong guidance to the 2008 rate rebasing exercise.

19. **Low public awareness and limited experience of sewerage in Philippines**: Experience during MSSP has shown that low public awareness of the health and environmental benefits of sewerage and sanitation, weak political support for sewerage services, and the limited experience of the concessionaires in this sector, constrain implementation of sewerage and sanitation projects. The establishment of seventeen independent municipalities and cities within Metro Manila has fragmented and reduced the fiscal and regulatory capacity of local governments to plan, support and enforce coordinated sewerage and sanitation strategies. LGUs are not aware of the importance of sewerage and sanitation. The concessionaires do not have sufficient leverage to convince unwilling local governments to support sewerage and sanitation investments.

20. Investments under the project will enable MWCI to gain technical experience in construction and management of both combined and separate sewerage systems in areas with septic tanks. Moreover, the project will demonstrate to the public and to local government the viability of different types of sewerage systems. This is expected to show that a "one size fits all" strategy is not the most beneficial in Metro Manila, and that the 2008 rate rebasing should consider a variety of possible technical solutions for the sector. The demonstration effects of the project would be transferable to the west concession area.

21. The Institutional Strengthening component of the project would support increasing public awareness of the importance of sewerage and sanitation through a public awareness campaign using the mass media.

22. **Limited willingness to pay**: The public's limited willingness to pay for sewerage service has been exacerbated by the design of the tariff within the concession agreements. Sanitation services are currently supported by a mandatory *environmental charge,* equal to 10% of the water charge, paid by all water consumers. A sewerage charge of 50% is levied when a household connects to a separate sewerage system. As households are unwilling to pay the additional 50% charge, concessionaires have failed to meet the connection targets. For example,

under MSSP, MWSI only completed 86 of a planned 10,000 sewer connections. MWCI completing 12,000 sewer connections, thanks to its strategy of strong public consultation; nevertheless, some of the communities dropped out during implementation.

23. The 2003 rate rebasing confirmed that combined sewerage systems could be piloted in Metro Manila. Combined sewerage schemes in Metro Manila do not require individual household connections, because households are, in general, already connected to the drainage system. In addition, MWSS RO plans to consider an amendment to the tariff structure in 2008, and has expressed support for the abolition of the 50% sewerage charge, with a corresponding increase in the mandatory environmental charge levied on all customers.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies
PHILIPPINES: Third Manila Sewerage Project

Sector Issue	Project	Latest Supervision (PSR) Rating (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective
Bank Financed:			
Urban environment, including sanitation and sewerage; access to urban services for the poor, environmental health.	P004479: Manila Sanitation and Sewerage Project (Ln. 18140). Approved: March 20, 1980	S	S
Supply of water to meet demand in the MWSS service area by year 2000.	(P004574) Angat Water Supply Optimization Project (Ln.3124) Approved October 5, 1989	S	S
Water Supply, sewerage and sanitation.	(P004561) Water Supply Sewerage and Sanitation Project (Ln 3242) Approved June 28, 1990	S	S
Urban environment, including sanitation and sewerage; access to urban services for the poor environmental health.	P004611: Manila Second Sewerage Project (Ln. 40190). Approved: May 21, 1996	S	S
Urban environment, including sanitation and sewerage in LGUs and water districts.	P004576: Water District Development Project (Ln. 42270). Approved: September 9, 1997	S	S
Water supply, sanitation, and sewerage in small towns.	P039022: LGU Urban Water and Sanitation Project (Ln. 44220). Approved: December 15, 1998	U	U
Water supply, sanitation, and sewerage in small towns.	P069491: LGU Urban Water and Sanitation Project – Phase 2 (Ln. 70800). Approved: October 18, 2001	U	S

Other Development Agencies		
Urban upgrading, including sanitation	Asian Development Bank: Pasig River Environmental Management and Rehabilitation Sector Development Program	Implementation performance reported to be somewhat slower than expected.
Urban sewerage and sanitation services master planning	Japanese Bank for International Cooperation: MWSS Master plan	Performance reported satisfactory.

IP/DO Ratings: HS (Highly Satisfactory); S (Satisfactory); U (Unsatisfactory); HU (Highly Unsatisfactory)

Annex 3: Results Framework and Monitoring

PHILIPPINES: Third Manila Sewerage Project

Results Framework

PDO	Outcome Indicators	Use of Outcome Information
To increase the coverage and effectiveness of sewerage service delivery in participating areas of Metro Manila through an integrated approach involving septage management, sewage management, and heightened consumer awareness of water pollution problems and their solutions.	Gradual increase in satisfaction of residents with sewerage/sanitation service delivery in participating areas, including health incidences of diarrhea Total BOD removed by the project (tones/yr) Percent increase in take-up rate of desludging service (% take-up rate/yr)	Evaluate environmental benefits of the project Monitoring progress in water quality improvement in Metro Manila
To establish the financial and technical viability of new approaches for wastewater management in Metro Manila.	Number of sewage treatment plants treating combined flows in a sustainable manner that comply with relevant discharge standards (#) Cost of operation in an acceptable range	Establish local experience in combined sewerage leading to: future concession re-negotiations[7]; improvements in designs; further expansion of combined sewerage technology across Metro Manila and lessons learned for other Asian cities
Intermediate Results One per Component	**Results Indicators for Each Component**	**Use of Results Monitoring**
Component One: Sewage management Increase coverage of sewerage service in Metro Manila Increase in sewage treated prior to disposal Reduce likelihood of human	**Component One:** Number of water connections in MWCI service area with sewage treatment service (#/year) Volume of sewage treated before disposal (m3/yr)	**Component One:** Achieve MWCI compliance with concession targets[8], evaluate benefits of sewerage program Evaluate efficiency of sewage treatment

[7] The 2008 Rate-Rebasing process (negotiation of Concession Agreement Amendment) will establish targets for combined sewerage provision in subsequent years.

[8] The MWCI Concession Agreement (1997) and its Amendment 1 (2003)

contact with sewage	Length of drainage lines installed or rehabilitated (m)	Use in awareness raising campaigns on human risk exposure to sewage
Component Two: Septage management Increase in coverage of septic tank de-sludging program	**Component Two:** Number of water connections with septic tanks de-sludged in MWCI service area (#/yr)	**Component Two:** Achieve MWCI compliance with concession, evaluate environmental benefits of sanitation program
Increase in septage treated prior to disposal	Volume of septage treated before disposal (m3/yr)	Evaluate efficiency of septage treatment of sanitation program
Increase efficiency of treatment in septic tanks	Percentage of BOD reduction in the septic tanks in a sample not smaller than 0.5%/year (% average reduction)	Evaluate efficiency of septic tank de-sludging program and validate influent quality parameter used in the design of sewage treatment plants for combined systems
Component Three: Institutional Strengthening Increase awareness of consumers of importance of improved wastewater, septage management, and personal hygiene	**Component Three:** Number of people reached by public information campaign (#/yr) Percent increase in take-up rate of desludging services (% take-up rate/yr)	**Component Three:** Design most efficient methods of raising public awareness and acceptance Evaluate efficiency of septage desludging of sanitation program
Prepare follow up wastewater and sanitation programs	A follow-up program prepared and approved by the MWSS	Design of advanced wastewater and sanitation improvements as tested in this project

Arrangements for Results Monitoring

		*Target Values**						Data Collection and Reporting		
Outcome Indicators	**Baseline 2004**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	***YR6***	**Frequency and Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
Gradual increase in satisfaction of residents with sewerage/sanitation service delivery in participating areas, including health incidences of diarrhea				Yes*	yes	yes	yes	Annual	Actual measurements/ surveys	MWCI
BOD removed by septage and sewage treatment plants (cumulative tones/yr)	5,600	5,600	6,720	7,670	11,830[3]	15,990[3]	20,400[3]	Annual		
Percent increase in take-up rate of desludging service (% take-up rate/yr)				Yes*	yes	yes	yes	Annual		
Number of sewage treatment plants treating combined flows that comply with relevant discharge standards (cumulative #)	0	0	0	0	7[4]	7[4]	9[4]	Annual		
Cost of operation of the new treatment plants in an acceptable rage ($/tones)				Around 20%	Around 20%	Around 20%	Around 20%	Annual		
Results Indicators for Each Component										
Component One : ***Sewage management*** Number of water connections in MWCI service area with sewage treatment service (cumulative # by end of yr) (#)	46,350	46,350	46,350	46,350	79,430	95,980	117,000	Annual	Actual measurements/ surveys	MWCI

Volume of sewage treated before disposal (cumulative 1000 m3/yr)	7,026	15,457	21,078	28,105	44,742	69,699	113,227	Annual		
Length of drainage lines installed/rehabilitated (cumulative km by end of yr) (km)***	0	0	0	0	26	52	120	Annual		
Component Two : ***Septage management*** Number of septic tanks de-sludged in MWCI service area (cumulative # by end of yr)	17,000	35,000	54,000	84,240	129,600	190,080	250,560	Annual	Actual measurements/ surveys	MWCI
Volume of septage treated before disposal (cumulative m3 by end of yr)	0	0	0	151,200	378,000	680,400	982,800	Annual		
Percentage of BOD reduction in the septic tanks in a sample not smaller than 0.5%/year (% average reduction)	Around 10%			Around 20%	Around 20%,	Around 20%	Around 20%	Annual		
Component Three: ***Institutional Strengthening*** Number of people reached by public information campaign (#/yr)	0	0	0	0	600,680	746,850	957,090	Annual	Actual measurements/ surveys	MWCI
Percent increase in take-up rate of desludging services (% take-up rate/yr)					Yes*	yes	yes	Annual		
Prepared follow up wastewater and sanitation programs							yes	Annual		

*Yes indicates and increase

**In accordance with the scheduled completion of projects as written in the Procurement Plan

***Subject to verification of surveyed length of drainage lines requiring rehabilitation

Other Assumptions:

1. Septage and Sewage Treatment Plants Capacity Build-up: 50%-1st year of operation, 75%-2nd year of operation, 100%-3rd year of operation

2. The MWCI Concession Agreement (1997) and its Amendment (2003)
3. Includes the calculated BOD reduction from the combined STP systems in the Taguig, Hagonoy, and Labasan ponds.
4. Includes the combined STP systems in the Taguig, Hagonoy, and Labasan ponds.

Annex 4: Detailed Project Description

PHILIPPINES: Third Manila Sewerage Project

1. The MWSS sewage program for Metro Manila for the period up to 2010, adopted by MWCI, emphasizes that the expansion of sewerage and sanitation facilities should be decentralized and implemented in smaller self-standing schemes, and should be planned as a combined system. The project components, all located in MWCI concession area, would implement that program as described below:

Project Component 1 – JPY 5,399.36 million (US$52.4 million)

2. **The Sewage Management** component would support the construction of sewage treatment plants (STP), interceptor sewers, and pumping stations, repair of existing drainage, and upgrading of communal septic tanks to provide secondary treatment. It comprises:

- *Taguig Sewerage System* which includes the construction of four STPs (Hagonoy, Taguig, Tapayan and Labasan), which would use existing flood retention ponds as secondary clarifiers during the dry season. Treated effluent would discharge to Laguna de Bay.
- *Riverbanks Sewerage System* which includes the construction of three STPs (Poblacion, Capitolyo, and Ilaya). The Capitolyo and Ilaya STPs would be underground, and the Poblacion STP on a platform above a existing flood retention pond. Treated effluent would discharge to the Pasig River.
- *Quezon City-Marikina Sewerage System* which includes an underground STP along the Marikina River. The service area includes residential barangays and sub-divisions in Quezon City and two low-income sub-divisions in Marikina City. Treated effluent would discharge to the Marikina River.
- *Quezon City Sanitation Upgrading* which includes the modification of two communal septic tanks in Quezon City to modern STPs. Their service areas would be extended to include parts of adjacent catchments. The existing separate sewerage would be rehabilitated and the service area of existing STPs would be extended. The treated effluent would discharge to local drainage canals.
- *Sanitation for Low-income Communities* which includes the construction of two STPs serving Pinagsama, Taguig and East Bank, and Taytay (along the Manggahan Floodway) and Signal Village. The plants would serve low-income communities with poor or non-existent sanitation facilities. Treated effluent would discharge to the Pinagsama Creek and the Manggahan Floodway, respectively.

STPs constructed under this component will use recognized biological treatment processes, including SBR[9] and oxidation ditches. Generated sludge would be hauled to the septage treatment plants for dewatering.

Project Component 2 – JPY 2,456.39 million (US$23.9 million)

[9] Sequencing Batch Reactor uses a flexible process with high tolerance for peak flows; it eliminates second clarifier and sludge pumping

3. **The Septage Management** component would provide vehicles for pumping-out septage from septic tanks (fecal tankers) and support construction of septage treatment plants (SPTS). The component would include following:

- Provision of (a) about seventy fecal tankers (5 to 10 m^3 capacity) with vacuum pumping, and (b) specialized equipment for transport and application of dewatered septage on soil;
- Construction of a septage treatment plant (SPTP), with a capacity of about 800 m^3/d of raw septage, in Taguig Industrial Complex to serve mainly the cities of Mandaluyong, Pasig, Makati and Taguig; and
- Construction of a septage treatment plant (SPTP), with a capacity of about 600 m^3/d of raw septage, in Barangay Gitnang Bayan II, San Mateo, Rizal Province, and serving mainly Quezon and Marikina Cities, and San Juan.

4. The SPTPs treatment consists of dewatering at a screw press, followed by biological treatment of the liquid fraction (SBR). The dewatered fraction (septage sludge) will be transported to the lahar[10] area north of Metro Manila for land application as a soil conditioner.

Project Component 3 – JPY 198.51 million (US$1.9 million)

5. **The Institutional Strengthening** component would enhance the proposed project investments through (a) a public information campaign on the environmental benefits of sewage and sanitation services and best practices for the proper disposal of sewage, and (b) support for preparation of follow-on programs for sewage and sanitation improvements.

[10] The Lahar area north of Metro Manila is an area covered with ash deposited during the eruption of Mt Pinatubo in 1991.

