



1. Project Data

Project ID P113844	Project Name Manila Wastewater Management Project	
Country Philippines	Practice Area(Lead) Water	
L/C/TF Number(s) IBRD-81620	Closing Date (Original) 30-Jun-2017	Total Project Cost (USD) 275,000,000.00
Bank Approval Date 15-May-2012	Closing Date (Actual) 30-Jun-2020	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	275,000,000.00	0.00
Revised Commitment	275,000,000.00	0.00
Actual	275,000,000.00	0.00

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2. Project Objectives and Components

a. Objectives

The project development objective (PDO) of the Manila Wastewater Management Project (MWWP) is "to improve wastewater services in selected sub-catchments of Metro Manila and surrounding areas." (Schedule 1, page 5 of the Loan Agreement dated May 31, 2012)

b. Were the project objectives/key associated outcome targets revised during implementation?



No

c. Will a split evaluation be undertaken?

No

d. Components

The MWWP was structured to support the water Concessionaires—the Manila Water Company Inc (MWCI) and Maynilad—to increase their coverage of wastewater collection and treatment and septage management, with a view to contributing to the environmental improvements in Metro Manila and water quality in Manila Bay. These project implementing agencies were private-sector entities. The project's investments assisted the Concessionaires in meeting their service obligation targets under their Concession Agreements. The eligible investments, which were identified by the time of appraisal, included wastewater collection and treatment and septage treatment. The project also financed consulting assignments for project implementation support, such as feasibility studies, construction supervision, reporting on environmental and social safeguards, public awareness campaigns, and project performance and audit reports.

The project's investments were fully integrated in the business plans of MWCI and Maynilad, which were regulated by the Metropolitan Works and Sewerage System (MWSS).

The MWWP had two main components:

Component 1: Investments in Wastewater Services by MWCI (Appraisal estimate, US\$193.4 million; actual cost, US\$239.4 million).

This component included MWCI investments and technical assistance in wastewater collection and treatment in the east zone, covering goods, works, and non-consulting and consulting services. Component 1's two main parts include:

(a) construction of a sewage treatment plant and associated sewage lines covering North and South Pasig; and

(b) other wastewater management investment sub-projects agreed upon among the Guarantor (GOP), the Borrower (LBP), MWCI, and the Bank.

Component 2: Investments in Wastewater Services by Maynilad (Appraisal cost, US\$178.3 million; actual cost, US\$137.5 million)

This component consisted of Maynilad's investments and technical assistance in wastewater collection and treatment, and septage management in the west zone, covering goods, works, non-consulting and consulting services. At the 2012 appraisal, the following sub-projects were pre-identified, subject to meeting eligibility criteria for Bank financing:

(a) construction of a sewage treatment plant and associated wastewater conveyance systems in the Talayan area of Quezon City, and in Pasay City;

(b) rehabilitation of a sewage treatment plant in the Ayala Alabang area of Muntinlupa;



- (c) construction of a sewage treatment plant and associated wastewater conveyance systems in Muntinlupa and in Valenzuela;
- (d) construction of a septage treatment plant in the southern part of Metro Manila; and
- (e) other wastewater management investment sub-projects agreed upon among the Guarantor, the Borrower, Maynilad, and the Bank.

There were no changes in the basic scope of the components. However, these adjustments were made: (a) under Maynilad-integration of Biological Nutrient Removal (BNR) in two Sewage Treatment Plants (STPs); (b) under MWCI-replacement of North and South Pasig conveyance system subprojects with University of the Philippines and Marikina conveyance system subprojects; (c) changes in subproject scope; and (d) some cost increases.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. At appraisal, the total project cost estimate was US\$371.75 million, of which US\$193.42 million was for MWCI (Component 1) and US\$178.33 million was for Maynilad (Component 2). At closing, the actual cost was US\$503 million, of which US\$239.4 million was for MWCI (Component 1) and US\$263.6 million was for Maynilad (Component 2).

Project Financing. The Borrower is the Land Bank of the Philippines (LBP), with guarantee from the Government of the Philippines (GOP). The Sub-Borrowers are MWCI and Maynilad. Of the total actual project cost of US\$503 million, the Bank financed US\$275 million, while MWCI and Maynilad financed US\$228 million.

