



**PROJECT DEVELOPMENT FACILITY  
PROJECT FOR PIPELINE ENTRY AND PDF BLOCK B APPROVAL**

**AGENCY'S PROJECT ID:** PO79661

**GEFSEC PROJECT ID:** 2759

**COUNTRY:** Philippines

**PROJECT TITLE:** Manila Third Sewerage  
Project (MTSP)

**Related Program:** World Bank/Global  
Environment Facility Pollution  
Reduction Investment Fund for Large  
Marine Ecosystems of East Asia

<b>FINANCING PLAN (US\$)</b>	
<b>GEF ALLOCATION</b>	
Project ( <i>estimated</i> )	5,000,000
Project Co-financing	180,000,000
PDF A*	
PDF B**	350,000
PDF C	
PDF Co-financing	
<b>Total PDF Financing:</b>	<b>350,000</b>

**GEF AGENCY:** World Bank

**OTHER EXECUTING AGENCY(IES):**

**PDF B DURATION:** 12 months

**PROJECT DURATION:** 4 years (2006 - 2010)

**GEF FOCAL AREA:** International Waters

**GEF OPERATIONAL PROGRAM: OP10:** Contaminant-based program

**GEF STRATEGIC PRIORITIES: IW1** - catalyzing policy reforms and pollution reduction measures; and **IW3** - demonstrating, testing, and replicating innovative ways to reduce land-based pollution.

**ESTIMATED STARTING DATE (PDF-B):** June 2005

**ESTIMATED WP ENTRY DATE:** May 2006

**RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT:**

Name:

Date:

*Endorsement Letter from PH-OFP (DENR) is pending; it will be submitted separately for PDF-B Request submission.*

This proposal has been prepared in accordance with GEF policies and procedures.

*Steve Gorman*  
WB GEF Executive Coordinator  
Date: May 16, 2005

*Robin Broadfield*  
Project Contact Person  
Tel: 1 202 473 4355  
Email: rbroadfield@worldbank.org

## PART I - PROJECT CONCEPT

### A - SUMMARY

#### 1. STRATEGIC FRAMEWORK

East Asia's rapid economic growth has been accompanied by significant environmental degradation. Land-based pollution of the region's seas, coasts, estuaries and rivers is one of its most severe environmental problems and is degrading the region's large marine ecosystems. To help the littoral states address this problem, the GEF and World Bank, in collaboration with partners such as the GEF/UNDP/IMO Partnership for Environmental Management of the Seas of East Asia (PEMSEA), have agreed to establish a Pollution Reduction Investment Program for the Large Marine Ecosystems of East Asia (the Program), the objective of which is to scale-up investment in land-based water pollution reduction in the region's coastal areas and major river basins. The Program comprises an investment component that will co-finance World Bank pollution reduction investment projects and a revolving fund(s) component that will provide reimbursable financial incentives to private pollution reduction investors. The *Manila Third Sewerage Project (MTSP)* described herein is proposed for GEF co-financing from the Program's investment component.

Manila Bay is one of 35 pollution hotspots identified in the Transboundary Diagnostic Analysis for the South China Sea (UNEP, East Asian Seas Regional Coordinating Unit, 2000). The accelerated degradation of the Bay has significant negative impacts on the country's socio-economic activities and is considered a major source of transboundary pollution. In response to these challenges, the Manila Bay Coastal Strategy (MBCS) was prepared in 2001, with the support of the PEMSEA, and adopted by national and local stakeholders. The MBCS is a strategic framework and action program for bay-wide cooperation in the restoration of the productive capacity of the bay, as well as for addressing issues of transboundary concern in the South China Sea. The proposed project forms a significant step in the implementation of the MBCS and is fully consistent with it.

National level initiatives, most recently articulated with the enactment of the Philippines Clean Water Act of 2004, accord high priority to the pursuit of economic growth in a manner that is consistent with the protection, preservation and revival of the quality of its fresh, brackish and marine waters. The Act calls for the implementation of wastewater charge systems, and the establishment of a national program on sewerage and septage management. Establishing priority sewerage and septage projects for Local Government Units (LGUs) underpins the national program.

Interfacing the MTSP with the MBCS through the proposed project provides a mechanism for the institutionalization of a strategic partnership among the key institutional players in the management of Manila Bay, Pasig River and Laguna Lake. These bodies of water interact hydraulically and exhibit a serious state of degradation, principally caused by untreated domestic wastewater and industrial effluents. The

synergy of partnership among the institutions that manage these bodies of water, principally the Department of Environment and Natural Resources (DENR), Pasig River Rehabilitation Commission (PRRC) and Laguna Lake Development Authority (LLDA), will be harnessed and targeted to address the causes of land-based pollution and overcome barriers to increased investments. The long-term objective of attaining designated water quality standards within these bodies of water will only occur when and if the required investments in environmental infrastructure can be obtained.

## 2. PROJECT RATIONALE

About 90% and 15% of the population in Manila Metropolis (MM) is served with water and sewerage services, respectively; wastewater from only 8% is fully treated. The law mandates that each house be provided with a septic tank to remove solids. Regular service for septage removal started only recently. Less than 10% of the septic tanks have been serviced since their construction and have no effect on removal of pollution. Industrial and commercial wastewater is generally discharged with little or no treatment and all MM waterways are heavily contaminated. About 65-75% of pollution is residential sewage, while the rest originates in industries and solid wastes dumped into drainage systems or directly into rivers and coastal areas.