Annex 5: Project Costs

PHILIPPINES: Third Manila Sewerage Project

1. The estimated cost of the project is JPY 8,054.26 million (US$78.20 million), including physical and price contingencies and taxes. Total financing required is JPY 8,699.39 million, including the cost of the project, interest during construction and the loan front-end fee. Cost estimates are based on feasibility studies, with unit prices at mid 2005. Physical contingencies are estimated at 8% of base cost. Price escalation is based on projected national and international inflation rates, and are estimated at 4.4% of the base cost. Summary cost estimates are in following table.

Project Cost By Component and/or Activity	Local JPY million	Foreign JPY million	Total JPY million
Sewage management	2,764.07	1,981.19	4,745.26
Septage management	927.58	1,227.62	2,155.19
Institutional Strengthening	9.93	188.58	198.51
Land acquisition	61.80	-	61.80
Total Baseline Cost	3,763.38	3,397.39	7,160.77
Physical Contingencies	297.82	276.24	574.06
Price Contingencies	161.12	158.31	319.43
Total Project Costs[1]	4,222.32	3,831.94	8,054.26
Interest during construction	-	612.17	612.17
Front-end Fee	-	32.96	32.96
Total Financing Required	4,222.32	4,477.07	8,699.39

[1]Identifiable taxes and duties are JPY 1,500 million, and the total project cost, net of taxes, is JPY 7,199.38 million. Therefore, the share of project cost net of taxes is 82%.

Annex 6: Implementation Arrangements

PHILIPPINES: Third Manila Sewerage Project

1. **The Borrower and Project Agencies.** The Land Bank of Philippines (LBP) would be the borrower of the Bank loan, which would be passed on to the Manila Water Company Inc (MWCI), the implementing organization. Counterpart funds will be provided by MWCI. The Government would be the loan Guarantor.

2. **The Land Bank of Philippines.** LBP is a Government-owned bank established in 1963 as the primary financial agent for the agricultural land reform program. LBP is the first universal bank by charter with expanded commercial banking powers to strengthen its main social mission. Its policy-making body is the Board of Directors, comprising the Cabinet Secretaries of the Department Agrarian Reform, Agriculture, Labor and Employment, with the Secretary of the Department of Finance as the Chairman of the Board. The LBP President is the Vice Chairman of the Board. The Board also includes four private sector representatives. LBP top management consists of the President and Chief Executive Officer, two Senior Executive Vice Presidents and one Executive Vice-President. A number of management level committees assist in major decisions.[11]

3. LBP provides the banking needs of small and medium enterprises (SMEs), small farmers and fisherfolks, corporates, local government units, government-owned and controlled corporations, and other government agencies and is the main depository of the government and its agencies. As of year-end 2004, about 65% of the deposit portfolio (PhP 215 billion) were government funds. Its net income has steadily improved from PhP 1.5 billion in 2001 to PhP 2.25 billion in 2004.

4. LBP's credit assistance is focused on a number of priority sectors - small farmers and fisherfolk cooperatives, micro, small and medium enterprises, livelihood loans, agribusiness, agro-related infrastructure projects and environmental conservation. The Bank's exposure to these priority sectors is approximately 61% of its gross loan portfolio. LBP continues to have one of the highest loan loss coverage ratio in the industry at 80.6%, substantially higher than the industry coverage ratio of 52.6%. The quality of LBP's loan portfolio has improved as reflected by both a steady decline in non-performing loans as well as the reduction in annual loan loss provisions taken to anticipate potential losses. LBP sources long-term development funds from multilateral and bilateral agencies, such as the World Bank, ADB, JBIC and KFW. Its capital adequacy ratio in 2004 stood at 13.7%, above the Bangko Sentral ng Pilipinas (BSP) standard of 10 percent and the BIS benchmark of 8 percent.

5. **The Manila Water Company Inc**. Provision of water supply, sewerage and sanitation services in Metro Manila has been vested in the Manila Waterworks and Sewerage Systems (MWSS), a government corporation established in 1971. In 1997 the MWSS privatized its operations to two concessionaires – the eastern half to Manila Water Company Inc. (MWCI) and the western half to Maynilad Water Supply (MWSI) – under 25-year concession agreements.

6. MWCI service area covers about 1,400 km^2 that includes all or portions of 23 municipalities and cities in Metro Manila and its suburbs and has a population of over five million. It provides

[11] Investments and Loans Executive Committee; Assets and Liabilities Committee; and Management Committee.

water supply to an estimated 560,000 households and over 50,000 non-residential customers through 426,000 service connections. Provision of sewerage services is much more limited to only about 30,000 connections. MWCI services the septic tanks of those not connected to the sewerage system. In 2004, it serviced almost 18,000 tanks. MWCI employs 1,540 staff and is organized into six functional groups: operations; project delivery; regulation, planning and corporate communications; business; finance and information communication technology; and human resources and corporate services.

7. Besides the operation and maintenance of the water, sewerage and sanitation systems within its service area, MWCI is responsible for all capital investments over the concession period, as well as for outstanding MWSS debt arising from prior capital investments that have been allocated to MWCI. The debt service is through the payment of an annual concession fee to MWSS. In addition to debt service, the concession fee includes: (a) MWCI share of any counterpart funding requirements on any ongoing MWSS projects, and (b) MWCI share of engineering and supervision costs on these ongoing projects.

8. **Implementation Arrangements.** LBP and MWCI have mainstreamed project management and monitoring within their organizations, and do not require special project management unit. MWCI will prepare engineering studies and designs, and carry out procurement; construction supervision and management will prepare the required reports on environmental aspects and resettlement, including public consultations and disclosures. It will also furnish regular reports on project progress, including environmental and resettlement monitoring.

9. LBP will be responsible for ensuring that the project is implemented by MWCI as stipulated in the loan and project agreements, and for the compliance of specific loan covenants. LBP will ensure timely reporting on project technical, environmental, and financial matters according to agreed formats, including the furnishing of annual audit reports.

10. **Agreements:** The Loan Agreement will be concluded between the Bank and LBP, and a Subsidiary Loan Agreement would be concluded between LBP and MWCI. In addition, a Project Agreement will be concluded between the Bank and MWCI. The terms of the Bank loan to LBP (maximum of 17 years - limited to the remaining time of the concession agreement - including 5 years grace period) would be passed on to MWCI on the same terms and conditions, plus an interest spread of 1.25%. MWCI would bear the exchange rate risks, front-end-fee, guarantee fee, applicable taxes and interest during construction, and commitment charges.

Supplement to Annex 6

MWCI Concession Agreement and Amendments

1. The concession agreement transfers MWSS's service obligations within the east zone to MWCI for the 25-year period of the agreement. In order to meet these obligations, the agreement grants MWCI the right to provide water, sewerage and sanitation services in the east zone. At the onset of the concession, all MWSS facilities within the east zone were transferred to the custody of MWCI, but remain MWSS property. MWCI holds ownership over fixed assets purchased or constructed by it during the concession, but at termination these will be transferred to MWSS. MWCI is responsible for the operation and maintenance of the water, sewerage and sanitation systems within its service area, all capital investments over the concession period, as well as for outstanding MWSS debt arising from prior capital investments that have been allocated to MWCI. The servicing of this debt is provided for through the payment of an annual concession fee by MWCI to MWSS. In addition to debt service, the concession fee includes two other components; the MWCI share of any counterpart funding requirements on any ongoing MWSS projects, and the MWCI share of engineering and supervision costs on these ongoing projects. MWCI is also required to pay half of the annual operating budget of MWSS, the total of which is not to exceed PhP200 million ($3.7 million[12]) subject to annual adjustments for inflation.

2. **Regulatory Framework**. The concession agreement is the basis for the regulation of MWCI by the Regulatory Office of MWSS (MWSS RO). The MWSS service obligations assumed by MWCI are set out in the agreement in the form of service targets for water supply, sewerage and sanitation, which the company is to achieve by specified dates over the concession period. MWCI is entitled to apply user charges that recover its operating, maintenance and capital expenditures costs, as well as an agreed rate of return on these expenditures. The rate of return called the Appropriate Discount Rate (ADR), is the real after-tax weighted average cost of capital as set by MWSS RO. The agreed ADR for the 2003 – 2007 periods is 10.4%. The basis for setting the various user charges for water, sewerage and sanitation is the average water tariff. The initial average tariff applied at the commencement of the concession was submitted by MWCI in its financial tender. Subsequent adjustments to the average tariff over the concession period are made according to mechanisms relating to inflation, specified extraordinary events, foreign currency changes and rate rebasing.

3. **Tariff Structure**. The MWCI tariff structure has been established by the concession agreement and is regulated by MWSS RO. The structure is the same as that originally established and applied by MWSS prior to privatization. It consists of four customer groups, residential, small business, large business, and industrial, each of which pay according to a different increasing block water tariff schedule. The residential and small business structures consist of nine blocks, while the large business and industrial structures consist of 33 blocks. In addition to the water tariff, there are two surcharges, - environmental and sewerage fees. The environmental charge is 10% of the total water bill and is applied to all customers. The sewerage surcharge is 50% of the water bill and is applicable only to those customers connected to the sewer system. In addition, customers pay 10% VAT on the total of the water, environmental and applicable sewerage charges.

[12] All Peso amounts presented in this annex are converted to US dollars at the current exchange rate of P54.7/$1.00.

4. **Rate Rebasing.** The concession agreement includes a provision for the re-evaluation of tariffs every five years under the rate rebasing mechanism. This allows for the resetting of tariffs to enable the company to recover the following: its operating, maintenance and capital expenditures; Philippine business taxes; debt service on MWSS loans and concession fees; and the ADR on these expenditures over the remaining concession period. Under the first rebasing, which covers the five year period to the end of 2007, a significant increase in tariffs was approved by MWSS RO and implemented in two phases; as of 1 January 2003, and 1 January 2005. The rebasing also included the revision of the service coverage targets set out in the concession agreement, including those relating to water availability, water pressure and sewerage coverage. Future rebasings will be applied as of the beginning of 2008, 2013 and 2018.

5. **Amendment No. 1**. In October 2001, the concession agreement for MWCI was amended so that foreign exchange losses could be immediately recovered through the water tariff. The amendment was made in order to address the adverse financial impact of the devaluation of the Peso on the concessionaires. (Between the commencement of the concession in 1997 and the end of 2001, the Peso devalued from about PhP26/$1.00 to PhP51/$1.00). This devaluation substantially increased the concession fees payable to MWSS because the largest portion of the fee is that for MWSS debt service, 90% of which is denominated in foreign currencies. It also increased the Peso equivalent of the concessionaires' own foreign currency loans. Although the original concession agreement allowed for the recovery of such losses, they could be recovered only gradually over the entire remaining term of the concession.

6. Amendment No. 1 established three tariff adjustment mechanisms to recover past, present and future foreign exchange losses: (i) Accelerated Extraordinary Price Adjustment (AEPA) to recover past foreign exchange losses between 1997 and 2000; (ii) Special Transitory Mechanism (STM) to recovery losses in 2001 and any losses not recovered by AEPA; and, (iii) Foreign Currency Differential Adjustment (FCDA) to recover losses in 2002 and onwards over the remainder of the concession. AEPA and STM have now been phased out while the FCDA remains and is set quarterly on the basis of the actual foreign exchange loss or gain incurred over the previous quarter.

Annex 7: Financial Management and Disbursement Arrangements

PHILIPPINES: Third Manila Sewerage Project

1. An assessment of the adequacy of the project financial management system (carried out in accordance with guidelines issued by the Financial Management Sector Board on October 15, 2003) concluded that the project meets the minimum Bank financial management requirements, as stipulated in BP/OP 10.02. The Project will have in place an adequate project financial management system that can provide, with reasonable assurance, accurate and timely information on the status of the project in the reporting format agreed with the project organizations as required by the Bank. The overall project financial management is considered low risk. There are no outstanding audit reports with any of the implementing organizations involved in the proposed project.

2. The Commission on Audit (COA) has rendered an unqualified opinion on the 2003 financial statements of LBP and on the three existing Bank-financed projects, with an additional paragraph describing the issue on the effect of the different exchange rates used on foreign funded projects. This issue was elevated to the Department of Finance (DOF) for resolution, as it involves interpretation of a memorandum of agreement between the LBP and DOF. This issue though will not affect the project financial statements as the sub-loan to MWCI will also be in the same currency as the Bank loan to LBP.

3. The Bank loan to LBP will be on-lent to MWCI, which will be responsible for providing the counterparts funds.

Disbursement Arrangements

4. **Allocation of Loan Proceeds**: The Project will be disbursed over a period of 5 years under a Specific Investment Loan as a Fixed Spread Loan. Proceeds of the Loan would be disbursed against expenditure categories as follows:

Expenditure Category	IBRD Loan Amounts in Japanese Yen Million	Financing Percentage
1. Civil Works	5,743.00	75 %
2. Goods	660.0	100% of foreign expenditures, 100% of local expenditures (ex-factory), and 65% of local expenditures for other items procured locally
3. Services	189.0	100% of fees of tax-exempt consultants, 87% of fees of consulting firms, 82% of fees of individual consultants
Total amount of the Loan	6,592.00	

5. **Use of Statements of Expenditures (SOEs).** Proceeds of the Loan may be withdrawn from the Bank on the basis of SOE for expenditures not meeting the prior review thresholds set in

Annex 8 and on submission of full documentation and signed contracts for expenditures exceeding the prior review thresholds.

6. **Funds Flow and Special Account (SA).** The Borrower, (LBP) will open and maintain a Dollar special account (SA) in a commercial bank acceptable to the Bank with an authorized allocation of US$ 4.0 million. Bank funds would be disbursed to the SA managed by LBP, and would be passed on to MWCI's Dollar Project Account (PA) as needed based on eligible expenditures incurred. Equivalent Dollar amount from the Dollar PA will be automatically converted into Pesos and transferred to MWCI's Peso PA to fund eligible expenditures incurred, payable in Pesos. SOEs to support withdrawal applications for submission to the Bank may be prepared by MWCI for LBP. Front-end fee will not be capitalized and will be fully paid by LBP. LBP will be directly responsible for the management, monitoring, maintenance and reconciliation of the SA.