Borrower/Recipient Contribution. There was no LBP contribution. Of the total US\$228 million contributed by the Concessionaires, MWCI financed US\$101.9 million and Maynilad financed US\$126.1 million.

Dates. The project was approved on May 15, 2012 and became effective about five months later on October 19, 2012. A midterm review was carried out on January 30, 2014. The project had two restructurings, both Level II. The first restructuring was on June 14, 2014, when the closing date was extended by two years from the original closing date of June 30, 2017 to June 30, 2019. The second restructuring was on June 27, 2019, when the closing date was extended again by one additional year, and adjustments were made in the disbursement arrangements and implementation schedule. The project's closing date was extended by a total of three years to the actual closing date of June 30, 2020.

3. Relevance of Objectives



Rationale

The MWWP's PDO is of high relevance to the development priorities and strategies of the Philippines. At appraisal, Metro Manila was generating about two million cubic meters of wastewater per day. Only 17% was treated prior to being discharged into different water bodies. The PDO is directly aligned with the Manila Bay Sustainable Development Master Plan (MBSDMP) 2040. To reduce pollution load in Manila Bay, the MBSDMP seeks to increase investments in infrastructure for wastewater collection and treatment, enforce stricter pollution laws, and expand public awareness of the negative health and environmental impacts of untreated wastewater. The MBSDMP's longer-term goal is to improve ecological conditions of Manila Bay and thereby benefit surrounding residents by improving their health, socio-economic status, and access to environmental goods and services. Thus, in the shorter term, the PDO is relevant to the overall plan of increasing wastewater coverage in Metro Manila in order to clean up Manila Bay.

In addition to the PDO's relevance to helping meet the overall obligations of MWCI and Maynilad to increase wastewater treatment capacity for Metro Manila, the PDO is aligned with the need to comply with the Supreme Court ruling to clean up Manila Bay. The PDO is also relevant to the continued implementation of the Clean Water Act of 2004, which aims to protect the water bodies from domestic, commercial, agricultural, and industrial pollution.

Moreover, the PDO is relevant to the Philippine Development Plan (PDP) 2017-2022 and its specific emphasis on the need to rehabilitate and restore degraded natural resources and protect fragile ecosystems. The PDP's preparation was guided by Ambisyon Natin 2040, which was approved in October 2016. As a statement of the Philippine national vision, Ambisyon Natin 2040 presents the country's long-term goal of building a prosperous, predominantly middle-class society, and aiming specifically to increase per capita incomes three-fold by 2040, ending poverty, and promoting health for the Filipino population.

The PDO is highly relevant to the current Country Partnership Framework (CPF) of the World Bank Group for the Philippines, FY2019-2023. The PDO is fully aligned with the CPF's focus area on Competitiveness and Economic Opportunity for Job Creation, which seeks to remove bottlenecks and expand opportunities for employment, livelihoods, and private and financial sector development. More specifically, the CPF has cited the lack of basic infrastructure in solid waste and wastewater management as an important hindrance to the expansion of tourism and private investments (CPF, paragraph 21), thus restricting business, livelihood and employment opportunities. In line with Objective 6 under this focus area, the Bank is helping GOP improve the efficiency of infrastructure services, thereby stimulating local economic growth and creating jobs.

Finally, as a public-private operation, the MWWP's PDO is highly relevant and fully supports the Corporate Commitment of the World Bank Group on Maximizing Finance for Development. While the project had a mix of public and commercial financing, its operation was fully private. According to the ICR (paragraph 72): "The project demonstrated an innovative model that facilitated operational efficiency through the private sector and applied an economic approach toward investments through the tariff and regulatory systems already in place."

In terms of previous Bank involvement, the MWWP is fully in line with the support that the World Bank has been providing for Metro Manila's overall urban development. The Bank's support for the metropolitan area's development was channeled through urban water and sanitation projects that has spanned four decades and included a significant amount of activities related to institutional support for Local Government Authorities.