The Manila Waterworks and Sewerage Systems (MWSS) is responsible for the services in MM, and has made several attempts to systematically develop the sewerage. In 1960, 1979, and 1996 it completed master plans to identify solutions for collection and treatment of residential wastewater. But, except for some small parts and rehabilitations of existing facilities, the plans were not implemented due to prohibitive costs.

In the late 1990s MWSS privatized its operations in MM to two concessionaires: the western part to Maynilad Water Services Inc. (MWSI) and the eastern part to Manila Water Company Inc. (MWCI). Expansion of the services in the concessions is defined in terms of 5-year targets. In order to interpret their sewerage targets, the concessionaires amended the respective master plans for each operational area. MWCI's plan for the eastern concession is partially completed; it proposes to pilot the construction of small-scale self-standing systems for the combined collection of sewage and storm water runoff in clearly defined densely populated areas. This plan forms the current *MTSP* project supported by the Bank. MWSI's plan for the western concession will be completed in December 2005, and will be the subject of a new Bank project in FY06: *Private Sector Support to MWSS Financial Rehabilitation*.

One of the strategic interventions of the proposed project relates to the systematic identification of hotspot areas, where priority investments in sanitation and sewerage will be made under the *MTSP* and follow-on Bank investments. There are also areas within the three bodies of water that may have already reached non-attainment status because of uncontrolled discharges of sewage and septage. The major findings and activities of the proposed project would serve as integral inputs into the Concession Agreements and performance criteria of the MWSS, MWCI and MWSI, which are scheduled to be renegotiated in 2008.

Similarly, the proposed project is also expected to further define the scope of the new Bank project on *Private Sector support to MWSS Financial Rehabilitation* and respond to the considerable underinvestment in sewerage and sanitation within and outside of Metro Manila. The scope for increasing private sector exposure in the area is significant, with an estimated Php 250 billion (US\$ 5 billion) investment required in physical infrastructure over 10 years. The opportunity to demonstrate the technological viability of the joint sewage-septage treatment facility within MM and with potential replication within the Manila Bay region, in partnership with the private sector are deemed excellent avenues for GEF support.

### 3. OBJECTIVES

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.

The objectives of the GEF components of *MTSP* are aimed at reducing pollution loading discharges in the Metro Manila area.

The objectives of *Private Sector Support to MWSS Financial Rehabilitation* are not fully defined yet. They will be defined by June 2006 as part of the proposed GEF project, specifically component 3 on the Public-Private Sector Investments in Priority Sewerage and Sanitation Projects.

### 4. OUTPUTS

The *MTSP* comprises three components, all located in the MWCI concession area:

- a) **Sewage Management** component would include construction of ten sewage treatment plants, upgrading of two communal septic tanks to secondary treatment, and rehabilitation and construction of collection networks.
- b) **Septage Management** component would include vehicles (fecal tankers) for pumping-out septage<sup>1</sup> from septic tanks, two septage treatment plants, and the safe disposal of treated septage.
- c) **Technical Assistance** component would include (a) specialized consulting services during implementation, (b) a public information campaign on the benefits of sewerage and sanitation, and (c) assist in preparation of follow-up programs for wastewater and sanitation improvements.

The components of *Private Sector Support to MWSS Financial Rehabilitation* are not defined yet; they will be defined by June 2006, and will all be located in the MWSI

concession area. The proposed GEF project activities will influence the definition of those components.

## **B - COUNTRY OWNERSHIP**

### **1. COUNTRY ELIGIBILITY**

The Philippines is eligible for GEF assistance under the International Waters Focal Area through the World Bank.

### **2. COUNTRY DRIVEN-NESS**

The enactment of the Philippines' Clean Water Act (CWA) of 2004 indicates the directions to be undertaken with respect to the protection, preservation and revival of the quality of the country's fresh, brackish and marine waters. It puts in place a holistic national program of water quality management, which recognizes that water quality management issues are not distinct from concerns about water sources and ecological protection, water supply, public health and quality of life. The MTSP supports the implementation of the CWA by unifying current fragmentation in the policy and regulatory regimes within the three waterbodies, bringing water quality objectives into compliance with the CWA, and leveraging investments critical for attaining water quality targets at the national level.

National level support is likewise articulated in the country's Medium-Term Development Plan (MTPDP 2004-2010) and President Arroyo's 10 Point Agenda in ensuring regular supply of water to the entire country. The MTPDP gives due prominence to the protection of watersheds and coastal zones through integrated watershed and coastal area management, as well as the attainment of the country's Millennium Development Goals.

As a member of the ASEAN, the country has committed to attain by 2010, river water quality standards, with the highest priority to be accorded to urban and industrial pollutants. The marine water quality criteria for the ASEAN region that sets parameters and values for the protection of aquatic and human life is similarly recognized by the Philippines. The country is also one of the 12 coastal states of the East Asian region to sign the *Putrajaya Declaration of Regional Cooperation for the Sustainable Development of the Seas of East Asia*, thereby committing to regional cooperation to address transboundary issues of common concern.

In light of these commitments, the DENR, PRRC, LLDA and MWSS have requested the Bank and GEF to support the *MTSP* in applying best international engineering and management practices, and innovative approaches to sewerage, sewage, and septage treatment. The Government has confirmed that the project and its service, as well as its environmental targets, reflect national priorities. LGUs and local communities have been notified of and briefed on the project through the involved agencies, libraries and consultative meetings, and have expressed their support for it. The project is designed to service areas with high population density where the poor prevail; therefore, it addresses

the World Bank Country Assistance Strategy (CAS) theme of enhanced access to basic services for the poorest and disadvantaged groups.