Financial Management and Reporting Arrangements

7. **Implementing Entities.** LBP, the Borrower, is a government-owned financial institution established as financial intermediary of the Land Reform Program of the government and later became a universal bank by charter with expanded commercial banking powers. MWCI, the implementing agency, is a private company registered with the Securities and Exchange Commission and the Board of Investments in the Philippines.

8. **Financial Management Organization and Staffing.** In LBP, the departments involved in financial management for this proposed project are the Accounts Management Group (AMG), International and Treasury Operations Department (ITOD) and Loans Implementation Department (LID), all of which have adequate highly qualified staff. ITOD & LID have adequate experience with Bank-financed projects. MWCI likewise has adequate highly qualified staff in financial management, however, with limited experience in Bank-financed projects. The Bank will conduct a brief orientation on this area, to cover the Bank's policies and procedures on financial management, disbursement and procurement.

9. **Accounting Policies and Procedures.** The Project will be mainstreamed and will use the same financial management policies and procedures currently used in LBP and MWCI. The financial management policies and procedures of both entities have been assessed and found to be adequate. To strengthen its financial management system, MWCI is in the process of consolidating all the policies and procedures memoranda issued over the years into a financial management manual. The manual will be completed and adopted by all departments prior to loan effectiveness.

10. **Reporting and Monitoring & Information System.** MWCI as a private entity, prepares its financial statements in accordance with generally accepted accounting principles in the Philippines, which are not different from International Accounting Standards (IAS). LBP will adopt IAS in 2005 following the circular issued by the Bangko Sentral ng Pilipinas, which require all financial institutions to adopt IAS in 2005. The effect on the adoption of IAS on LBP's financial condition and results of operations has not yet been determined. Both MWCI & LBP have computerized management system but cannot report on project expenditures separately. MWCI will export the project expenditures data from its computerized financial management system to Excel to report on disbursements by project categories and components/activities. LBP will use a spreadsheet to report on the project receipts and disbursements.

11. **External Audit and Project Audit.** The Commission on Audit (COA), the country's supreme audit institution, is the auditor for LBP. COA conducts its audit in accordance with laws, COA and International Organization of Supreme Financial Institutions standards, and applicable auditing standards. Sycip Gorres Velayo & Co. (SGV), a private accounting firm & a correspondent of Ernst & Young, are the external auditors of MWCI. SGV conducts its audit in accordance with auditing standards in the Philippines, which are not significantly different from the International Standards on Auditing. COA and SGV will apply the same auditing standards in the audit of the project financial statements. MWCI shall include in the external auditor's term of reference (TOR) the audit of the project transactions. This TOR will be agreed with the Bank prior to loan negotiation. COA's TOR for this proposed project will be similar to its work on existing Bank-financed projects. The required audit reports and the due dates are shown in the following table.

Audit Report	Due Date
MWCI: Annual audited financial statements (balance sheet, income statement, statement of cash flows), together with the notes to the financial statements.	No later than 6 months after end of MWCI's fiscal year
Project financial statements (balance sheet and statement of receipts and disbursements for the current period and cumulative), together with the notes to the financial statements.	No later than 6 months after end of MWCI's fiscal year
Auditor's management letter issued to MWCI	No later than 6 months after end of MWCI's fiscal year
LBP: Annual financial statements (balance sheet, income statement, statement of cash flows), together with the notes to the financial statements	No later than 6 months after end of LBP's fiscal year
Project financial statements (Statement of receipts and disbursements for the current period and cumulative and of Special Account Balance as of report date)	No later than 6 months after end of LBP's fiscal year
Auditor's management letter issued to LBP	No later than 6 months after end of LBPs fiscal year

12. **Internal Audit:** LBP internal audit group (IAG) has started, besides traditional compliance audit, the risk-based audit approach. IAG's credit review department has covered transactions for Bank-financed projects in its regular scope of work. MWCI internal audit department has been covering financial and operations audit but is also starting to implement a risk-based approach. While supporting internal controls of the project, there is no requirement for the direct involvement of these internal audit units in the project. Both entities internal audit group/department have adequate and highly experienced officers and staff.

13. **Other reporting requirements.** MWCI through LBP shall furnish the Bank with quarterly Financial Monitoring Reports (FMRs) throughout the life of the project **within 45 days** after the end of each quarter. The reports shall consist of: (a) brief description of project progress; (b)

financial reports for the current period and cumulative to date, which shall include (i) project sources and uses of funds (loan proceeds and local counterpart funds), (ii) uses of funds by project activities, & (iii) balance sheet; (c) physical accomplishment; and (d) procurement. The physical accomplishment report must be linked to the financial report.

14. **Financial Management Action Plan.** The list of financial management time-bound actions is shown in the table below.

Action	Responsibility	Completion Date
Development and adoption of a financial management manual	MWCI finance	Before loan effectiveness
Conduct brief orientation on Bank policies and procedures on FM, procurement & disbursements for MWCI & LBP staff involved in the project	Bank FMS, PS& Disbursement Officer	Before loan effectiveness

Supervision plan

15. FM supervision shall be carried out once a year during project implementation to ensure that the loan proceeds are used appropriately. FM supervision may cover the following: (a) review of the maintenance of an adequate FM system by the implementing organizations; (b) review of SOE, where deemed necessary; (c) follow up of timeliness of FM reporting and actions taken on issues raised by external auditors; (d) review of financials as well as progress of the project; and (e) review of compliance with the financial covenant.

Annex 8: Procurement Arrangements

PHILIPPINES: Third Manila Sewerage Project

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Loan, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame have been agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect actual project implementation needs and improvements in institutional capacity.

2. **Procurement of Works.** Works procured under this project would include: (a) Taguig Sewerage System; (b) Riverbanks Sewerage System; (c) Quezon City-Marikina Sewerage System; (d) Quezon City sanitation upgrading; (e) Sanitation for low-income communities; and (f) two septage treatment plants (SPTPs). Procurement will be under the Bank's Standard Bidding Documents (SBD) for all ICB, and under the MWCI procurement forms and documents for all shopping for works (SW), following Sections 3.5 of the Procurement Guidelines.

3. **Procurement of Goods:** Goods procured under this project would include (a) about 70 units of truck mounted vacuum tankers; and (b) small maintenance and repair equipment. Procurement will be done according to the Bank's Standard Bidding Documents (SBD) for ICB, and under MWCI's procurement forms and documents for all shopping for goods (SG), following Section 3.5 of the Procurement Guidelines.

4. **Selection of Consultants:** Firms of consultants and individual specialists would be required for (a) information and educational campaign; (b) feasibility and other studies; and (c) special reviews and analysis. Short lists of consultants for services estimated to cost less than $200,000 equivalent per contract may be composed entirely of national consultants, in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

B. Assessment of the organizations' capacities to implement procurement

5. Manila Water Company, Incorporated (MWCI), the implementing organization, will carry out project procurement activities through its Project Delivery Team (PDT). PDT comprises staff from the Logistics, Project Management, Project controls and Engineering Departments. It is headed by a Project Manager, who will be responsible for the overall implementation of the Project and three other qualified technical staff. Among them is a sanitary/civil engineer who will work full-time for the project procurement. The Land Bank of Philippines (LBP), the borrower, will ensure that loan funds are used for purposes intended under the Loan Agreement. LBP's Accounts Management Group will monitor the procurement activities undertaken by MWCI through review of claims for disbursement from Loan funds.

6. An assessment of the capacity of MWCI to implement procurement actions for the project has been carried out by the, Senior Procurement Specialist. The assessment reviewed the

organizational structure for implementing the project and the interaction between staff responsible for procurement and other relevant units responsible for administration and finance.

7. The Assessment uncovered no major procurement issue. The Concession Agreement with the Metropolitan Waterworks and Sewerage System (MWSS) provides under section 6.10 that the MWCI, "at its sole discretion, shall determine the specifications upon which contractors will bid, and the criteria, including price and quality, by which the winning bid is selected." Based on this provision, handling of the procurement process solely rests with MWCI. Further, the Agreement states that MWCI "shall make available for public tender any contract involving the procurement of goods or service, in one or more installments, having a value in excess of Php 250,000,000 which amount shall automatically be adjusted on January 1st of each year by the percentage change in Composite Price Index for the preceding year." This amount is now estimated at about PhP 350,000,000 or US$7 million.

8. MWCI is handling an average of 700 contracts for about PhP 2.6 billion per year. Its established procurement policies and procedures were found to be transparent, efficient, economical and fair and in accordance with established private sector practices. The project is expected to have only about 15 contracts during five years, amounting to an average of PhP 715 million per year or about 28% workload increase in terms of amount and about 0.4% in terms of contract numbers to the Logistics Department. Consequently, in accordance with the Bank Procurement Guidelines, the procurement for the project would use MWCI procurement procedures and methods, which are acceptable to the Bank.

9. With due consideration of past experience and MWCI procurement performance, it is concluded that the overall project risk for procurement is low.

C. Procurement Plan

10. The procurement plan, agreed between the Borrower (LBP) and the Project Team of the Implementing Organization (MWCI), provides the basis for the procurement methods, the prior review thresholds and the timetable for procurement implementation. The complete procurement plan for each package (in Microsoft Project format) is available at MWCI Office, Balara, Quezon City, in the project's database, and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually (or as required) to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

11. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment has recommended annual supervision missions to visit the field to carry out post review of procurement actions.

E. Details of the Procurement Arrangements

Works and Goods. Proposed contract packages for works and goods are as follows.

1	2	3	4	5	6	7	8	9
Ref No.	**Contract (Description)**	**Estimated Cost US$million**	**Procurement Method**	**P-Q**	**Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Expected Bid-Opening Date**	**Comments**
SPTP1 A/SM	North SPTP	8.0	ICB	No	No	Prior	May 2005	Adv. proc.
SPTP 1B/TG	South SPTP	9.0	ICB	No	No	Prior	May 2005	Adv. proc.
WWTP 02/HP	Riverbanks sewer system	6.6	ICB	No	No	Post	June 2006	Below prior re- view thres-hold (PRT)
WWTP 03/QC-MK	QC-Marikina sewer system	4.9	ICB	No	No	Post	Aug. 2006	Below PRT
STP 04/QC	Upgrade communal septic tanks (CSTs)	14.5	ICB	No	No	Prior	Aug. 2006	
WWTP 01/HP	Taguig sewer system (Hagonoy)	2.4	ICB	No	No	Post	Apr. 2007	Below PRT
WWTP 05/TTL	Taguig sewer system (Tapayan, Labasan Ponds	7.0	ICB	No	No	Post	Aug. 2008	Below PRT
WWTP 06/PM	Sanitation low income com. (Pinagsamahan & Manggahan)	10.5	ICB	No	No	Prior	Apr. 2007	
DRU 01 QC-MK	Drainage rehab/ upgrade QC-Marikina sewer	0.3	SW	No	No	Post	Aug. 2007	Below PRT
DRU0 2/TTL	Drainage rehab/ upgrade Tapayan & Labasan Ponds	3.5	ICB	No	No	Prior	May 2008	
DRU0 4/PM.	Drainage rehab/ upgrade Pinagsamahan & Manggahan	1.3	SW	No	No	Prior	April 2007	
DRU0 4/HP	Drainage rehab/ upgrade Hagonoy DS	1.2	SW	No	No	Prior	May 2006	
MTVT 01	Truck-mounted tankers equipment	6.2	ICB	No	No	Prior	April 2006	
14	Sewerage equipment	0.2	SG	No	No	Post	June 2007	

12. Thresholds for ICB and for shopping method for Works (SW) and Goods (SG) were determined based on the nature and estimated value of the packages and the lesson learned from past experiences at MWCI. It also takes into account the capacity of local contractors including those accredited by MWCI.

13. The Bank's prior review threshold was determined based on the Procurement Capacity Assessment and the thresholds are as follows:

- ICB Works, estimated to cost above $10,000,000 equivalent per contract;
- Works under SW, estimated to cost above $1,000,000 equivalent per contract;
- ICB Goods, estimated to cost above $1,000,000 equivalent per contract;
- Goods following SG, estimated to cost above $100,000 equivalent per contract;
- All contracts under direct contracting method for goods that is proprietary in nature.

14. Consultancy services using QCBS and QBS methods estimated to cost above $750,000 equivalent, individual consulting services above $200,000 equivalent, and all sole sourcing of firms or of individual consultants, will be subject to prior review by the Bank.

Consulting Services. Proposed consulting assignments for short-listed international firms are shown in table below.

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost in US$ mill**	**Selection Method**	**Review by Bank (Prior / Post)**	**Expected Proposals Submission Date**	**Comments**
1	Info and education campaign	1.00	QBS	Prior	Mid 2007	Based on July 15, 2002 memo of OPCPR.
2	Feasibility and design studies	1.00	QBS	Prior	2007 - 2008	-do-
3	Special Studies	0.1	SSS	Prior	Anytime	
4	Special studies	0.1	ISS	Prior	Anytime	

15. **Short lists composed entirely of national consultants.** Short lists of consultants for services estimated to cost less than $200,000 equivalent per contract may comprise entirely of national consultants, in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Annex 9: Economic and Financial Analysis

PHILIPPINES: Third Manila Sewerage Project

I. Economic Analysis

1. **Method.** MTSP has adopted least cost analysis (LCA) within the context of the rate rebasing exercise that determines the level of willingness to pay of stakeholders (consumers and politicians) for water supply services and environmental improvement.

2. **The Baseline and the "Without the Project" Scenario:** At present, the water environment, with the exception of Laguna de Bay, is in a precarious state. Based on the Regional Environmental Assessment (REA, 2004), Pasig River, for example, has protracted periods of near zero dissolved oxygen, especially in the dry season. The REA also noted that although the Laguna de Bay has fair water quality, it is becoming more stressed. As over 30% of morbidity has been attributed to water borne diseases, the combination of increasing population and additional pollution load will accelerate environmental damage, morbidity, aesthetic degradation, resulting in ever increasing economic losses.

3. Metro Manila is considered to be the most polluted region in the country. Based on recent water quality data[13], the main water bodies surrounding Metro Manila are incapable of supporting a viable ecosystem during most months of the year, except for the lowest forms of aquatic life. With the current state of the environment, and the expectation of increasing pollutant loads, adopting a "without project" option would only make the environment more vulnerable to further damage, with significant adverse impact on the social and environmental fronts.