Rating

High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To improve wastewater services in selected sub-catchments of Metro Manila and surrounding areas

Rationale

Theory of Change. As a conventional infrastructure project, the MWMP's theory of change (TOC) presented on page 8 of the ICR is straightforward, robust and valid, although it is to be noted that the critical assumptions and/or key risks were not included. The inputs and outputs, which consist largely of sewage treatment plants (STPs) of a specific designed capacity and their associated conveyance systems, can be expected to lead directly to the expansion of wastewater treatment capacity. Rehabilitation of STPs, septage treatment plants, and other investments are also directly linked to delivering this capacity expansion. In turn, the expanded capacity can be expected in the short- to medium-term to result directly into reduced biological oxygen demand (BOD) in collected wastewater and populations benefiting in the catchment areas of the project, thus achieving the project's development objective of improving wastewater services in selected sub-catchments of Metro-Manila and surrounding areas. Over the longer term, the project would causally contribute to the over-arching goals of improving public health, increasing property values, and the reduction of pollution in Manila Bay. The planned activities and physical interventions are adequate and properly sequenced to achieve the PDO.

PDO achievement. Improvements of wastewater services were going to be measured in terms of two PDO indicators, which are appropriate and adequate: (i) the reduction of BOD in collected wastewater; and (ii) the number of population served in the catchment areas that would benefit from the project.

(i) BOD reduction

The project exceeded its targeted reduction of BOD in collected wastewater: from a zero baseline and compared with 3,556 tons as the target, the actual achievement was 6,403 tons of BOD reduction (180 percent of the target). The first two investment were the rehabilitation of the Ayala-Alabang STP and the construction of the Talayan STP in 2015, which at that time treated a combined volume of 3,663,964 cubic meters of wastewater and removed a total of 335 tons of BOD. These volumes have increased steadily as these STPs continued operating. Subsequently, additional wastewater investments were completed, namely, the South Septage Treatment Plant (2015), the Pasay STP (2018), the Marikina conveyance system (2018), the University of the Philippines conveyance system (2019), and the North and South Pasig STP (2019). These completed wastewater investments resulted in cumulative treatment of 68.4 cubic meters of wastewater and removal of a total of 6,403 tons of BOD by October 30, 2020. (ICR, paragraph 27) Broken down by concessionaire, MWCI removed 2,054 tons of BOD from collected wastewater, exceeding its target of 1,708 tons by 20%, while Maynilad removed 4,349 tons of BOD, exceeding its target of 1,848 tons by



135%. Three STPs remained to be completed when the project closed. As required, the STPs comply with effluent standards for BOD and other pollutants such as Total Suspended Solids, Chemical Oxygen Demand, Oil and Grease, and Total Coliform, among others. A higher treatment efficiency and more BOD removal were achieved during the process of removing these pollutants.

According to the ICR (paragraph 34): "The water quality of receiving water bodies has started to show improvements. MWCI and Maynilad STP operational data show that the overall average BOD concentration for influent entering the completed STPs (94.58 mg/L) does not meet the water quality standard for BOD concentration of 50 mg/L. However, after treatment, all discharges from the completed STPs consistently meet or exceed the minimum effluent quality requirements. The overall average BOD concentration in the effluent coming from the STPs is 5.09 mg/L."

(ii) Population served

The project also substantially achieved the targeted number of population in the catchment area benefited by the project. The wastewater investments of MWCI and Maynilad benefited a total of 1,492,308 and 496,154 population equivalent, respectively, in the catchment area. This represents 124% of MWCI's target of 1.2 million beneficiaries, While Maynilad's achievement is 38 percent of its targeted 1.29 million beneficiaries, further increases are expected. An additional 353,846 beneficiaries would be added with the commissioning of Cupang STP by December 2020, thereby reaching 850,000 beneficiaries, or 66% of the target. The expected completion of Valenzuela and Tunasan STPs in 2021 will further increase the number of beneficiaries to 1,465,385 or 114% of the target (ICR, paragraph 28 and Table 2).

Additionally, the operation of the South Septage Treatment Plant has benefitted 1.45 million people in Metro Manila (in the cities of Pasay, Paranaque, Las Pinas, and Muntinlupa) and in Cavite province (the cities/municipalities of Bacoor, Imus, Cavite, Rosario, Noveleta, and Kawit).