## **C - PROGRAM AND POLICY CONFORMITY**

### **1. PROJECT CONFORMITY**

#### Conformity with OP 10:

The proposed GEF-funded activities under the *MTSP* are consistent with the GEF's Operational Program (OP) 10, the Contaminant-based International Waters OP in that it will demonstrate and encourage replicable innovative approaches to wastewater collection and treatment. Its innovative features include: (a) a decentralized approach to sewerage master planning, with a focus on high population density areas with concentrated pollution, (b) the locations, technologies and the small-scale size of the treatment plants reflect the shortage of land, and (c) the use of a cost effective *and* environmentally sound combined sewerage system, which is uncommon in the Philippines in the collection of wastewater.

#### Conformity with overall Program Criteria:

The Program Brief, for the Pollution Reduction Investment Program for the Large Marine Ecosystems of East Asia, scheduled for submission to the GEF Council in November 2005, is still under formulation, but the general criteria for financing have already been defined. Pollution reduction components of World Bank projects that are most likely to receive GEF co-financing under the Program typically meet one or more of the following criteria: (i) demonstrate a new pollution control technology or technique; (ii) "try and test" a pilot where there is low public awareness, limited experience, and where the client is not willing to take on that cost; (iii) are innovative institutional mechanisms or technical solutions to combat land-based water pollution; and (iv) are easily replicable and/or scalable. The Program would focus mainly on pollution hot-spots in the coastal areas of China, Indonesia, Philippines, Vietnam and Cambodia.

The proposed GEF-funded activities under the *MTSP* clearly meet the criteria listed above. GEF funds support the development of suitable water quality and sewage treatment standards, coordination and integration of the work of existing water pollution control institutions, and testing the extension of an innovative technology - joint treatment of sewage/septage by small treatment plants. Both the development of integrated institutional management plans and the experimental testing of technology in new environments are excellent candidates for GEF support.

#### Conformity with GEF Strategic Priorities:

The project is also consistent with GEF Strategic Priorities (SP) 1 and 3 for the International Waters Focal Area in 2004-06. With respect to Priority 1, it will facilitate the efforts of a nation that signed the *Putrajaya Declaration* to mobilize financial resources for implementing policy/institutional reforms and stress-reducing

investments to address a priority trans-boundary water issue (land-based pollution of a shared water body) that is highlighted in the declaration. The Manila Bay Coastal Strategy is a critical component of the Strategic Action Plan (SAP) for the South China Sea, one of five large marine ecosystems in the region, which lays the foundation for bay-wide cooperation for restoring the productive capacity of the bay and addressing issues of transboundary concern. The regional targets embodied in the SAP are hence built into this planned GEF support.

Furthermore, as called for by SP 1, these resource mobilization efforts are mainstreamed into the regular program of a GEF agency, in this case the World Bank, under the framework of a strategic partnership among nations and the GEF agencies that support the World Summit on Sustainable Development's (WSSD) Plan of Implementation outcomes.

+

With respect to Priority 3, the project will demonstrate the feasibility of innovative technical solutions, which accelerate investments in wastewater structures that reduce pollution of the rivers and the contamination of an international water body. The combination of these particular sewage collection and treatment technologies represent least-cost solutions that generate a mix of local and global benefits.

## 2. PROJECT DESIGN

### Problem Statement

Unprecedented economic growth in East Asia has resulted in rapid urbanization, particularly in the coastal regions of those countries. The environmental impact of this rapid development over the last 2 decades has been largely borne by the main water bodies and seas of East Asia. The result is severe land-based pollution of East Asia's seas, coasts, estuaries and rivers. This is a well-recognized problem by the countries in the region, including the Philippines.

The Metro Manila area is a typical example; it has a concentration of population of 12 million people, and practically all the sewage is discharged without treatment. The Manila Bay, Pasig River, and the Laguna Lake represent three key water bodies of socio-economic importance to the country, all exhibiting varying degrees of environmental degradation. These water bodies reflect the general state of Philippine waters, which are seriously confronted with untreated domestic sewage contamination problems.

- The **Manila Bay** forms Manila's western seaboard, a large shallow coastal water body with significant marine transport to Manila port. It is the ultimate recipient of domestic and industrial waste, agricultural run-off, and oil spills in its watershed draining 26 catchment's areas. About 21% of the organic pollution load comes from the Pasig River Basin. Nearly 82% of the total sewage generated in Manila City is discharged without any treatment through an outfall into Manila Bay.

- The **Laguna Lake** south of MM is a large water body and a crucial water source for the southern region. Within its catchments, about 60% of households discharge sewage and solid wastes directly into the lake or into its tributary rivers. Residential pollution accounts for about 70% of the organic load currently discharged into the lake.
- The **Pasig River** the region's largest river, is hydraulically important because it provides a two-way connection between Manila Bay and Laguna Lake, and due to ocean tide variations, it transfers pollution between the two. It receives as high as 70% of its organic load from residential sewage with the remaining 30% coming from industry. The Pasig River, the only outlet of Laguna Lake, empties directly into Manila Bay.

The three water bodies represent a vital national asset, providing a source of food, livelihood, employment, and recreation to an estimated 23 million Filipinos living within its 17,000 km<sup>2</sup> watershed. Along with its surrounding provinces, the Bay region contributes an estimated 55% of the country's GDP, and accounts for almost one third of the country's agriculture, fisheries, and forestry production.