4. **Alternatives considered.** MWCI prepared its first master plan for the east concession area in 2000. This master plan envisioned construction of many small to medium scale treatment works employing separate sewer (collection) systems. This would have required acquiring a total land area of almost 50 hectares for the sewage treatment plants (STPs), resulting in a cost of PhP10 per cubic meter for wastewater in the water tariff. This was deemed to be politically unacceptable. In addition, experience with Manila Second Sewerage Project (MSSP) highlighted: (a) the low willingness of households to pay for sewerage services, even after community consultations and agreements prior to project implementation; (b) the low tolerance of local governments for traffic and community disruptions; (c) the lack of available land, and the high cost of land purchase, owing to unregulated informal settlements, new housing developments and generally high density populated areas; (d) the unclear enforcement arrangements for sewerage connections; and (e) other external factors, in particular the termination of ocean disposal of septage.

5. These concerns called the feasibility of executing the master plan in question, and resulted in revised service coverage targets in the 2003 rate rebasing that saw a substantial decrease in sewerage coverage targets and an increase in sanitation services. A 2004 business plan was developed to address the new service targets and endorsed the use of combined sewers, regional WWTPs covering expansive catchment areas that would cut across administrative boundaries of local governments and intensive septage collection and treatment. The decentralized approach and the use of combined sewers was expected to keep tariffs at politically acceptable levels as capital costs are minimized, connection rates are improved (since households would not have to

[13] Pasig River Rehabilitation Commission Water Quality Monitoring – Action Plan, 2002.

pay connection fees under combined sewers, a major problem encountered in past projects), disruption in social and economic activities are minimized and higher efficiency in reducing BOD loading in the water bodies is achieved. MTSP was developed to support the revised service coverage targets approved in the 2003 rate rebasing. It is consistent with the 2004 version of the master plan proposed and designed to guide future investments in sewerage and sanitation.

6. **Least Cost Analysis (LCA).** While recognizing the institutional constraints affecting the sector, and the resulting limitations of the concession agreement, the whole process of "rate rebasing" supports the adoption of a least-cost solution. All stakeholders in the East concession area accepted the established water tariff levels.[14] As a consequence, developing the project within the constraints of a water tariff accepted by stakeholders ensures that investments are the least cost to achieve project development objectives. The 2003 rate rebasing also resulted in a more efficient program of investments. Implementing the 2004 master plan would result in an estimated cost of about PhP 4.00 per cubic meter for wastewater services (in 2004 prices) compared to about PhP 10.00 per cubic meter (subject to inflation) to implement the 2000 master plan.

7. ***Wastewater Management.*** The 2003 sewerage service targets, included in the Rate Rebasing, are distributed throughout the service area and LCA was applied in finalizing the selection of the catchment areas in the project. Identification of project sites was largely dictated by the availability of land for treatment plants, including building on synergies with ongoing and planned projects on flood control, housing developments and urban renewal projects for land/location options, and the need to avoid land with uncertain ownership status. The scope of the catchment area was also influenced by the topography and layout of existing drainage in the catchment. The endorsement of the local governments where the project sites were to be located was also a major factor in site selection. While initially MTSP was aimed solely at mitigating environmental pollution, the project preparation saw the need to prioritize health impacts in some cases, resulting in the inclusion of drainage upgrading and rehabilitation in a number of the subcomponents. Design of the subprojects further considered compliance with DENR standards on effluent discharge, cost efficiency of investments, and the current state of development of specific project sites.

8. Cost efficiency was improved during project preparation by expanding the catchment areas where possible, increasing concentration of influents, and introducing innovations to address constraints posed by land availability[15]. Drainage rehabilitation and upgrading (covering open drains) will enhance health benefits, mainly by avoiding health costs associated with direct contact of the population with raw wastewater overflow, making private (household) benefits more effective, and responding to priority concerns raised in the community consultations.

9. ***Septage Management.*** The number, location, and size of the proposed septage treatment plants (SPTPs) were decided based on meeting the revised sanitation targets for 2011, including

[14] The water tariff approved in the 2003 rate rebasing is PhP 17.00 per cubic meter, based on a weighted average calculation. Of this amount, net of 10% VAT, PhP 0.59 is attributed to the recovery of MTSP costs. An additional PhP 1.20 per cubic meter would have to be recovered in the next rate rebasing in 2008 to cover the remaining costs of MTSP. It must be noted that acceptance of the water tariffs does not necessarily mean agreeing to pay for sewerage and sanitation services. Benefits of sewerage services are subject to the consumer's willingness to pay a sewerage surcharge of 50% of the water bill.

[15] For example, in the case of Poblacion (Makati), the STP would be constructed on a platform above an existing flood control retention pond. This solution increased the catchment area about five times from the original design

consideration of the SPTP to be provided under the ADB-assisted Pasig River Rehabilitation Project. Of about 800,000 septic tanks in the service area MWCI will service 80%; the remaining 20%, located along roads inaccessible to the tankers of MWCI, will continue to be serviced by private contractors. Septage collected by both the private contractors and MWCI will be treated in the SPTPs and disposed in lahar-affected areas, subject to DENR's regulation of the private contractors.

10. The alternatives for septage and sludge disposal included ocean disposal, land application, incineration and septage treatment. Ocean disposal piloted under MSSP was discontinued following pressures from NGOs and local governments, and Philippine law bans incineration. Land application of septage is currently being practiced in the lahar-affected areas in the north of Manila without any notable adverse environmental impact. Further treatment of septage is being pursued in the project to mitigate any possible health impacts on the population in the disposal areas and to align local environmental practices with global standards.

11. **Project Benefits.** The project will increase sewerage coverage from about 8% to 30%, and sanitation services from around 1.5% to 100% in the East concession area. About 3.3 million people are expected to benefit from these improvements. Additional benefits of the project include: (a) reduction in water-borne pollution in Metro Manila and the surrounding water bodies of Laguna de Bay and Manila Bay; (b) improvements in public health and well-being; (c) improvement in soil condition and crop yields in lahar-affected areas, where treated septage will be applied; and (d) information on the viability of new approaches for sewage management in Metro Manila.

12. ***Reduction of BOD load.*** The project will reduce total domestic BOD load in MWCI concession area by about 15,400 to 37,700tones/year. This reduction is about 14% to 31% of the total BOD generated and discharged in the area. While the impact on the water quality of the receiving water bodies is relatively insignificant, it is nonetheless a step towards recovery of some of the waterways considered at present to be biologically dead.

13. ***Public health benefits and improvement in well-being.*** Health improvements would result from improvements in the drainage system and treated effluent. The risks of the community coming into contact with raw wastewater are lessened, and the resultant benefit has been estimated at about PhP 300,000 per 1,000 persons/year[16]. The reduced risk benefit of people coming in contact with raw wastewater from overflowing septic tanks has been estimated at PhP 150,000 per 1,000 persons/year[17]. Finally, the Philippine Environment Monitor has estimated avoided health costs due to loss in direct income and medical costs of in, - and out-patients to be PhP 3.3 billion annually for the country. A significant portion of this cost may be attributed to water-borne diseases as they account for about 31% of morbidity, and to Metro Manila being the most polluted region in the country.

14. ***Improvement in land condition of lahar-affected areas.*** Dewatered septage and sludge will be applied on lahar-affected areas in the north of Metro Manila (Pampanga) to take advantage of the organic and nutrient content of the septage/sludge in reclaiming agricultural land. This would result in cost savings to farmers in terms of a reduction in the use of urea and inorganic fertilizer with the use instead of dewatered septage and sludge as fertilizers. While

[16] MTSP Feasibility Study, 2004, NJS Consultants
[17] Ibid

total cost savings was not estimated, savings would be based on the difference in the cost of inorganic fertilizer at PhP 10/kg (2004 prices) and the cost of application of the sludge.

15. ***Institutional benefits through improved approaches on sewage management.*** The project is the first of two pilots on the use of combined sewers for sewerage systems in the country. Lessons learned from the project will help improve the design of subsequent investments on sewerage and sanitation that are more socially, economically and politically acceptable.

II - Financial Analysis - MWCI

Past Performance: 1997 – 2004

16. During the first 2 - 3 years of the concession, MWCI struggled financially, largely because of external factors, the most important of which were the Peso devaluation and a severe water shortage caused by El Nino. However, with the large tariff increases implemented under Amendment No. 1 and the 2003 rate rebasing, as well as the passing of El Nino by the end of 1998, the company has now established itself as a commercially viable entity (Table 1). Other important factors contributing to improved financial performance have been strong growth in retail water sales and the substantial efficiency gains made by the company over the past few years. After incurring losses in 1997 and 1998, the company earned its first profit in 1999 with net income of PhP101 million ($1.9 million). Net income then increased in each of the next five years and was PhP1.34 billion ($24 million) in 2004. Earnings before interest, taxes, depreciation and amortization (EBITDA) also increased sharply over this period, from only PhP186 million ($3.4 million) in 1999 to PhP2.03 billion ($37 million) in 2004. Significantly improved profitability is reflected in the return on equity (ROE), which averaged 30% between 2002 and 2004, compared to only 6% between 1999 and 2001, and -6% in 1997 and 1998. With improved profitability, MWCI declared its first ever dividend in 2002 in the amount of PhP255 million ($4.7 million). The company has also declared dividends in both 2003 and 2004, of PhP112 million ($2.0 million) and PhP313 million ($5.7 million) respectively.

17. ***Tariff Increases***. The main factor driving revenue growth and profitability has been tariff increases. The average water tariff has increased by 360% between the commencement of the concession and January 2005, with almost three-quarters of this increase being implemented since the adoption of Amendment No. 1 in October 2001 (Table 2). With the interim rebasing adjustment made at the beginning of 2005, the average water tariff is now PhP15.32/m^3 compared to PhP3.32/m^3 over the first two years of the concession. As a result of these much higher tariffs, operating revenues have increased by over 310% between 1998, the first full year of the concession and 2004. While expenses have also increased over this period, the rate of increase has been considerably lower, just under 150%, which has led to greater profitability. Furthermore, despite these very large tariff increases, MWCI has actually improved its collections performance. Between 2000 and 2003, the proportion of annual billings collected during each year increased from 91% to 99%. In 2004, the collection rate was even higher, 101%, indicating that the company was collecting all current billings plus a share of past receivables. This very strong performance is attributable to a number of factors: (i) improved quality of water supply services, which has resulted in greater customer acceptance of the tariff increases, (ii) implementation of an incentive based collection program, under which personnel from the main office assist collectors, and staff earn bonuses for achieving specific targets; and, (iii) improved systems for receivables management, billing and customer payment.

18. ***Sales and Population Served.*** Since the commencement of the concession, MWCI's water sales to its own customers within the east zone increased by just over 60%, from an average of 495,000 m^3/d to about 800,000 m^3/d. This increase is primarily attributable to growth in the customer base rather than to increased unit consumption rates. Over this same period, the company added 115,000 new service connections, an increase of almost 40%. However, the actual increase in population served was even greater because of the company's focus on using bulk connections to extend water supply to lower income households. The estimated number of households receiving service increased by 70% between 1997 and 2004, from 325,000 to 556,000, which represents an increase in the served population from about 3 million to 5 million. However, this strong growth in sales to its own customers was not sufficient to entirely offset the decline in bulk water sales to MWSI. As a result, after peaking in 1999 just over 1 million m^3/d, total sales by MWCI have declined by 200,000 m^3/d. Bulk sales to MWSI peaked at 370,000 m^3/d in 1999, but were progressively reduced and finally eliminated by the end of 2003 as the work to physically separate the MWCI and MWSI water distribution networks was completed.

19. ***Efficiency Gains.*** Over the past two years, the most significant efficiency gains made by MWCI have been achieved through reductions in non-revenue water (NRW). Excluding the distorting impact of bulk sales to MWSI, the company has reduced NRW from an average of 54% in 2002 to 47% in 2004. Even more impressive was the improvement during 2004, where NRW was brought down from 51.5% in January to 43.4% by December. After more limited progress in previous years, the company's expenditures on NRW improvement are now generating substantial results. A major reason for this improvement appears to be the NRW reward/penalty mechanism that was introduced at of the beginning of 2003 as part of the rate rebasing. Under this mechanism, specific NRW targets have been set for each year over the five-year rebasing period. A financial reward or penalty is then assessed if MWCI's actual NRW is below or above the target set for the year.

20. The company has also made good progress in reducing staff levels to more satisfactory levels. Between 1997 and 2004, the number of staff per thousand water connections was cut from 6.5 to 3.6. Expressed in terms of the estimated number of households served, which takes into account the multiple households being served by a single service connection, the improvement over this same period has been from 6.3 to 2.8 staff per thousand household connections. This improvement is particularly significant, given that it does not include the 30% reduction in MWSS staff in the months prior to the transfer of these personnel into MWCI. However, the impact of these staffing efficiencies was partially offset by large increases in the unit cost of labor. Between 2000 and 2004, average salary, wage and benefit expense per employee increased by 45% or more than double the rate of inflation. This factor contributed to a significant increase in the unit cost of water produced over this period.

21. The most important reason for the increase in unit cost has been the shift from bulk sales to MWSI to retail sales. It is more expensive to produce and sell water to MWCI's own customers than to MWSI. Furthermore, major increases in electricity tariffs have also occurred since 2000, which increased power costs per cubic meter of water produced by 70%.