In summary, the project at closing has benefitted 1,988,462 people, or 80 percent of the total target of 2.49 million beneficiaries. The completion of Cupang STP will increase the total number of beneficiaries to 2,342,308, or 94 percent of the total target. When all STPs are completed during 2021, the project will have benefitted a total of 2.96 million people -- or 119 percent of the total project target.

It is important to note that "The remaining ongoing subprojects are part of the overall service obligations of Maynilad and MWCI, as outlined in the Concession Agreements and corresponding business plans. MWCI and Maynilad are therefore obliged to complete and deliver these investments, as their completion is linked to performance achievements and tariff adjustments." (ICR, paragraph 31)

Rating
Substantial



OVERALL EFFICACY

Rationale

The project's efficacy in achieving the PDO is **substantial**. The project exceeded its targeted BDO reduction in collected wastewater. Upon completion of all the subprojects in 2020/2021 (delayed in part due to COVID-19), the project would also exceed its targeted number of beneficiaries. Completion is assured under the terms of the concessionaire's agreements. This rating also takes into account the definition of the "substantial" rating in the IEG and OPCS guidelines, as follows: "The project almost fully achieved its objective (or intended outcomes), or is likely to do so."

Overall Efficacy Rating

Substantial

5. Efficiency

Economic Analysis. The project's economic analysis was properly conducted and methodologically sound in both the PAD and the ICR. The PAD's calculation of the economic internal rate of return (EIRR) covered five STPs and 91 percent of total project costs. The ICR's EIRR calculation covered the same five STPs and 91 percent of total project costs, with the following adjustments: actual (instead of estimated) capital and operating & maintenance (O&M) costs were used, as well as actual land prices and tariffs.

The ICR's economic analysis indicates that the project generated positive net economic benefits, with the EIRRs of the wastewater subprojects being significantly higher than the 10 percent discount rate that was used. Moreover, the EIRRs were also higher than those that were estimated at appraisal, although costs increased by 35 percent due to changes made during implementation. Specifically, a project with greater implementation readiness that was also part of the MWSS Master Plan was substituted for a project that was encountering delays; the substitute project had a higher cost structure but also had higher benefit streams. The ICR's weighted EIRR average was 16 percent, compared to the appraisal ERR average of 14 percent. The ICR conducted sensitivity analysis using a benefit stream that was 20% lower than the base case, which reduced the EIRR to 12%, which was still higher than the 10 percent discount rate used. These calculations excluded the significant positive externalities that the project is expected to generate in terms of water quality and public health improvements, increased values in the tourism and commercial fishing sectors, and the enhanced recreational value of Manila Bay. More specifically, the EIRR calculation would have been higher had it included benefits from the more recent government regulation to incorporate a higher level of Biological Nutrient Removal in the design and operations of the facilities.

The ICR also demonstrated that the MWMP investments were more cost-effective compared to the estimated investment cost of US\$250 per capita (i.e., actual costs divided by the total population equivalent) to construct STPs and conveyance systems and improve septage management, based on a World Bank study (2013). Per-capita investment costs under the MWMP were lower compared to this benchmark estimate. More specifically, against the US\$250 cost per capita from the Bank study, the comparative investment cost per capita for the



MWMP were as follows: Pasig North and South STP (US\$132.47); Talayan STP (US\$66.20); Valenzuela STP (US\$ 241.66); Pasay STP (US\$140.63); and Muntinlupa STP (US\$135.00).

The ICR (Annex 4: Efficiency Analysis) also indicates the "built in" efficiency through the regulatory and tariff systems that are already in place. More specifically, "the Concession Agreements with MWCI and Maynilad were designed to ensure full cost recovery of capital investments and operation and maintenance costs through the existing tariff mechanism. Tariffs are adjusted mandatorily through rate rebasing every five years. Rate rebasing is a process that determines the level of rates for water and wastewater management services that permits the concessionaires to recover over the life of the concession (2037) their operating, capital maintenance, and investment expenditures."