#### Baseline Scenario

Increased urbanization in the Philippines is inevitably resulting in severe water pollution problems. Under the worst-case scenario, i.e., no Bank-supported projects in MM, the trends described above will continue, and the sheer amount and types of domestic and industrial discharges would overwhelm Manila Bay. Under the base-line scenario, i.e., with Bank-supported projects but without GEF co-financing, the impact on the reduction of water pollution in MM in general will be significantly less. **The key benefits of MTSP's cost-effective technological innovations are achieved only when scaled to apply to the entire MM area. GEF funds will ensure that MTSP and the Private Sector Support to MWSS Financial Rehabilitation achieve this scalability.**

Without GEF co-financing, the opportunity to link the different programs, policy and legal instruments of the DENR, PRRC and the LLDA, as an integrated watershed and coastal management regime may not be realized. This would hamper the overall effectiveness of interventions to prevent and mitigate land-based pollution and overcome barriers to increased investments. The partnership also accords harnessing the comparative advantage of the linkage with the PEMSEA Regional Programme, to provide advisory support, institutional links with regional initiatives for the Seas of East Asia and as an organization with significant exposure on public-private partnership and revolving fund mechanisms.

The baseline *MTSP* project has three components:

**Component 1: Sewage Management** would pilot-test the construction of small-scale sewage treatment plants, upgrade communal facilities, and rehabilitate collection networks. It is expected to have an impact on about 1.1 million people.



**Component 2: Septage Management** would expand current services through provision of fecal tankers, two septage treatment plants, and safe land-disposal of treated septage. It is expected to have an impact on about 3.3 million people.

**Component 3: Technical Assistance** would support the above physical investment activities and assist MWCI in preparing its follow-up programs for wastewater and sanitation improvements.

#### GEF Alternative Scenario

GEF funds would support a significant enhancement of the *MTSP* and the *Private Sector Support to MWSS Financial Rehabilitation* through a program of support to the implementation of the Manila Bay Coastal Strategy. With GEF support, water pollution control institutions in Manila would review overlaps in their responsibilities, develop suitable and controllable water quality and sewage treatment standards, coordinate and integrate water pollution control existing master plans and investment programs, and implement *MTSP*-tested innovations within these plans.

Without GEF, such development in standards, integration, and innovations would not be implemented within the three waterbodies, and the potential for replication on a full Manila Bay and region-wide scale would not be available. These indispensable institutional and technological efforts are not funded under the baseline project because they are sensitive, even when recognized by those involved as necessary. Typically they would not be carried out by any sector agency in the Philippines.

Following is a summary of the proposed additional three GEF components. For the purposes of this project, the definition of *watershed area* consists of the Laguna Bay and Pasig River drainage basins, as well as the respective coastal waters under the administrative jurisdiction of cities and municipalities within MM (hereinafter *watershed area* or *watershed*).

#### GEF Component 1: Integrated management system for watershed area.

Presently, a number of agencies have regulatory authority and operational responsibility within the watershed area: The Manila Waterworks and Sewerage Systems (MWSS) collects and treats sewage; the Department of Works and Highways (DPWH) provides drainage and flood control; the Pasig River Rehabilitation Commission (PRRC) rehabilitates the Pasig River through a package of policy reform agenda and investment projects; the Laguna Lake Development Authority (LLDA) regulates water quality in the lake; the Metropolitan Manila Development Authority (MMDA) coordinates all metro-wide services including water pollution control; and the Department of Environment and Natural Resources (DENR) enforces environmental regulations and water pollution control. In addition, the Local Government Units (cities, municipalities-LGUs) approve any sector activity within their jurisdiction. Each authority has its own strategy, action plan, administration, management responsibilities, and priorities for sustainable development and environmental management. In the current practice, coordination and convergence among the players are found, if at all, on a case-by-case basis.

The proposed component is aimed at formalizing an institutional and operational linkage within the watershed area among all the players mentioned above. It will establish a partnership mechanism that will coordinate approaches to the management of the watershed area. It will unify current fragmentation and overlaps in jurisdictional boundaries, plans, policies and investment programs. Specifically, convergence mechanisms will be forged along the following strategic areas: (i) policy, regulatory and investments programming; (ii) development and implementation of water quality strategies including the establishment of allowable discharge loads to contributing rivers consistent with the DENR and ASEAN freshwater and marine water quality standards; (iii) attainment of water quality improvement and environmental sustainability; (iv) institutionalization of mechanisms for increased private sector and stakeholder co-management; and (v) capacity-building and knowledge sharing.

#### GEF Component 2: Water quality standards and investment program for watershed area.

At present all MM water bodies are heavily polluted and any pollution control imposing strict effluent quality standards would be unreasonable. The proposed component is aimed at defining required effluent and water quality within a time frame of several years, recognizing the current conditions and proposing gradual improvements to a status acceptable from an environmental, health and economic point of view. The component will assess medium and long-term allowable pollution loads that each body can assimilate without causing violation of the desired water quality conditions, and ultimately, bring the watershed area into compliance with the national Clean Water Act standards. Methods will be identified to assess the impact on current quality conditions, including hotspots, priority sectors and conflicting uses. Appropriate functional uses and water quality standards, taking into consideration ecological and socio-economic factors, will be established. Proposed allowable pollution loads will be reviewed and agreed with implementing agencies and the local authorities.