Table 1: MWCI - Key Performance Indicators

Indicator	1997	1998	1999	2000	2001	2002	2003	2004
Operating Indicators:								
Production (000 m^3/d)	1,542	1,261	1,668	1,690	1,716	1,663	1,578	1,517
Total Sales (000 m^3/day)	796	760	981	962	892	788	758	797
Retail Sales (000 m^3/d)	440	515	613	683	733	747	756	797
Bulk Sales (000 m^3/d)	356	245	368	279	159	41	2	0
NRW - Excl. Bulk Sales (%)	63%	49%	53%	52%	53%	54%	52%	47%
Service Connections (000)	311	324	333	332	353	370	397	426
Staff/Thousand Water Connections	6.5	5.1	4.7	4.6	4.3	4.1	3.8	3.6
Revenue, Earnings & Expenditures (P millions):								
Operating Revenue	421	989	1,310	1,420	1,606	2,617	3,687	4,079
EBITDA[1/]	(37)	(58)	186	225	304	934	1,813	2,028
Net Income	(38)	(68)	101	123	176	553	1,151	1,336
Capital Expenditures[2/]	171	429	273	251	380	735	1,271	3,053
Financial Indicators:								
Collection Performance[3/]	86%	96%	92%	91%	91%	95%	99%	101%
Cash O&M (P/m^3)[4/]	1.92	2.03	1.56	1.48	1.55	1.71	2.02	2.28
Current Ratio	4.4	3.3	5.1	5.4	5.2	2.1	2.1	1.1
Debt - Equity Ratio	0.0	0.0	0.4	0.8	1.0	1.3	1.3	1.1
Total Liabilities - Equity Ratio	0.5	0.2	0.6	1.1	1.3	1.8	1.7	1.5
Debt Service Coverage Ratio	NA	NA	NA	4.4	2.3	0.5	9.3	9.4
DSCR (Including Confees)	-0.4	-0.2	0.9	1.4	0.9	0.4	3.7	3.8
EBITDA/Capex+DS+Confees[5/]	-0.1	-0.1	0.9	0.5	0.4	0.3	1.0	0.6
Return on Equity	-7%	-4%	5%	6%	8%	21%	36%	30%

[1/] EBITDA: Earnings before interest expense, taxes, depreciation and amortization, but after foreign exchange losses or gains.

[2/] Net of interest during construction including concession assets.

[3/] Cash collection during the year as % of billing during the same year.

[4/] Cash operations and maintenance expense per m^3 of water produced, expressed in 1987 constant prices.

[5/] EBITDA divided by the sum of capital expenditures, debt service and debt service portion of concession fees.

Table 2: Average Tariffs[1/] (P/m^3)

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Non-Sewered Customers									
Water Tariff	3.32	3.32	3.61	3.76	5.22	7.75	11.47	11.57	15.32
Environmental Charge (10%)	0.33	0.33	0.36	0.38	0.52	0.78	1.15	1.16	1.53
VAT (10%)	0.37	0.37	0.40	0.41	0.57	0.85	1.26	1.27	1.69
Total Tariff	4.02	4.02	4.37	4.55	6.32	9.38	13.88	14.00	18.54
Sewered Customers									
Water Tariff	3.32	3.32	3.61	3.76	5.22	7.75	11.47	11.57	15.32
Environmental Charge (10%)	0.33	0.33	0.36	0.38	0.52	0.78	1.15	1.16	1.53
Sewer Charge (50%)	1.66	1.66	1.81	1.88	2.61	3.88	5.74	5.79	7.66
VAT (10%)	0.53	0.53	0.58	0.60	0.84	1.24	1.84	1.85	2.45
Total Tariff	5.84	5.84	6.35	6.62	9.19	13.64	20.19	20.36	26.96

[1/] Average tariff at end of year, except first quarter for 2005.

22. ***Capital Expenditures.*** As MWCI's financial performance has improved, the company has been able to substantially increase capital expenditures needed to reduce NRW and expand its distribution network. Over the past four years, direct annual spending by MWCI roughly doubled each year, from less than PhP400 million ($7 million) in 2001 to over PhP3 billion ($56 million) in 2004. Most of this spending has been focused on NRW reduction (53% in 2003 and 62% in 2004). Expansion of the water distribution network accounted for almost all of the rest.

23. ***Cash Flow and Debt Service.*** Driven by revenue growth, there has been a major improvement in operational net cash flows since 2000. Although net cash flow from operations has been positive since 2000, it was not sufficient to fully cover concession fee payments in both 2000 and 2001. As a result, the company incurred small cash deficits, totaling about PhP130 million ($2.4 million), which it covered by borrowing. However, beginning in 2002, cash generation had improved so significantly that it could cover all concession fees and still have a surplus. In 2004, net cash flow from operations, after payment of the concession fees was about PhP1.6 billion ($29 million). With much improved net cash flow, MWCI's capacity to service debt has remained satisfactory, even though debt levels have increased rapidly as it implements its capital investment program. The debt service coverage ratio (DSCR), which includes the debt service component of the concession fee as well as the debt service from MWCI's own loans, was 3.7 in 2003 and 3.8 in 2004, indicating a relatively strong capacity to service this debt.

Projected Performance: 2005 – 2014

24. *Proposed Financial Covenants.* Financial projections have been prepared for MWCI on an annual basis over the 2005 – 2014 periods (Tables 3 & 4). These projections are based on the requirement of the company to meet the terms of the concession agreement, including the revised service targets and rate of return agreed to under the 2003 rate rebasing, as well as to comply with the proposed MTSP financial covenants. The key financial covenants proposed for MTSP, which are the same as those applied to MWCI under its 2004 loan agreement with IFC, are:

- ***Debt Service Coverage Ratio (DSCR).*** The ratio of long-term debt, including concession fees, shall not be lower than 1.2. Concession fees are defined as the sum of those fees payable by MWCI to MWSS under clauses (i), (ii), (iii) and (iv) of Section 6.4

of the concession agreement, and those fees payable to MWSS by MWCI to cover that portion of loans designated for projects for the benefit of MWCI's service area which have been funded by MWSS from bilateral or multilateral sources after the commencement date of the concession.

- ***Total Liabilities to Equity Ratio.*** The ratio of total liabilities to shareholders equity shall not exceed 2.0. Total liabilities are defined as the sum of all current and non-current obligations of MWCI.

25. The financial projections are based on a number of key assumptions, which have been assessed and appear to be realistically achievable. The tariffs out to the end of 2007 are those already approved under the 2003 rate rebasing. Although the projections then assume that relatively large tariff increases are implemented under the 2008 and 2013 rebasings (38% and 31% respectively), these have been calculated in accordance with the concession agreement's rebasing methodology. The NRW improvements that are critical in enabling growth in water sales are slightly more optimistic than those agreed to during the 2003 rebasing, but are somewhat conservative relative to actual improvements made in 2004. The projected growth in water sales is based on more fully meeting existing demand within MWCI's current service areas, and extending its distribution network into existing urban areas not presently served by the company. The company's capital investment plan appears to be sufficient to achieve the NRW improvements and undertake distribution network extensions. However, because of these large capital investments, as well as those being undertaken by MWSS to develop new water sources, MWCI will need to carefully manage its cash flows so as to ensure that it can meet all debt service and concession fee obligations. The projections indicate that the DSCR will remain at or just above the covenant minimum of 1.2 during a number of years over the forecast period.

Table 3: MWCI - Projected Key Performance Indicators

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Operating Indicators:										
Production (000 m^3/d)	1,518	1,600	1,633	1,669	1,711	1,765	1,816	1,854	2,197	2,342
Sales (000 m^3/day)	836	889	954	1,008	1,065	1,130	1,200	1,267	1,374	1,521
NRW (%)	45%	44%	42%	40%	38%	36%	34%	32%	37%	35%
Average Tariffs[1/] (P/m^3):										
Water Tariff	15.32	16.16	16.90	22.78	23.78	24.60	25.78	26.96	34.62	36.20
Total Tariff - Sewered Customers	26.96	28.44	29.75	40.09	41.85	43.30	45.37	47.45	60.93	63.72
Financial Indicators:										
Cash O&M (P/m^3)[2/]	3.64	3.59	3.61	3.63	4.36	4.29	4.23	4.20	3.66	3.53
Current Ratio	1.1	1.1	1.0	1.0	1.0	1.0	1.3	1.1	1.2	1.1
Total Liabilities - Equity Ratio	0.9	1.2	1.5	1.5	1.5	1.7	1.7	1.7	1.5	1.3
DSCR (Including Confees)[3/]	2.2	1.5	1.2	1.5	1.3	1.3	1.2	1.2	1.5	1.5
EBITDA/Capex+DS+Confees	0.6	0.5	0.5	0.9	0.9	0.8	0.9	1.0	1.3	1.4
Return on Equity	27%	18%	17%	23%	19%	18%	17%	16%	22%	23%

[1/] Average tariff at end of year.

[2/] Cash operations and maintenance expense per m^3 of water produced, expressed in 2005 constant prices.

[3/] Debt service coverage ratio where debt includes all direct MWCI debt plus the debt service component of concession fees.

26 Sales and Profitability. Over the next decade, MWCI's financial performance is expected to be driven by strong revenue growth, due to large increases in both water sales and tariffs, together with limited increases in production costs. Water sales are projected to increase by

90% between 2004 and 2014, from 800,000 m^3/d to about 1.5 million m^3/d. Almost two-thirds of this increase is projected for the second half of this period when the largest new water source developments are scheduled to enter service. Over the first half of this period, with new supplies being much more limited, sales growth will need to come primarily from NRW reductions. NRW is projected to decline from 45% in 2005 to 38% in 2009, which will increase the supply of water available for sale by about 130,000 m^3/d. This projected improvement is somewhat greater than the targets set during the 2003 rebasing because actual performance to date has been better. However, relative to this actual performance, the projected improvements appear to be conservative, at least over the shorter-term. For example, the financial projections assume NRW is 45% in 2005, which is almost two percentage points higher than was actually achieved by the end of 2004. Over the longer-term, further reductions in NRW are realistically assumed to be more limited. By 2014, NRW is projected to be 35%, only three percentage points better than that estimated for 2009.

27. MWCI operating revenues are projected to more than double between 2005 and 2009, from PhP5.1 billion ($92 million) to PhP10.6 billion ($195 million). About two-thirds of this increase is due to higher tariffs, with the remaining one-third due to increased sales of water. However, beyond 2009, as new water sources are developed, the relative impacts of higher water sales and tariff increases on revenue growth become more balanced. Projected operating revenue in 2014 is PhP22.6 billion ($413 million). Net income is projected be PhP1.9 billion ($35 million) in 2005, a 45% increase over that in 2004, before declining by about 10% in 2006 because of the termination of the income tax holiday. Consistent with the regulated nature of its business, MWCI's annual net income beyond 2006 is projected to progressively increase, but only in line with revenue growth. Again, because profitability is regulated, ROE is anticipated to be fairly stable, averaging 20% over the 10 year forecast period. Given that it can achieve these profit levels, the company presently plans to pay about 25% of net income out to shareholders through annual dividends. However, the cash dividend policy may be changed at anytime by the company's Board of Directors.

28. ***Efficiency Gains.*** Beyond improved NRW, further efficiency gains are anticipated to be limited, except over the longer-term after the planned new water source developments enter operations. Between 2005 and 2007, the company anticipates that it can hold unit operating costs constant, at about PhP3.60/m^3 expressed in 2005 prices. In 2009, the unit cost of water produced is projected to increase to PhP4.40/m^3, but this is due almost entirely to bulk water purchases from the new 400,000 m^3/d BOT project, which should begin operating this year. Since this bulk water charge for water from this project incorporates total operating and capital costs, as well as the BOT operator's profit, MWCI's unit cash operating costs increase. However, after the first phase of the Laiban Dam project enters service in 2012, unit operating costs are projected to decline by 15% - 20%. Water produced by this project will be gravity fed into the distribution network, which reduces unit power consumption. The impact of the project in increasing MWCI's production and sales will further reduce overall unit costs, because fixed operating expenses can be spread over this larger volume of water.

29. ***Capital Investment Program.*** Achieving the sales growth projected over the next decade will require major capital investments in new water sources, system rehabilitation and distribution network expansion. Including investments in sewerage and sanitation, the most significant of which is MTSP, total direct capital expenditures by MWCI over the next decade are estimated at PhP33 billion ($600 million). Over the next five years, for which more detailed capital investment plans have been prepared, total spending is projected to be about PhP20 billion ($370 million). Of this total, network expansion accounts for 37%, sewerage and

sanitation (almost all of which is MTSP) for 25%, and NRW reduction for 24%. MWCI will rely heavily on debt to fund these investments. Net borrowings are projected to be over PhP15 billion ($280 million) during the next five years and PhP27 billion ($495 million) over the entire 10 year forecast period. In addition to these direct capital expenditures by MWCI, MWSS is also planning to undertake very large investments in developing new water sources, the most significant of which is the first phase of the Laiban Dam project, to be constructed between 2008 and 2012. MWCI will cover its share of the cost of these projects through the concession fee. As a result, annual concession fee payments will increase significantly, from an average of PhP500 million ($9 million) between 2001 and 2004, to PhP3.6 billion ($65 million) in 2009, and to PhP8.1 billion ($147 million) by 2014. Total concession fees over the 2005 – 2014 period are projected to be PhP40 billion ($735 million).

30. ***Debt Service.*** MWCI's very large capital investment program will place a significant financial burden on the company over the next decade. As a result, the company will need to carefully manage its cash flows so as to ensure that it can meet all debt service and concession fee obligations. The proposed debt service coverage covenant, which is already being applied to the company under its 2004 loan agreement with IFC, is intended to measure MWCI's ability to meet these obligations. The projections indicate that the DSCR is likely to remain at or just above the covenant minimum of 1.2 during a number of years over the forecast period. Debt service coverage is projected to be weakest in 2007 and then again in 2011 and 2012. In 2007, the DSCR is forecast to decline to 1.2 from 1.5 in 2006, largely because of an increase in MWCI debt service. After improving somewhat between 2008 and 2010, the DSCR is then projected to decline again to 1.2 in 2011 and 2012. This is due to a large increase in both direct MWCI debt service, and the debt service component of the concession fees. Most of the increase in concession fees is interest during construction and counterpart funding for Laiban Dam, both for the first phase construction (2008 – 2012), and a planned second phase (2012 – 2017). However, because this project is still in a relatively early stage of planning, the cost estimates and financing arrangements employed in the financial projections are preliminary. Therefore, the planning of this project needs to proceed with careful consideration as to the impact of its financing arrangements on MWCI debt service requirements.