Administrative and Implementation Efficiency. While recognizing the foregoing economic analysis, however, it is important to note that project implementation was delayed by three years. This resulted from the stalled sub-projects of the N&S Pasig conveyor system, which necessitated their replacement by the UP and Marikina sub-projects in the Master Plan, which involved higher costs to deal with soft soil conditions and earthquake/flooding risks. Given the delays, the costs of the other original subprojects had also increased. The delays to obtain permits from the concerned LGUs in N&S Pasig might have been foreseen given the long experience of Maynilad and MWCI in these types of projects as well as the Bank's experience that had been built up from previous project support.

On balance, while taking into account the three-year delay and higher costs, both of which were appropriately captured in the EIRR calculation, the project's efficiency is rated Substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	14.00	91.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	16.00	91.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The relevance of the project's objectives is **high**. The project's efficacy in achieving its development objectives is **substantial**. The project's efficiency is **substantial**. The project's overall outcome is **satisfactory**.



a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

There are low to negligible risks in the operation and maintenance of the sewage treatment plants (STPs). The ICR (paragraph 80) indicates that the subprojects were constructed with acceptable quality. Their technical design considered geotechnical risks. Since STP commissioning, sufficient manpower was deployed in order to ensure adequate knowledge transfer between the Design-and-Build contractor and the concessionaires. Organizational capacity, including O&M systems and procedures, is adequate. A cost recovery mechanism, which is critical to sustain the operation of the STPs, is in place. The tariff-setting exercise includes both capital investments and operating costs.

There are moderate risks in the maintenance of conveyance systems. STP operational efficiency may be affected by the known challenges if maintaining conveyance systems. According to the ICR (paragraph 81), MWCI and Maynilad have allocated resources for maintenance costs; however, maintenance will continue to require (i) extensive information and education campaigns and (ii) close coordination and continued engagement with barangay and city LGUs, the Metropolitan Manila Development Authority, and the Department of Public Works and Highways.

There are low to moderate risks of not completing the remaining ongoing subprojects in the near future. As of the ICR preparation, three STPs are near completion and 21.59 kilometers of conveyance system subprojects still remain to be completed. The ICR (paragraph 82) presents the likelihood of completion as follows:

(a) MWCI and Maynilad: As part of their commitments under the Concession Agreement, the implementing agencies are obliged to complete the remaining ongoing subprojects. Moreover, they are required to comply with the World Bank's technical and safeguards requirements. MWCI and Maynilad have fully integrated these subprojects in their business plans, which serve as the basis for full cost recovery and tariff adjustments. MWCI and Maynilad would need to continue engaging with the respective LGUs.

(b) Land Bank of the Philippines (LBP): As a financial intermediary, LBP is required to continuously monitor the activities it has financed. Thus, it has committed to continue monitoring the remaining civil works to ensure that the STPs become fully operational. LBP has an Environmental Policy Relative to Credit Delivery that requires accounting officers to monitor compliance with applicable environmental laws and regulations until the loan is fully paid by the client. The Loan Agreement also requires the implementing agency to continue to submit monitoring reports for the remaining subprojects until these are fully completed.

8. Assessment of Bank Performance

a. Quality-at-Entry

The MWMP's quality at entry was moderately satisfactory. On the one hand, the Bank team clearly articulated the project's strategic relevance at entry, focusing on how it supported the GOP's national



priorities. The project's concept and design were geared to support the implementation of the Clean Water Act and the Supreme Court decision to clean up Manila Bay. The project's design was adequately grounded in the country and sector realities and benefited from extensive analysis of wastewater management issues; moreover, while carefully identifying and selecting project activities, it was also flexible. The design incorporated measures to improve efficiency, and also enhanced the maximizing-finance-for-development approach in order to facilitate the private sector's entry in wastewater management service provision. The Bank team also incorporated lessons learned from the Bank's long-term engagement in the sector. The Results Framework was valid, logical and articulated clearly. The M&E framework and data collection/reporting arrangements were adequate. The Project Appraisal Document (PAD) shows that the appraisal of fiduciary and safeguards aspects were adequate, and significant efforts were made to enhance implementation readiness (e.g., identifying pre-eligible subprojects).