The agreed standards would provide the basis for the development of a coordinated and integrated pollution control investment program in the watershed. The program will define strategies and investments to be carried out by each involved agency in the watershed to achieve the most cost-effective and environmentally acceptable impact on pollution control. Appropriate options and approaches will be considered during modification of the various existing master plans, to ensure everything is integrated into one watershed investment program. The final integrated investment program will be reviewed and agreed with implementing agencies and local authorities.

The methodology developed and applied in the Manila Bay, Pasig River and Laguna Lake watershed will be packaged and shared as a 'good practice in integrated watershed management', for replication in the six major watersheds of Manila Bay, as well as elsewhere in the Philippines and the region. A replication strategy for integrated watershed management, including an investment program for the Manila Bay region, will be developed as an output of the project.

GEF Component 3: Public and private sector investments in priority sewerage and sanitation projects.

This component will address the following: i) the pollution problems of the Pasig River, Manila Bay and the Laguna Lake and the operationalization of the Manila Bay Coastal Strategy to mitigate the discharge of contaminants to river and coastal waters; ii) meeting water quality objectives of the three water bodies, which may not necessarily fall within the current scope of the *MTSP*; iii) the *MTSP* and its planned sewerage expansion to consider the hydrological and ecological linkages among the three water bodies, as well as identified “hotspots” and non-attainment areas for sewage and septage; and iv) the Clean Water Act and related effluent standards for the three water bodies and the implications to MWSS operations.

This component will leverage public-private sector investments, which will initially be carried out within the identified hotspots in the east concession area of the Manila Water Company Inc. (as delineated under the *MTSP*), but will subsequently cover the entire ecosystem of the three water bodies. Areas of investments include *MTSP* priorities such as: (1) construction of sewage pipelines and treatment plants (STPs); (2) upgrading of the existing primary treatments; (3) design and construction of plants for the joint treatment of sewage and septage; and (4) specific to Pasig River, the use of phytotechnology/constructed wetlands along the river.

The MM legislation mandates that each house be provided with a septic tank to remove solids. The septage is trucked by the concessionaires and independent providers to specialized treatment plants for treatment and later disposal. Since the core of the *MTSP*'s master plan is this provision of a number of small-scale sewage treatment plants (STP) instead of one central facility, an innovative extension would be to use the STPs for treatment of septage as well. This would i) reduce long-distance transport of septage to the specialized treatment plant; ii) reduce the number of septage tankers per district; iii) increase the overall volume of septage treated in MM; and iv) create incentives for independent private providers to properly dispose septage through STPs located.

Treatment of septage by STPs has been tried before but not in MM. The design of STPs must discuss the exact amount of septage to be treated in the plant, which in turn will determine the parameters of the treatment process. Also, while separate pretreatment of septage may not be required if a limited amount of it is discharged to an interceptor upstream of the plant, some pre-treatment facilities will be necessary to accept greater septage loads from septic tankers. Adaptation of designs from elsewhere is difficult since the septage characteristics vary widely between countries for reasons such as climate, user habits, septic tank size and type, and servicing frequency. The design for MM must be based on actual pilot tests and practical experimentation. Once proved successful, it is relatively easily replicable in each STP within MM, including the MWSI service area.

This component also includes: i) review and identification of independent providers of septage removal and transportation, and determination of sources of financing for upgrading the trucks to a minimal acceptable standard in order to obtain renewal of permission; ii) provision of technical assistance to private small-scale septage operators

and training to improve current practices in hauling septage; iii) provision of assistance to the MWSS-Regulatory Office in expanding the current scope of the Public Assessment on Water Services (PAWS) already institutionalized to cover sewerage and sanitation services to permit performance assessment and evaluation of obligations specified in the Concession Agreement of MWSS with the MWCI and MWSI; and iv) organization of knowledge dissemination workshops for watershed agencies on results of the experiment.

### 3. SUSTAINABILITY (INCLUDING FINANCIAL SUSTAINABILITY)

The MWCI is strongly committed to the targets for sewerage and sanitation stipulated in its concession agreement. The project would help to achieve those targets. Since the start of the concession in 1997 MWCI maintains good and steadily improving standards of service and complies with service coverage targets. MWSS has been fully supportive in planning the project implementation, having even succeeded in obtaining concurrence from involved community leaders and heads of local governments. MWCI is in good financial health, and financial projections indicate that that status will be maintained in the future after implementation of the proposed project. Also, the partnership agreements among the watershed institutions that will be established under the GEF project will utilize existing governance structures within the identified basins. These agencies will continue to implement activities within their mandates, but with some enhancement of the processes expected to take place in the course of project implementation. Sustainability and mechanisms for replication will be mainstreamed within these structures as well as through their existing programs. Financial self-reliance will also be ensured given that project additionalities are still within their respective spheres of influence.

### 4. REPLICABILITY

The proposed GEF-supported activities in MM have significant scope, opportunities and avenues on two levels: i) the institutional mechanism, and ii) the joint septage-sewage treatment technology.

Replication of a process that streamlines institutional formation in a sector and integrates investment planning in that sector, though not as obvious as the replication of a technology, has potential in the six other major watershed areas of the Manila Bay region, as well as elsewhere in the Philippines and in Asia. The Manila Bay is already institutionalized as one of PEMSEA's regional demonstration sites and is linked with the GEF SCS. The Laguna Lake, through its apex institution the LLDA, has become partner to an international network of institutions and organizations sharing common concerns. The Pasig River is recipient of significant donor support, notably from ADB and DANIDA, and is an important indicator of success of pollution initiatives. The unique institutional partnership to be forged by the project represents an area that has the potential to provide working models of a partnership, with projects implemented on the ground that will benefit other basins in the country, region and the world.