31. ***Capital Structure.*** Although debt levels will increase significantly, MWCI should be able to maintain a capital structure with a satisfactory balance between its liabilities and equity. Largely because of this much higher debt, the ratio of total liabilities to shareholders' equity is projected to increase from 0.9 in 2005 and peak at 1.7 during 2010 – 2012, before gradually declining. At these levels, the company would fully comply with the existing IFC loan covenant (which is also proposed for MTSP) that requires this ratio not to exceed 2.0. The shorter-term liquidity position of the company is also projected to be satisfactory, but only very marginally so in a number of years over the forecast period. This is measured by the current ratio, which is projected to be only 1.0 to 1.1. The low current ratio is due in part to the relatively large current portion of debt due in each year over the forecast period. However, a second important reason is the assumption of the financial projections that all cash above a minimum needed to cover two months of operating expenses and concession fees, is paid out as dividends. Since dividends are paid on a discretionary basis according to the financial capacity of the company, the actual payout in each year would be set so as to maintain an adequate liquidity position.

Table 4: MWCI - Actual & Projected Financial Statements

Year Ending 31 December (P millions, current prices)

	Actual				*Projected*									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Balance Sheets														
Assets														
Current Assets	1,687	2,147	2,392	2,193	1,611	1,857	2,347	2,857	2,572	2,715	3,571	3,817	4,923	5,111
Property, Plant & Equipment	1,177	1,891	3,048	5,725	9,190	13,300	17,899	20,862	22,981	25,350	26,987	27,459	27,013	26,469
Concession Assets	1,977	3,170	3,422	3,437	4,019	4,698	5,474	7,648	10,680	15,381	19,172	24,927	29,191	34,344
Other Non-Current Assets	948	638	820	1,382	2,429	2,972	3,448	3,900	4,300	4,538	4,877	5,316	5,809	6,244
Total Assets	5,789	7,846	9,683	12,737	17,249	22,826	29,168	35,267	40,533	47,984	54,606	61,519	66,936	72,168
Liabilities & Shareholders' Equity														
Current Liabilities	581	1,111	1,264	2,062	1,406	1,751	2,301	2,859	2,511	2,660	3,589	3,648	4,324	4,855
Loans Payable	2,326	3,603	4,537	4,973	5,782	9,786	14,181	16,703	20,422	25,583	29,022	33,373	33,125	33,388
Other Liabilities	396	395	494	568	941	1,006	1,076	1,657	1,707	1,757	1,835	2,063	3,015	3,154
Total Liabilities	3,303	5,108	6,295	7,603	8,129	12,542	17,558	21,220	24,641	30,001	34,445	39,085	40,464	41,396
Equity	2,486	2,738	3,387	5,134	9,120	10,284	11,610	14,047	15,893	17,983	20,161	22,435	26,472	30,772
Total Liabilities & Equity	5,789	7,846	9,683	12,737	17,249	22,826	29,168	35,267	40,533	47,984	54,606	61,519	66,936	72,168
Income Statements														
Operating Revenue	1,706	2,564	3,508	3,944	5,130	6,192	6,928	9,545	10,580	11,561	12,809	14,657	19,599	22,560
Operating Expenses	1,417	1,436	1,606	1,817	2,124	2,396	2,582	2,894	3,661	3,890	4,182	4,453	4,750	5,107
EBITDA[1/]	289	1,128	1,902	2,127	3,006	3,796	4,346	6,651	6,919	7,671	8,627	10,204	14,848	17,454
Other Expenses, Net[2/]	128	570	752	791	1,085	2,060	2,538	3,649	4,127	4,671	5,431	6,808	9,430	10,947
Net Income	161	558	1,151	1,336	1,921	1,736	1,808	3,002	2,792	3,000	3,195	3,396	5,418	6,507
Cash Flow Statements														
Net Cash from Operating Activities	249	1,061	2,162	2,105	3,044	3,186	3,419	5,319	5,682	6,255	7,115	8,303	12,346	14,376
Cash Flows from Investing Activities														
Capital Expenditures	557	888	1,373	3,134	4,056	5,017	5,899	4,612	4,044	4,533	4,134	3,262	2,587	2,781
Concession Assets	363	672	484	488	840	945	1,059	2,504	3,585	5,323	4,665	7,036	6,267	8,060
Net Cash from Investing Activities	919	1,560	1,857	3,622	4,895	5,962	6,958	7,115	7,630	9,856	8,799	10,298	8,853	10,841
Cash Flows from Financing Activities														
Dividends	0	0	(354)	(326)	(406)	(544)	(490)	(590)	(1,091)	(1,017)	(1,090)	(1,158)	(1,399)	(2,207)
Equity Injections, Net of Withdrawals	0	(157)	(389)	724	2,471	(28)	8	26	144	108	72	36	18	0
Interest Expense, Net	97	16	(35)	(41)	(202)	(229)	(254)	(194)	(347)	(586)	(656)	(1,399)	(1,763)	(1,573)
Loan Proceeds, Net of Repayments	727	1,039	933	826	1,241	3,985	4,685	2,561	2,811	4,861	3,800	3,877	(690)	(138)
Other Financing Activities	27	36	18	71	(932)	(385)	(159)	404	102	337	366	390	1,266	467
Net Cash from Financing Activities	852	934	174	1,254	2,172	2,799	3,790	2,207	1,619	3,703	2,491	1,746	(2,567)	(3,450)
Net Increase (Decrease) in Cash	181	435	479	(263)	320	23	251	411	(329)	102	807	(250)	926	85
Cash, End of Year	1,173	1,608	2,086	1,823	2,143	2,167	2,417	2,828	2,500	2,602	3,409	3,159	4,085	4,170

[1/] EBITDA: Earnings before interest, taxes, depreciation and amortization.

[2/] Interest expense, income taxes, depreciation, amortization and foreign exchange losses, net of interest income, foreign exchange gains, and non-operating income.

III - Financial Performance - LBP

32. The following summarizes LBP's operational and financial highlights for year 2001 through 2004. In the past 10 years, LBP was ranked among the top five commercial banks in the country. It is the fourth largest bank in terms of assets (PhP 287.7 billion), fifth in terms of loan portfolio (PhP 151.3 billion), and third in terms of deposits (PhP 214.9). Deposits have jumped 27.5% since 2001. Net income has also steadily improved from PhP 1.5 billion in 2001 to PhP 2.25 billion for 2004. Total LBP capital has, however, dropped slightly from the high level reached in 2003, from PhP 22.1 billion to PhP 20.9 billion at year end 2004. For 2004, LBP proposed to pay PhP 600 million in cash dividends and PhP 500 million in stocks to the National Government. In addition, other dividends were paid to preferred shareholders of approximately PhP 164 million.

LBP Operating and Financial Highlights

Parameter(in PhP million)	2001	2002	2003	2004
Interest Income	16,718	14,466	15,237	18,119
Interest Expense	6,709	5,228	5,213	7,223
Interest Income on Loans	10,836	8,134	8,492	10,229
Net Interest Income	10,009	9,239	10,024	10,896
Provision for Loan Losses	5,019	3,088	2,869	1,740
Personnel Expenses	7,224	8,069	8,293	10,127
Net Income	1,508	1,659	2,001	2,250
Total Assets	229,411	250,808	267,880	287,782
Gross Loans	121,073	121,163	128,739	144,048
Non Performing Loans	26,818	25,130	23,330	22,702
Deposits	168,533	179,451	184,922	214,905
Capital	18,868	20,766	22,072	20,951

33. LBP has realized steady improvements both in financial and operational performance. Profit performance, albeit low by industry norms, has improved slightly since 2001. Returns on assets have registered just below 1% in each of the 4-year period, while return on equity surpassed the 10% return threshold in 2004. The jump in the return on equity for 2004 is in part a result of a higher gearing ratio of 12.7 times. The higher yield to equity is also due to the relative decline of capital base primarily, due to the redemption of PhP 2 billion preferred shares held by the National Development Company in April 2004. The higher gearing ratio can also be more risky if LBP were not maintaining an adequate capital base.

LBP Performance Indicators

Parameter	2001	2002	2003	2004
Return on Assets	.69%	.69%	.77%	.79%
Return on Equity	9.24%	8.25%	9.34%	10.68%
Return on Revenue	9.0%	11.5%	13.1%	12.4%
Debt Equity Ratio (Times)	11.2	11.1	11.1	12.7
Average Lending Rate (Gross)	8.95%	6.71%	6.60%	7.10%
Net Interest Margin	5.80%	4.74%	4.63%	4.65%
Personnel Expenses to Total Assets	1.42%	1.53%	1.50%	1.69%
Non Performing Loan Ratio	22.1%	20.8%	17.1%	15.0%
Reserves to NPLs	52.2%	60.7%	72.8%	80.6%
Liquid Assets to Deposits	40.5%	31.4%	30.7%	31.7%
Capital Adequacy Ratio	10.6%	14.6%	14.7%	13.7%
Contribution Margin (Gross)	59.9%	63.9%	65.8%	60.1%
Contribution Margin (Net)	29.9%	42.5%	47.0%	50.5%

34. LBP's performance has been impressive in its lending and other financial operations as reflected by the contribution margin. The gross margin, without the deduction for probable loan losses, registered in the area of 60% and improved slightly from 2001 to 2004. However, when deducting for loan losses, the improvement is dramatic, going from only 29.9% in 2001 to more than 50% by 2004, or a 68.8% increase.

35. During the same period, the interest rate margin ("operational spread" hovered around 4.5%, except in 2001 where it had reached 5.8%. The high net margin achieved in 2001 versus the other better performing years can be partly explained by the fact that market interest rates were higher in 2001 as shown by the average lending rate of 8.95%. While higher spread may be achieved in times where market rates are high, they do not necessarily ensure operational efficiency. In this case LBP showed better operational performance in 2002-2004 through improvement in the quality of its loan portfolio, despite lower net margins.

36. LBP's capital adequacy ratio in 2004 stood at 13.7 percent, above the Bangko Sentral ng Pilipinas (BSP) standard of 10 percent, and the BIS benchmark of 8 percent. The decline from 2003 and 2002 is in part due to the decrease in capital as a result of the dividend payments and redemption of preferred shares.

Annex 10: Safeguard Policy Issues

PHILIPPINES: Third Manila Sewerage Project

1. **Applicable Safeguard Policies:** In accordance with Bank guidelines, the project has been classified as Environmental Category A because of potential environmental and social issues associated with infrastructure works and operation of wastewater treatment facilities. Philippines assessment and reporting requirements (the "*Environmental Impact Statement*") are compatible with the Bank Safeguards Policies. Through the Administrative Order No. 2003-30 (DAO 2003-30) of the Department of Environment and Natural Resources (DENR), the national regulatory framework requires MWCI to obtain an Environmental Compliance Certificate (ECC) prior to the start of construction activities.

2. **Institutional Responsibilities:** The Land Bank of the Philippines (LBP), as the Borrower, shall be responsible for ensuring the completeness and accuracy of all MTSP environmental reports to be submitted to the Bank. LBP, through its environmental/social unit, will perform an oversight function to ensure that environmental loan covenants are complied with, and that the EMP is properly incorporated into the contracts used by MWCI to implement the project. MWCI would be primarily responsible for compliance with all social and environmental safeguards by securing proper implementation of the ECC, EMP and RAP.

3. Both LBP and MWCI have extensive experience in the preparation and implementation of similar World Bank projects. Through the implementation of the ongoing WDDP, LBP has developed effective working procedures for on-lending activities. MWCI has extensive experience with Bank procedures, as this project is a follow-up to the ongoing MSSP.

4. **Environment Impact Assessment.** MWCI has furnished the following safeguard documents to LBP and the Bank:

- An ***Environmental Impact Statement*** (EIS), which includes: (a) overview of baseline conditions, assessment of impacts, and the accompanying Environmental Management Plan (EMP) describing measures to mitigate and monitor the project; (b) consultations conducted with all stakeholders for all project components and sites; (c) a Lahar study ("*EA for sludge/septage-use as soil conditioner for sugar cane growth in Lahar-laden areas*"), launched partly as a reply to experiences in MSSP; and (d) a bio-solids management study, detailing the overall sludge management strategy.
- An ***Environmental and Social Assessment Framework*** (ESAF), which describes the safeguard policies and procedures (environment assessment, resettlement, land acquisition) to be applied for future compliance work for various additional project activities.
- A ***Regional Environmental Assessment*** (REA), describing impacts and strategic recommendations to strengthen overall wastewater management in the Metro Manila area. As a result of the change from MWSS to LBP as the Borrower, the REA became a complimentary strategic document to the project, rather than a document describing formal commitments of the Borrower.

- A ***Land Acquisition, Resettlement and Rehabilitation Policy***, which summarizes policies, taking into account earlier comments provided by the Bank.
- A ***Resettlement Action Plan*** for the 11 affected households at the proposed San Mateo Septage Treatment Plant.
- A ***Resettlement Action Plan*** for the 3 households occupying the CST20-Road 5 CST site in Quezon City.

5. **Summary Environment Benefits, Impacts, Risks and Mitigation Measures.** MTSP will bring overall positive environmental impacts by reducing health risks from exposure to wastewater and polluted surface waters as elaborated in EIA and REA. Implementation of wastewater charges will strengthen the basis for a sustainable framework for the funding of the long-term environmental protection in the area. All adverse environmental and social impacts during construction and operation will be mitigated and risks are within acceptable limits. Furthermore, the ESAF for the project provides for future guidance on unforeseen environmental and social impacts.

6. **Quantification of project benefits.** Project benefits in terms of BOD removed has been estimated as follows.