However, some of the risk assessments were optimistic. For example, risks related to stakeholder support and obtaining local permits were underestimated and proved to be difficult during implementation, thus leading to a three-year delay. Also, despite its High risk rating at appraisal, land acquisition and right-of-way issues proved to be most challenging and hindered the project's advancement in its earlier years. The risk that available contractors for large-scale infrastructure would be limited was also not identified during appraisal, but emerged during the early years of implementation.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

According to the ICR (paragraph 78), the Bank's supervision focused on resolving critical implementation issues with a view to achieving the PDO. The ICR indicates that the "task Team provided just-in-time advice, recommended actions, and brokered several dialogues with different stakeholders to help the implementing agencies address implementation issues." During implementation, the team also provided support on fiduciary and safeguards concerns. At the midterm Review, the Bank team focused on major issues and implemented measures to accelerate implementation. The team also supported innovations in the delivery of wastewater management services. For example, the team adopted the use of a Design-and-Build modality and trenchless construction methodology and encouraged the use of solar panels and reuse of treated wastewater. The team supported the two project restructuring activities, as needed. The implementation support Aide Memoires adequately reflected the ongoing challenges, for which the Bank team provided concrete recommendations to address them. The project ratings in the ISRs were appropriate and the discussions of issues were candid.

However, there were minor shortcomings that ultimately resulted in a 3 year delay on project completion. As outlined in the section on project efficiency, the delays could and perhaps should have been foreseen given the the long experience of Maynilad and MWC1 in these types of projects as well as the Bank's experience that had been built up from previous project support. Therefore, while the Bank team demonstrated an adaptable management approach that addressed the delays while also improving sustainability, the speed with which these responses were instituted was problematic.



Thus, Bank supervision is rated satisfactory and overall Bank supervision is Moderately Satisfactory given the limitations in design.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The quality of M&E design was substantial. The two PDO indicators were appropriate and adequate for capturing the information needed to assess performance and determine whether the PDO of improving wastewater services was being achieved, within the framework of the project's Theory of Change. The BOD reduction indicator measured improvements in water quality and has been in use by GOP as a major parameter for monitoring domestic pollution load. The indicator on the beneficiary population measured the increased access to wastewater services among Metro Manila residents. The M&E design avoided unnecessary complexity and was straightforward, having benefitted from having the data collection, consolidation, and analysis arrangements already in place. For example, at appraisal, the methodology for data collection, as well as the baselines and targets, were already available. According to the ICR (paragraph 62), "Project monitoring was embedded in the existing arrangements and procedures for monitoring (a) concessionaire performance and compliance with the Concession Agreements; (b) performance of the water and sanitation sector; and (c) environmental compliance."

b. M&E Implementation

M&E implementation performance was substantial. The measurement of BDO reduction was based on actual operational data. However, for measuring the population equivalent of the project's beneficiaries, the methodology of the Bank and the implementing agencies diverged. The agencies used the actual population in the catchment areas instead of the methodology agreed at appraisal and in the PAD, i.e., STP treatment capacity divided by wastewater generation per capita of 130 liters. This was corrected in the final year of implementation. MWCI, Maynilad, and LBP used project data to prepare the Semi-Annual Progress Reports (SAPRs), which included information on (a) progress in meeting targets in the Results Framework, (b) physical progress of subprojects, (c) status of procurement activities, (d) social and environmental compliance, (e) financial management, and (f) progress of MWCI and Maynilad in achieving the Concession Agreement targets. Albeit with some delays, the SAPRs were submitted to the Bank and GOP's regulatory and oversight agencies, i.e., MWSS, National Economic and Development Authority, and Department of Finance. MWCI and Maynilad also regularly submitted Environmental Compliance Monitoring Reports to DENR, with copies to the Bank for subsequent disclosure. LBP submitted quarterly Loan Status Reports to the Department of Finance. Finally, in line with the over-



arching goal of cleaning up Manila Bay, MWCI and Maynilad submitted quarterly status reports of related activities to the Supreme Court.

c. M&E Utilization

M&E utilization was substantial. M&E results formed the basis for discussions between GOP and the Bank during the implementation support missions. M&E information also informed the decisions of GOP and the Bank, e.g., during the first and second project restructuring. At completion, M&E information was used as evidence of project achievements as well as implementation challenges and constraints.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

The ICR (paragraphs 68 and 71) states that the project complied with the Bank's environmental and social safeguards, and assigned satisfactory compliance ratings for each safeguard policy. The project, which triggered Operational Policy (OP) 4.01: Environmental Assessment and OP 4.04: Natural Habitats, was classified as a Financial Intermediary operation for environmental safeguards OP purposes.