The replication of joint septage-sewage treatment technology has tremendous prospects. On average, based on the 2000 census, an estimated 83 percent of the households in MM were reported to have septic tanks. The percent coverage translates to roughly 1.4 million of the 1.7 million households with access to septic tanks which would require desludging every six years. With the currently limited capacity of the MWCI and MWSI as well as private contractors to collect and treat septage, there is huge market potential for a small-scale and joint sewage and septage treatment facilities.

With regards to replication in general, project workshops will specifically provide for the sharing of knowledge, skills, and best practices in ecosystem-based management approaches, with partners within and outside the watershed. Representatives from PEMSEA will be invited to attend and help disseminate the experience and workshop documents. Conversely *MTSP* representatives will participate in conferences sponsored by GEF and PEMSEA, such as the biannual GEF International Waters Conference and PEMSEA's East Asian Seas Congress.

In addition to the project-funded replication activities described above, the overall Program will also include separately funded-activities to disseminate and promote the adoption of various technologies and pilot projects financed under the Program.

## 5. STAKEHOLDER INVOLVEMENT/INTENDED BENEFICIARIES

There are multiple beneficiaries for the GEF activities. First, the population within the watershed and coastal ecosystem would benefit from improved quality of water, reduced health risks from contaminated water, and a better environment overall. Second, Local Government Units, which, as mandated under the CWA, are required to prioritize the establishment of sanitation facilities and provide counterpart support (land, O and M) in the construction, upgrading and rehabilitation of required facilities. Third, the private sector, which will be accorded increased exposure. And finally, government agencies and authorities within the three primary bodies of water, including development aid agencies.

During the preparation of the proposed project, there will be consultations with all the key stakeholder groups mentioned above. The results of the consultations will be recorded and analyzed, and a stakeholder engagement plan will be produced as a specific block-B activity.

## **D - FINANCING**

Total Estimated Project Cost: US\$185 million

1. Counterpart Funding: US\$35 million
2. World Bank: US\$145 million
3. GEF: US\$5 million

## E - INSTITUTIONAL COORDINATION AND SUPPORT

### 1. CORE COMMITMENTS AND LINKAGES

The project is a proposed component of the World Bank/Global Environment Facility *Pollution Reduction Investment Program for Large Marine Ecosystems of East Asia*. Its design reflects the lessons learned from the World Bank's and GEF's large portfolio of water pollution reduction projects, including the WB/GEF Danube/Black Sea Program.

The Government of the Philippines accords high priority to the pursuit of economic growth in a manner consistent with the protection, preservation and revival of the quality of its fresh and marine waters. It is a signatory of the *Putrajaya Declaration* and will participate in the proposed GEF/UNDP Regional Project. It has requested Bank support for the project and has allocated the responsibility for managing the GEF project component to the Department of Environment and Natural Resources (DENR), the Government body responsible for designing environmental policies and their enforcement.

The project will address a key element of the World Bank's Philippines Country Assistance Strategy by aiming at improving public institutions and enabling the Government to deliver in areas where progress can be made quickly and success can be replicated. The establishment of operational linkages among public institutions involved in the management of the three key water bodies and the correction of the current fragmentation in jurisdictional boundaries, policies and investment programs will help the Government in delivering better water pollution control services to the population.

### 2. CONSULTATION, COORDINATION AND COLLABORATION BETWEEN AND AMONG IMPLEMENTING AGENCIES, EXECUTING AGENCIES, AND THE GEF SECRETARIAT, IF APPROPRIATE.

The project is part of the *World Bank/GEF Pollution Reduction Investment Program for Large Marine Ecosystems of East Asia*, jointly developed in close collaboration with the GEF/UNDP/IMO PEMSEA initiative. PEMSEA's main achievement has been the development of the *Sustainable Development Strategy for the Seas of Asia* (SDS-SEA), which was endorsed by the ministers of twelve East Asian countries in December 2003. It lays out a road-map for improving and sustaining the seas of East Asia, and it is on the basis of this strategy that the WB/GEF Investment Program was created. The Program, therefore, seeks to collaborate with the implementation action plans of PEMSEA, as well as other initiatives in the region such as the UNDP/GEF Yellow Sea and South China Sea initiatives.

During project preparation a survey of on-going related activities among other implementing agencies, executing agencies, and the GEF Secretariat will be undertaken and a plan for appropriate collaboration will be conceived.

PEMSEA's Secretariat has been briefed on the *MTSP* and will help to disseminate information about this project. PEMSEA's Regional Project - *Implementation of the Sustainable Development Strategy for the Seas of East Asia* - provides an extremely useful coordination function that the GEF-funded components of *MTSP* will seek to take advantage of in term of spreading the lessons learnt and especially the replicability potential of the joint treatment of septage/sewage process as a pollution reduction tool throughout the LMEs of East Asia.

### 3. IMPLEMENTATION/EXECUTION ARRANGEMENTS

The implementing agency for the project will be the World Bank, through the East Asia Urban Sector Unit (EASUR), which is responsible for the overall *World Bank/ GEF Pollution Reduction Investment Program for Large Marine Ecosystems of East Asia*. The World Bank task team responsible for the *MTSP* will also supervise the GEF project.

The project will be executed by DENR with advisory support from the UNDP/GEF/IMO/PEMSEA. DENR will establish a subset of its Unified Project Management Office with qualified staff to provide overall management, coordination and monitoring of the project (See Annex 2).