Summary	**BOD tones/day Lower case**	**BOD tones/day High Case**	**BOD tones/year Lower case**	**BOD tones/year High Case**
Generated BOD in MWCI area	296.1	329	108,076	120,085
Sewage component will remove BOD	37.6	47.5	13,724	17,300
Septage component will remove BOD	4.6	55.9	1693	20,400
Total removal of BOD by the project	42.2	103.4	15417	37,700
Performance in removing residential pollution in BOD			14%	31%

7. **Critical impacts and risks.** There have been a number of critical issues and risks related to the MTSP. These have been addressed in the EMP as follows:

- *Resettlement.* A total of 14 households will have to be resettled (3 families in Road 5, Quezon City and 11 families in San Mateo) as a result of the project. For these two sites, abbreviated RAPs have been prepared and compensation and relocation procedures will be applied as specified in the MTSP Land Acquisition, Resettlement and Rehabilitation Policy Framework.
- *Disposal of Septage and sludge.* Disposal of septage and sludge in lahar areas has been shown to improve soil condition and bring benefits for the farmers. Disposal has been piloted in the area for over 12 months using 120 tones/ha of sludge, which has increased production of sugarcane by 28 %. No adverse impacts have been measured or are foreseen because of the strict application of proper selection criteria (based on US-EPA standards) for disposal sites and application procedures. However, considering the lack of long-term experience with sludge/septage disposal in the lahar areas and in the Philippines, an extensive monitoring program has been defined in the EMP.
- *DPWH Project.* MTSP is expected to use four flood retention ponds included in the DPWH Project as secondary sewage treatment facilities. The DPWH project obtained

DENR clearance on June 18, 1993. A "due diligence" assessment was conducted by the Bank, with respect to the applied social and environmental safeguards standards, in particular to the land acquisition process as a part of project preparation. The assessment revealed that while there are differences in the methodologies and procedures in dealing with land acquisition and resettlement between the DPWH project and Bank-assisted projects, these aspects are being covered (various types of losses are compensated and resettlement assistance is being provided) to the satisfaction of the Bank. The outcomes for the people, who were resettled, for the completed parts, are comparable to what they would have been under Bank policies. There are outstanding and unresolved claims regarding land titling, but systems are in-place to address grievances. Also, there is strong support from the concerned LGUs to assist displaced persons in seeking redress to their concerns regarding the realignment of the dike, and a commitment on the part of DPWH to ensure that the new resettlements are adequately addressed in the project.

8. **Land Acquisition and Resettlement:** No acquisition of private land will be needed except for the North (San Mateo) SPTP, where MWCI purchased a 1.5 hectare property from a private landowner at market rate. Most land to be utilized for the project is public land, covered or to be covered by "usufruct" agreements/MOA between MWCI and the concerned LGU/government agency.

9. **Monitoring, auditing and reporting:** Monitoring, auditing and reporting procedures related to the EA implementation, covering both biophysical and socio-economic parameters, are described in the EMP and in the DENR-issued ECC for the project. More specific resettlement-related monitoring is provided in the Land Acquisition, Resettlement and Rehabilitation Policy Framework, and in the Resettlement Action Plans that have been prepared for specific components. Monitoring arrangements include:

- *Internal monitoring.* To ensure that the proper implementation of the Environmental Mitigation Plan (EMiP) and the Environmental Monitoring Plan (EMoP), which are part of the EMP, are being observed during the pre-construction, construction and operation of each project, MWCI's site managers, wastewater project development team, plant managers and Pollution Control Officer (PCO) of each site will be responsible for the implementation.
- *External monitoring.* An external auditor will be engaged to serve as a third party monitoring unit during the project implementation. The auditor will check MWCI's compliance with the EMiP and EMoP. During the operation of the treatment plants the MWSS Regulatory Office, DENR, and LLDA will monitor the effluent quality in terms of compliance with DENR standards. Monitoring, auditing and reporting procedures related to EA implementation, covering both biophysical and socio-economic parameters, are described in the EMP and in the DENR-issued ECC for the project.

10. MWCI and others responsible for supervision will provide reports for the identified monitoring indicators as required by regulatory bodies. Additionally, the proponents will supervise major environmental and social issues. MWCI/LBP will provide project-affected groups and the general public with a means of disclosing project information and filing complaints on environmental issues (including noise and other nuisance effects). The project

proponent will respond to complaints and provide records of complaints and responses to the fund manager, as part of the supervision reports. All reports to be submitted to the DENR related to MTSP shall be prepared by MWCI, forwarded to DENR, and copied to LBP.

11. The costs of mitigating construction impacts will be included in the costs of facilities. Other mitigating and monitoring costs (odor, noise, workers health, site safety and hygiene) will be borne by MWCI. As part of the monitoring/impact assessment to be carried out at the end of the project, proponents will evaluate the effectiveness and implementation of the EMP. The evaluation will be attached to the final report and lessons learned will be incorporated into the EMP and EA process for future projects, as appropriate.

12. **Consultation and Participation.** The Environmental Impact Assessment (EIA) for the Project was conducted to comply with the requirements of DENR in accordance with DENR Administrative Order (DAO) No. 2003-30. The EIA process, which requires extensive consultations, started with meetings with the EMB-NCR, EMB, EIA Review Committee (EIARC) representatives, all departments of DENR, and various stakeholders from both the local and national levels. Meetings were held and scrutinizing workshops were conducted to elicit issues and concerns from the stakeholders, including non-government organizations (NGOs) and local government units (LGUs). Subsequently, surveys and interviews, public consultations with concerned barangays and communities, and focus group discussions with local government officials (Barangay and municipal level) were conducted in all project sites. The findings, issues and concerns were later incorporated in the scope of the EIS. Proceedings were documented and included in the Scoping Report submitted to EMB in January 2004.

13. **Disclosure.** All environmental documents prepared by MWCI were publicly disclosed on February 11 2005 at the InfoShop in Washington and in the Knowledge Development Center of the World Bank Manila Office. At that time, one set of reports was also sent to every City and Municipality in the MWCI concession zone and concerned municipalities in the lahar-affected areas with a request to make the set available to the public in the public library, with notices posted in prominent places. The documents were posted in LBP and in MWCI public library; advertisement was posted in the newspaper on February 16, 2005, regarding the availability of the documents for public consultation. LBP also posted a copy of the newspaper advertisement in the public board of its branches in the project area for wider disclosure.

Annex 11: Project Preparation and Supervision

PHILIPPINES: Third Manila Sewerage Project

	Planned	Actual
PCN review	10/16/2003	10/16/2003
Initial PID to PIC	11/07/2003	11/20/2003
Initial ISDS to PIC	10/07/2003	01/06/2005
Appraisal	03/14/2005	03/21/2003
Negotiations	04/14/2005	04/29/2005
Board/RVP approval	06/21/2005	
Planned date of effectiveness	11/21/2005	
Planned date of mid-term review	01/30/2008	
Planned closing date		

Key institutions responsible for preparation of the project: The list of key members of project organizations is shown in the following Table A.

Table A. Government and other Officials who worked on the project

Name	Agency	Title
Nieves Ozorio	DOF	Under Secretary
Robert Tan	"	Under Secretary
Soledad Emilia Cruz	"	Director
Librado Quitoriano	NEDA	Director
Antonino T. Aquino	MWCI	President
Sherisa P. Nuesa	"	Chief Financial Officer
Frank Beaumont	"	Operations & Capital Wks Director
Lala delos Reyes-Fabella	"	Manager, Wastewater Dept.
Eva Matibag	"	Project Development Manager
Erick Sangalang	"	Project Manager
Bong Cruz	"	Logistics Officer
Erna Buenaventura	"	Loan Monitoring Compl. Manager
Malou Bago	"	Manager, Logistic Department
Armi Santos	"	Internal Audit Sr. Manager
Flordeliza Morales	"	Manager 1, General Ledger-Asset
Ma. Lourdes Miranda	"	Manager 1, Operations Accounting
Conrado Santos	"	Associate Manager, Infrastructure
Josephine R. Asuncion	"	Sr. Finance Officer, Budget & Fin.
Eduardo Santos	MWSS RO	Chief Regulator
Cecilia C. Borromeo	LBP	Senior Vice-President, Account Management Group
Carlos T. Castro	"	Vice President, Program Lending Group
Jose Abelardo F. Agregado	"	Vice-President, Corporate Banking Dept. 1

Lucila E. Tesorero	"	Department Manager, International Fund Sourcing Dept.
Carol I. Olfindo	"	Account Officer, Corporate Banking Dept. 1
Eleanore R. Gonzales	"	Account Officer, International Fund Sourcing Dept.
Adelfa R. Masacupan	"	Account Officer, International Fund Sourcing Dept.
Lani R. dela Cuadra	"	Account Assistant, Corporate Banking Dept. 1
Orlando C. Hondrade	MWSS	Administrator
Macra Cruz	"	Administrator
Leonor Cleofas	"	Manager, Engineering & Project
Robert Jara	DENR	Project Director
Analiza Teh	"	Assistant Secretary
Erlinda Gonzales	"	Chief, EQD
Chua Thia-Eng	PEMSEA	Director
Stephan Adrian Ross	"	Senior Program Officer
Dolora Nepomuceno	LLDA	Assistant General Manager

Table B. Bank staff and consultants who worked on the project

Name	Title	Bank Unit
Luiz Claudio Tavares	Senior Water and Sanitation Specialist – TTL	EASUR
Mei Wang	Counsel	LEGEA
Hung Kim Phung	Senior Finance Officer	LOAG1
Mara Warwick	Environmental Engineer	EASUR
Cecilia Vales	Senior Procurement Specialist	EACPF
Ming Zhang	Economist/Urban Planner	EACPF
Aldo Baietti	Senior Finance Specialist	EWDWS
Jitendra J. Shah	Lead Environmental Engineer	EASES
Maya Gabriela Q. Villaluz	Operations Officer-Environment	EASES
Preselyn Abella	Financial Management Specialist	EAPCO
Jose Tiburcio Nicolas	Operations Officer (Social Safeguards)	EASES
Vellet Fernandes	Program Asst./Document Processing	EASUR
Frank Radstake	Consultant-Environmental Specialist	EASUR
Mariles Navarro	Consultant-Economist	EASUR
Dan O'Hearn	Consultant-Financial Analyst	EASUR
Jaro Kozel	Consultant- Technical	EASUR
Alexander Bakalian	Peer Reviewer	MNSIF
Ede Jorge Ijjasz-Vasquez	Peer Reviewer	ENV
Joan Larrea	Peer Reviewer	CININ

Annex 12: Documents in the Project File

PHILIPPINES: Third Manila Sewerage Project

A. General

No	Name of the Document	Date of the Document	Prepared by
01	Concession Agreement	1997	MWSS
02	Amendment No. 1	2001	MWSS
03	MWCI 1997 Audited Financial Statements	1998	MWCI
04	MWCI 1998 Audited Financial Statements	1999	MWCI
05	MWCI 1999 Audited Financial Statements	2000	MWCI
06	MWCI 2000 Audited Financial Statements	2001	MWCI
07	MWCI 2001 Annual Report	2002	MWCI
08	MWCI 2002 Audited Financial Statements	2003	MWCI
09	MWCI 2003 Audited Annual Report	2004	MWCI
10	MWCI 2003 KPI and BEM Annual Report	2004	MWCI
11	MWCI 2004 Audited Financial Statements	2005	MWCI
12	Philippine Environment Monitor	2003	Bank

B. Studies and Designs

No	Name of the Document	Date of the Document	Prepared by
01	MTSP Environmental Impact Statement : Vol.1. EIS Main Report/Figures Vol.2. Summary of EMP Vol.3. Annex on Public Consultations Vol.4. Annex on Septage/Sludge Disposal in Lahar Areas Vol.5. Bio–solids Management Study	Feb. 11, 2005	MWCI
02	Regional Environmental Assessment (REA)	Feb. 11, 2005	MWCI
03	MTSP Environmental Impact Statement : Vol.1. EIS Main Report/Figures Vol.2. Summary of EMP Vol.3. Annex on Public Consultations Vol.4. Annex on Septage/Sludge Disposal in Lahar Areas Vol.5. Bio–solids Management Study Regional Environmental Assessment (REA)	Feb. 11, 2005	MWCI
04	MWCI Land acquisition, Resettlement and Rehabilitation Policy	Feb.11, 2005	MWCI
05	Resettlement Action Plan CST 20, Road 5	Feb. 11, 2005	MWCI

06	Resettlement Action Plan San Mateo Septage Treatment Plan	Feb. 11, 2005	MWCI
07	Resettlement Action Plan San Mateo Septage Treatment Plan	Feb. 11, 2005	MWCI
08	Master Plan	Dec. 20, 2004	NJS
09	Feasibility Study	Dec. 20, 2004	NJS
10	Manila Second Sewerage Project Financial Supervision of Metropolitan Waterworks and Sewerage System - Final Report	2002	Sierra West Consulting Group Inc.
11	Manila Second Sewerage Project Financial Supervision of Metropolitan Waterworks and Sewerage System - Final Report	2003	Sierra West Consulting Group Inc.
12	MWCI Rate Rebasing Submission – Charging Year 2003 Volume 1: Main Report Volume 2: Technical Annex – Final Bus. Plan	2003	MWCI
13	Manila Second Sewerage Project Financial Supervision of Metropolitan Waterworks and Sewerage System – Financial Report	2004	NIRAS Consulting Engineers & Panners A/S
14	MWCI Financial Projection Model: 050210MWC Fin'1 Model-WBIFC(1).xls	2005	MWCI
15.	Procurement Plan	Feb. 2005	MWCI

C. Bank Staff Assessments

No	Name of the Document	Date of the Document	Prepared by
01	Procurement Capacity Assessment	Jan. 2005	Cecilia Vales
02	Project Note: Economic Analysis	Feb. 2005	Mariles Navarro, Ming Zhang
03	Project Note: Land Bank of Philippines	Feb. 2005	Aldo Baietti
04	Financial Management Assessment Report	Feb. 8, 2005	Preselyn Abella
05	Social Safeguards Review of Metro Manila Flood Control Project	Feb. 17, 2005	Jose Tiburcio Nicolas
06	Financial Management Assessment Report	May 3, 2005	Preselyn Abella