Environmental Safeguards

Prior to appraisal, LBP prepared and disclosed an Environmental and Social Safeguards Framework (ESSF). At appraisal, candidate subprojects for Phases 1 and 2 were verified through site visits as well as environmental and social screening that included site selection criteria. Since the subproject sites were in residential areas in Metro Manila, all the locations of the STPs had to comply with the zoning plans and locational clearances issued by the LGUs. After site selection, each STP was subjected to an environmental assessment (EA) to identify any potential impacts and ensure the inclusion of Environmental and Social Management Plans (ESMP) in their design and costing. All EAs are published between 2011 and 2014. This same approach was applied to the conveyance systems that expanded the capacities of drainage networks to connect new areas.

The North and South Pasig investment were classified as Category A, i.e., requiring a full environmental assessment, given the large-scale STP's potentially significant environmental impact. Maynilad's STP subprojects were classified as Category B, i.e., requiring partial assessments. The ESSF set out all the environmental and safety due diligence that were required from all activities during the construction phase. Both MWCI and Maynilad prepared and submitted regular Self-Monitoring Reports and Compliance Monitoring Reports to the Department of Environment and Natural Resources. LBP and the Bank received copies. According to the ICR (paragraph 69), the "mitigating measures identified in the respective ESMPs were implemented [and] there were no adverse environmental impacts reported onsite." Moreover, "MWCI and Maynilad have properly managed the environmental impacts encountered during construction, as demonstrated by the adequate implementation and monitoring of their respective ESMPs." A Grievance



Redress Mechanism addressed issues such as noise and traffic disruption “in a satisfactory and timely manner by both concessionaires through their contractors on the ground.”

An independent auditing firm conducted annual Third-Party Environmental Audits to evaluate the compliance of MWCI and Maynilad with the conditions in their ISO 14000 certifications and respective Environmental Compliance Certificates.

For the almost-completed STPs, LBP and the concessionaires have committed (until completion of conveyance systems and their connection to the STPs) to submit and publicly disclose the environmental monitoring reports, which will cover “the proper operation and adequate treatment of the influent for each STP according to the design of the STPs and in compliance with the water quality standards under the Clean Water Act of 2004.” (ICR, paragraph 70)

Social safeguards

The project triggered the Bank’s safeguards policy on Involuntary Resettlement (OP 4.12). During appraisal, the social safeguards documents for Phase 1 subprojects were found to be compliant with OP 4.12. For Phase 2 subprojects, a Resettlement Policy Framework in the ESSF outlined the various land acquisition modalities and procedures that LBP, MWCI, and Maynilad needed to follow to comply with OP 4.12. From project startup until closing, there were significant land acquisition and right-of-way issues, which were resolved but caused much implementation delay. Teams within MWCI and Maynilad handled social safeguards issues; moreover, each one had their own grievance redress mechanisms to address complaints. The “willing-buyer, willing-seller” modality was followed for all land acquisitions. The ICR (paragraph 71) indicated that “Procedures for land acquisition and resettlement in the ESSF were complied with, including in the relocation of 21 informal settler families in Tunasan STP and in Cupang STP.” MWCI and Maynilad produced Land Acquisition Reports, Due Diligence Reports, and Resettlement Completion Reports, which were reviewed by the Bank to ensure compliance with the ESSF, and publicly disclosed.

b. Fiduciary Compliance

Procurement. The ICR (paragraph 74) indicates that “Procurement activities were implemented following the World Bank Procurement Guidelines and in accordance with the approved Procurement Plan.” . MWCI and Maynilad integrated the project activities in their operations. Procurement mainly followed International Competitive Bidding (ICB) procedures, and the commercial practices followed by the two concessionaires were in line with the World Bank Procurement Guidelines. Although procurement activities were timely during the first two years of implementation, delays occurred during the middle of the project period due to delays in land acquisition and issues related to obtaining permits for the conveyance systems. Also, procurement for the North and South Pasig conveyance system was hindered by the limited availability of contractors for large-scale infrastructure projects and by the excessive bids in one conveyance system



contract package. Despite these delays, all procurement activities were completed, and this ICR Review concurs with the ICR rating that overall procurement was satisfactory.