Guidance on technical aspects and monitoring-evaluation of project implementation will be provided by a Technical Committee (TC) comprising the core implementing institutions (DENR, PRRC, LLDA, MWSS, MWCI and MWSI). Since mainstreaming will be part of the overall strategy of the project, it is recommended that members of the TC will represent implementing agencies in the conduct of respective outputs and tasks. The participating agencies will establish and mainstream in their organizations, task project management sections (PMS) to coordinate specific tasks and serve as focal units of their respective organizations with the PMU. Within the structure of the LLDA, the PMO for the WB-funded LISCOP will serve as the PMS, similarly, the PMO of the PRRC and the MWSS Engineering Office will act as the PMS.

Overall policy guidance and advisory support for facilitating implementation of the project will be provided by a Coordinating Committee (CC) headed by DENR, and comprising of implementing institutions and core Government agencies, including PEMSEA, Department of Finance (DOF), the National Water Resources Board (NWRB), the National Economic Development Agency (NEDA), the Department of Public Works and Highways (DPWH), and the Department of Health (DOH) as advisors.

## **PART II - PROJECT DEVELOPMENT PREPARATION**

### **A - DESCRIPTION OF PROPOSED PDF BLOCK ACTIVITIES**

Activity 1: Review institutions & policies, identify overlaps, and prepare TOR for streamlining institutional arrangements.

A joint team of national and international consultants would be contracted to:

- (a) Review the current institutional responsibilities for water pollution control within the Laguna Bay-Pasig River-Manila Bay watershed area; identify the institutions' manpower strength and calibers; key objectives; size of investment, operational budgets, and actual water pollution control activities; value-added elements, gaps, and needs; overlaps in policies, jurisdiction, development plans and other.
- (b) Prepare TORs for the formulation of convergence mechanisms and alternatives for streamlining institutional responsibilities. These would allow for the identification and implementation of various institutional and governance arrangements, which would achieve within a reasonable time frame the highest cost benefit and least cost solution for water pollution control within the watershed area. The consulting team would also support DENR in conducting the requisite workshops and seminars.

Activity 2: Review baseline conditions within the watershed area and prepare TORs for an integrated watershed investment program.

Preparatory activities for establishing the attainment plan for the CWA will require a joint team of national and international consultants to be contracted to:

- (a) Review available information on designated uses and socio-economic conditions of the watershed area.
- (b) Consult with stakeholders on major pollution sources and identify non-attainment areas within the watershed area, as well as strategies for the prevention pollution within it.
- (c) Prepare TORs for the formulation and implementation of an integrated watershed management program, including an investment plan for pollution control with a corresponding socio-economic impact analysis on the watershed area. The investment plan will define the scope for public-private sector investments and ODA donor support to operationalize the watershed investment program.

Activity 3: Pre-feasibility Study on a Joint Sewage-Septage Treatment Plant.

A joint team of national consultants would be contracted to:

- (a) Identify design parameters for an STP accepting septage and jointly with MWCI and MWSI identify one STP in planning or design stage suitable for testing a prototype sewage-septage treatment system.
- (b) Complete a pre-feasibility study of the selected system to identify optimal quantity of septage, required modifications in the design and operation of the STP, estimated costs for the required design, engineering and equipment changes, as well as forecast increased operating costs for the STP.



(c) Formulate a monitoring and evaluation program to determine the performance efficiency and effectiveness of the joint sewage-septage treatment plant, including quantitative and qualitative parameters necessary for environmental and cost-benefit analyses, and an overall appraisal with regard to septage collection and disposal within the region.

Activity 4: Conduct workshops, build consensus, and prepare a Stakeholder Plan.

A key component of the PDF-B project will be the stakeholder consultation and consensus-building process. DENR will organize a number of workshops to identify existing issues and constraints with respect to integrated management of the watershed area, particularly with regard to pollution control, financing and investment programs, and the development and implementation of a prototype project on a joint sewage-septage treatment facility. The consensus among stakeholders would be transformed into MOAs or similar agreements that confirm financial (both in-kind and direct) arrangements for the implementation of the GEF-funded activities. The aforementioned consultants will assist the executing agency in the organization and implementation of the workshops. Study visits for management and technical national professionals would also be organized.

Activity 5: Preparation of GEF project documents.

A consultant experienced in GEF project preparation would be contracted to assist DENR in the preparation of the necessary documents for GEF and World Bank appraisal.

## **B - PDF-B OUTPUTS**

1. Full set of GEF Project documents;
2. TORs for the formulation of convergence mechanisms and alternatives for streamlining institutional responsibilities among the Laguna de Bay, Pasig River and Manila Bay management regimes within the watershed area;
3. TORs for the formulation and implementation of an integrated watershed management program, and investment plan with corresponding socio-economic impact analysis;
4. Pre-feasibility study of the selected system to identify optimal quantity of septage, and required modifications in the design and operation of the STP;
5. Expressed commitment/Memorandum of Agreement with institutional partners, including the MWSS, MWCI, MWSI, LLDA, DENR, PRRC, Local Governments, IFIs and donors.

## **C - INSTITUTIONAL ARRANGEMENTS**

The government will designate the DENR as the primary agent for the project, which will oversee the execution of the PDF-B activities. Implementation will be done in coordination with the core team composed of LLDA, PRRC, and MWSS and with advisory support from the UNDP/GEF/IMO/PEMSEA. The DENR will be responsible for contracting international and joint venture consultants in the development of project proposals, consistent with the Bank's guidelines on procurement.