Annex 13: Statement of Loans and Credits

PHILIPPINES: Third Manila Sewerage Project

			Original Amount in US$ Millions						Difference between expected and actual disbursements	
Project ID	FY	Purpose	IBRD	IDA	SF	GEF	Cancel.	Undisb.	Orig.	Frm. Rev'd
P066076	2004	JUDICIAL REFORM SUPPORT PROJECT	21.90	0.00	0.00	0.00	0.00	21.25	-0.65	0.00
P066397	2004	PH-Rural Power Project	10.00	0.00	0.00	0.00	0.00	10.56	0.19	0.00
P070899	2004	PH LAGUNA DE BAY INSTITUTIONAL STRENGTHE	5.00	0.00	0.00	0.00	0.00	4.95	-0.05	0.00
P075184	2004	PH: Diversified Farm Income & Mkt. Devt	60.00	0.00	0.00	0.00	0.00	60.00	0.00	0.00
P072096	2004	PH-GEF-Rural Power Project	0.00	0.00	0.00	9.00	0.00	8.75	0.05	0.00
P073488	2003	PH - ARMM Social Fund	33.60	0.00	0.00	0.00	0.00	30.76	7.11	0.00
P077012	2003	PH KALAHI-CIDSS PROJECT	100.00	0.00	0.00	0.00	0.00	88.08	8.55	0.00
P071007	2003	Second Agrarian Reform Communities Dev	50.00	0.00	0.00	0.00	0.00	47.82	10.96	0.00
P069916	2002	PH-2nd Social Expenditure Management	100.00	0.00	0.00	0.00	0.00	53.21	-7.45	0.00
P069491	2002	PH-LGU URBAN WATER APL2	30.00	0.00	0.00	0.00	0.00	32.50	12.81	0.00
P066509	2001	PH-MMURTRIP-Bicycle Nwk	0.00	0.00	0.00	1.30	0.00	0.95	0.63	0.00
P066069	2001	LAND ADMIN & MANAGEMENT	4.79	0.00	0.00	0.00	0.08	1.53	1.62	0.00
P057731	2001	PH-Metro Manila Urban Transport	60.00	0.00	0.00	0.00	0.00	52.64	31.06	0.00
P058842	2000	PH - MINDANAO RURAL DEV	27.50	0.00	0.00	0.00	6.96	2.40	9.36	3.86
P059933	2000	PH - COASTAL MARINE	0.00	0.00	0.00	1.25	0.00	0.89	1.60	0.57
P039019	2000	PH-First Nat'l Rds Improve.	150.00	0.00	0.00	0.00	0.00	76.36	76.36	0.00
P048588	1999	PH-LGU FINANCE & DEV.	100.00	0.00	0.00	0.00	40.00	44.37	59.97	10.27
P057598	1999	PH-RURAL FINANCE III	150.00	0.00	0.00	0.00	0.00	49.37	49.37	0.00
P004566	1998	PH-EARLY CHILD DEV.	19.00	0.00	0.00	0.00	0.00	3.62	3.62	0.00
P004576	1998	PH-WATER DISTRICTS DEV.	56.80	0.00	0.00	0.00	10.73	12.33	41.27	2.00
P004595	1998	PH - COMMUNITY BASED RESO	50.00	0.00	0.00	0.00	12.00	14.52	26.52	14.52
P004602	1997	PH-THIRD ELEMENTARY EDUCATION	113.40	0.00	0.00	0.00	20.10	28.85	48.95	28.85
P004613	1997	PH - WATER RESOURCES DEVE	58.00	0.00	0.00	0.00	16.27	4.40	20.67	0.74
P004611	1996	PH-MANILA SEWERAGE II	57.00	0.00	0.00	0.00	20.90	13.59	34.49	9.72
		Total:	1,256.99	0.00	0.00	11.55	127.04	663.70	437.01	70.53

PHILIPPINES
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

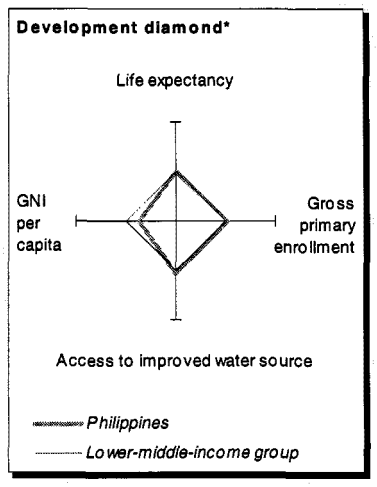
		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2001	AEI	1.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00
2001/02	APW Trade	0.00	0.00	0.66	0.00	0.00	0.00	0.66	0.00
	Alaska Milk	0.00	0.62	0.00	0.00	0.00	0.62	0.00	0.00
2000	Asian Hospital	7.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
2002	Banco de Oro	20.00	0.00	20.00	0.00	0.00	0.00	20.00	0.00
1998	Drysdale Food	8.97	0.00	0.00	5.13	8.97	0.00	0.00	5.13
2002	Eastwood	20.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
2001	Filinvest	22.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00
2004	Globe Telecom	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	H&Q PV III	0.00	5.76	0.00	0.00	0.00	5.76	0.00	0.00
1989	H&QPV-I	0.00	0.59	0.00	0.00	0.00	0.59	0.00	0.00
1993	H&QPV-II	0.00	1.11	0.00	0.00	0.00	1.11	0.00	0.00
2004	LARES	22.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00
2000	MFI MEP	0.00	0.12	0.00	0.00	0.00	0.12	0.00	0.00
2001	MNTC	46.00	0.00	0.00	0.00	33.48	0.00	0.00	0.00
2003/04	MWC	30.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	Mariwasa	11.29	0.00	3.12	0.00	11.29	0.00	3.12	0.00
1993	Mindanao Power	0.00	4.26	0.00	0.00	0.00	4.26	0.00	0.00
1993	Mirant Pagbilao	15.00	10.00	0.00	0.00	15.00	10.00	0.00	0.00
2001	PEDF	1.50	0.00	0.00	0.00	0.75	0.00	0.00	0.00
2002	PSMT Philippines	12.50	0.00	0.00	0.00	10.20	0.00	0.00	0.00
1992	Pilipinas Shell	0.00	1.56	0.00	0.00	0.00	1.56	0.00	0.00
2000	PlantersBank	0.00	0.00	8.71	0.00	0.00	0.00	8.71	0.00
1998	Pryce Gases	13.00	0.00	0.00	5.00	13.00	0.00	0.00	5.00
2000	STRADCOM	11.99	0.00	8.00	0.00	9.59	0.00	8.00	0.00
2003	SVI	0.00	4.00	0.00	0.00	0.00	2.00	0.00	0.00
1995	Sual Power	22.75	17.50	0.00	68.92	22.75	17.50	0.00	68.92
1992	Union Cement	0.00	5.63	0.00	0.00	0.00	5.63	0.00	0.00
1994	Walden Mgmt	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00
1994	Walden Ventures	0.00	0.58	0.00	0.00	0.00	0.58	0.00	0.00
	Total portfolio:	285.00	69.48	40.49	79.05	166.78	49.78	40.49	79.05

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic.
2004	Coastal Road	0.02	0.00	0.02	0.04
2002	Eastwood	0.00	0.00	0.00	0.00
2000	LTO Project	0.00	0.00	0.00	0.02
2001	PEDF	0.00	0.00	0.00	0.00
2002	S&R Price	0.00	0.00	0.00	0.00
	Total pending commitment:	0.02	0.00	0.02	0.06

Annex 14: Country at a Glance

PHILIPPINES: Third Manila Sewerage Project

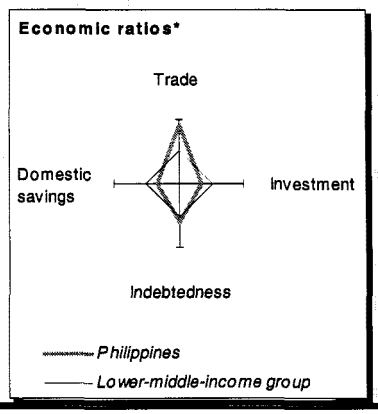
POVERTY and SOCIAL	Philippines	East Asia & Pacific	Lower-middle-income
2002			
Population, mid-year *(millions)*	79.9	1,838	2,411
GNI per capita *(Atlas method, US$)*	1,020	950	1,390
GNI *(Atlas method, US$ billions)*	81.5	1,740	3,352
Average annual growth, 1996-02			
Population *(%)*	2.2	1.0	1.0
Labor force *(%)*	2.3	1.2	1.2
Most recent estimate (latest year available, 1996-02)			
Poverty *(% of population below national poverty line) 1/*	28	..	..
Urban population *(% of total population)*	60	38	49
Life expectancy at birth *(years)*	70	69	69
Infant mortality *(per 1,000 live births)*	29	33	30
Child malnutrition *(% of children under 5)*	32	15	11
Access to an improved water source *(% of population)*	86	76	81
Illiteracy *(% of population age 15+)*	5	13	13
Gross primary enrollment *(% of school-age population)*	113	106	111
Male	114	105	111
Female	113	106	110



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

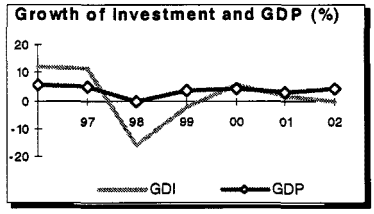
	1982	1992	2001	2002
GDP *(US$ billions)*	37.3	53.0	71.4	77.1
Gross domestic investment/GDP	27.9	21.3	17.6	18.6
Exports of goods and services/GDP	20.3	29.1	48.5	48.9
Gross domestic savings/GDP	22.1	16.4	19.0	17.7
Gross national savings/GDP	..	19.7	25.5	24.8
Current account balance/GDP	-8.6	-1.6	1.9	5.4
Interest payments/GDP	2.5	2.5	4.0	6.4
Total debt/GDP	65.4	62.3	80.9	77.7
Total debt service/exports	42.6	24.5	21.6	24.8
Present value of debt/GDP	..	..	77.4	..
Present value of debt/exports	..	..	132.7	..

	1982-92	1992-02	2001	2002	2002-06
(average annual growth)					
GDP	1.6	3.7	3.2	4.6	..
GDP per capita	-0.8	1.4	1.0	2.4	..

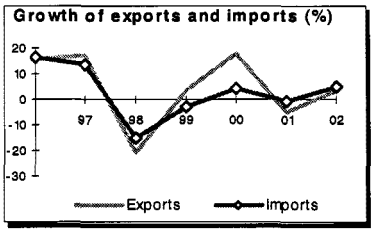


STRUCTURE of the ECONOMY

	1982	1992	2001	2002
(% of GDP)				
Agriculture	23.3	21.8	15.1	14.9
Industry	38.8	32.8	31.6	31.6
Manufacturing	25.1	24.2	22.8	22.9
Services	37.8	45.3	53.3	53.5
Private consumption	68.8	73.9	68.2	69.5
General government consumption	9.1	9.7	12.8	12.8
Imports of goods and services	26.1	34.0	47.0	47.8

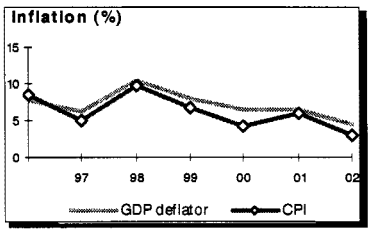


	1982-92	1992-02	2001	2002
(average annual growth)				
Agriculture	1.5	2.0	3.7	3.5
Industry	0.1	3.5	2.3	4.1
Manufacturing	1.3	3.5	2.9	3.3
Services	3.1	4.6	3.7	5.4
Private consumption 2/	2.8	3.9	1.9	7.1
General government consumption	1.9	3.9	0.3	1.8
Gross domestic investment	0.4	2.4	1.3	-0.6
Imports of goods and services	7.0	5.1	-0.8	4.9



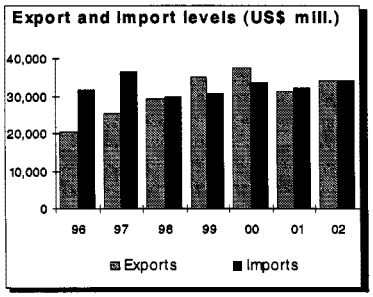
PRICES and GOVERNMENT FINANCE

	1982	1992	2001	2002
Domestic prices				
(% change)				
Consumer prices	..	8.9	6.1	3.1
Implicit GDP deflator	8.7	7.9	6.6	4.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	18.0	15.5	14.3
Current budget balance	..	2.1	-2.3	-5.3
Overall surplus/deficit	..	-1.2	-4.0	-5.3



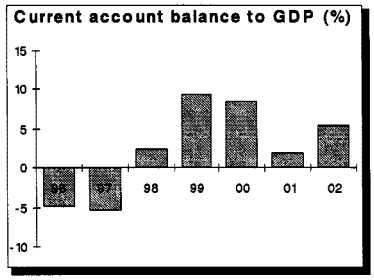
TRADE

	1982	1992	2001	2002
(US$ millions)				
Total exports (fob)	..	9,824	31,243	34,383
Electronics/Telecom	..	2,753	16,699	18,583
Garments	..	2,140	2,403	2,391
Manufactures	..	7,293	28,340	31,181
Total imports (cif)	..	14,519	31,986	33,975
Food	..	599	1,348	1,384
Fuel and energy	..	2,050	3,372	3,273
Capital goods	..	4,023	11,438	13,532
Export price index *(1995=100)*	..	..	..	..
Import price index *(1995=100)*	..	..	..	..
Terms of trade *(1995=100)*	..	..	..	..



BALANCE of PAYMENTS

	1982	1992	2001	2002
(US$ millions)				
Exports of goods and services	6,825	14,566	34,391	37,439
Imports of goods and services	9,467	16,834	37,184	38,295
Resource balance	-2,642	-2,268	-2,793	-856
Net income	-1,044	593	3,669	4,550
Net current transfers	486	817	447	503
Current account balance	-3,200	-858	1,323	4,197
Financing items (net)	2,471	2,350	-1,131	-4,857
Changes in net reserves	729	-1,492	-192	660
Memo:				
Reserves including gold *(US$ millions)*	..	4,338	15,658	16,180
Conversion rate *(DEC, local/US$)*	8.5	25.5	51.0	51.6



EXTERNAL DEBT and RESOURCE FLOWS

	1982	1992	2001	2002
(US$ millions)				
Total debt outstanding and disbursed	24,413	33,005	57,758	59,919
IBRD	1,519	4,179	3,250	3,324
IDA	49	166	204	208
Total debt service	3,513	4,302	9,004	11,271
IBRD	174	640	491	479
IDA	0	2	6	7
Composition of net resource flows				
Official grants	70	208	112	74
Official creditors	469	1,457	-258	-39
Private creditors	1,138	-1,330	2,883	1,057
Foreign direct investment	16	228	1,142	1,026
Portfolio equity	0	360	1,050	1,912
World Bank program				
Commitments	541	630	90	200
Disbursements	259	578	120	177
Principal repayments	61	325	312	327