#### **D - TIMELINE & BUDGET**

See Annex 1. The PDF-B funded activities are expected to begin immediately after GEF approval of the proposal in June 2005 and will be completed by May 2006. The budget estimate is presented below:

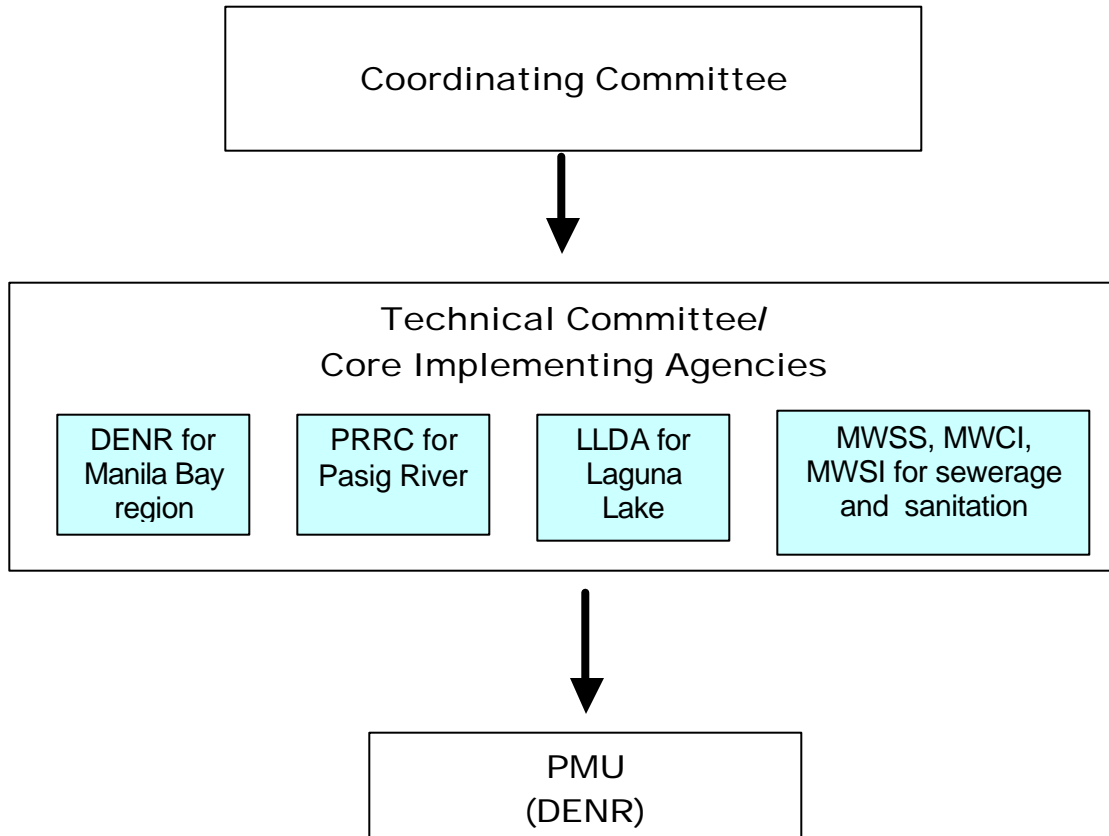
Cost Estimates for Manila PDF-GEF Proposal

Manila PDF Activities	Total	Bank Executed	DENR Executed
	US\$		
1. Review institutions, policies, overlaps, alternatives	50,000	10,000	40,000
2. Baseline condition and & investment program	100,000	20,000	110,000
3. Pre-feasibility study for prototype sewage-septage treatment plant.	130,000	20,000	80,000
4. Preparation of GEF project brief/documents	30,000	10,000	20,000
5. Conduct consensus-building workshops	40,000	0	40,000
<b>TOTAL</b>	<b>350,000</b>	<b>60,000</b>	<b>290,000</b>

## ANNEX 1 - TIMELINE AND BUDGET: MANILA COMPONENT ACTIVITIES

<b>PDF B BUDGET – Part 1</b>					
<b>Activities</b>	<b>Deliverables</b>	<b>Costs (US \$)</b>		<b>Organization Responsible for Deliverable</b>	<b>Deadlines</b>
		<b>GEF PDF B</b>	<b>Co-Financing</b>		
1. Review institutions, policies, overlaps, alternatives	Institutional report/TOR on convergence mechanisms, responsibilities	50,000	0	DENR and core team	September 2005
2. Baseline condition and investment program	Baseline study and indicators; and TOR for watershed investment plan and socio-economic impact analysis	130,000	0	DENR and core team	February 2006
3. Pre-feasibility study for prototype sewage-septage treatment plant	Pre-feasibility study of sewage-septage treatment plant, including M&E program	100,000	0	DENR, MWSS, MWCI, MWSI	May 2006 (excluding evaluation)
4. Prepare GEF project document	GEF project Document for WB approval (including stakeholder engagement plan and M & E plan)	30,000	0	World Bank, DENR and core team	May 2006
5. Conduct workshop, study visits	Workshops, study visits, seminars	40,000	0	DENR and core team	May 2006
<b>TOTAL</b>		<b>350,000</b>	0		

## ANNEX 2 – PROPOSED IMPLEMENTATION STRUCTURE



wb155260

M:\ProjectDocs\International Waters\Philippines - Manila Third Sewerage\05-16-05 Revised Project concept.doc  
05/19/2005 11:01:00 AM