Financial Management (FM).

The ICR (paragraph 76) indicates that “The project complied with the World Bank’s financial management policies and requirements.” FM capacity and arrangements were adequate, and the internal controls as well. While FM performance was satisfactory in the project’s initial three years, it became moderately satisfactory at the mid-term due to low project disbursements and delays in submitting interim financial reports. Otherwise, there was regular and timely submission of project and entity financial statements. The Commission on Audit rendered clean (unqualified) opinions. This ICRR concurs with the ICR’s rating of FM performance as satisfactory.

c. Unintended impacts (Positive or Negative)

d. Other

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Moderately Satisfactory	There were shortcomings in project design.
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The ICR (paragraphs 83-85) provided three lessons based on the project’s implementation experience. These are presented below, with some adaptation of language:

Engagement needs to be sustained to help shape solutions and achieve development results in the urban water and sanitation sector. The Bank has supported the development and implementation of GOP’s major wastewater management strategies over the past 40 years. Through lending support, learning initiatives, as well as policy and analytical advice, the Bank brought in global knowledge and expertise, distilled lessons from implementation experience, and applied that learning into succeeding operations. As the fourth lending operation in Metro Manila, the MWMP



incorporated the lessons learned from predecessor projects, while taking into account current conditions and challenges.

The project design stage should include stakeholders at all government levels that have a critical role in supporting the implementation of interventions in densely populated areas.

The MWMP involved construction of STPs and conveyance systems in densely populated areas that require the issuance of construction permits and land acquisition, for which LGUs play a critical role. The project was delayed when permits were not issued on time. This could have been avoided if the LGUs had been considered as part of the institutional set-up of the project. Likewise, LGUs could have facilitated land acquisition and coordinated with utilities and national government agencies in the implementation of different infrastructure projects at the project sites. The MWMP also experienced challenges in obtaining the right of way as the conveyance systems passed through land owned by different entities, LGUs, and individuals. In addition, the project was affected by other infrastructure developers and utilities operating in the project sites and would have benefitted from close coordination with these entities. The construction impacts on the public in terms of increased traffic congestion, socio-economic disruptions, and inconveniences were substantial. These concerns could have been anticipated and addressed through the LGUs.

Flexibility is important and needs to be applied during implementation to allow implementing agencies to respond to unanticipated factors.

The project allowed financing of other wastewater investment subprojects as long as these were agreed among the Bank, Guarantor, Borrower, and the concessionaires and had passed the eligibility criteria set forth at appraisal. This flexibility allowed the inclusion of the University of the Philippines and Marikina conveyance systems without the need for a formal restructuring process. This flexible approach should be considered in future operations, to allow for the scope of work to change without need for major restructuring.

13. Assessment Recommended?

Yes

Please Explain

In light of COVID-19's negative impacts throughout 2020 and still continuing in 2021, the technical, economic and financial sustainability of MWMP's investments need to be updated and reviewed, as the outcomes may have been seriously eroded by the pandemic's economy-wide effects. This assessment of the project's relevance, efficacy and efficiency (which could have changed significantly) could be conducted within the larger context of the WSS sector in the Philippines, and could yield valuable lessons on infrastructure resilience during global pandemics.



14. Comments on Quality of ICR

The ICR is well prepared; it is well written and easy to read. The ICR is results-oriented and presented relevant evidence in a manner that is consistent with the project's theory of change, delineates the causal chain from activities to PDO achievement, and supports attribution of project outcomes to the project's own interventions. The ICR is sufficiently quantitative and efficient in its presentation of data. The lessons about Bank long-term engagement, stakeholder participation and flexibility during implementation are well selected and have broad relevance and applicability to other Bank projects. The ICR complies with the Bank guidelines for ICR preparation.

Some minor shortcomings include the length, which is almost double the expected 15 pages, and the absence of any discussion of potential gender impacts (e.g., during land acquisition, which may affect livelihoods of small merchants run by women).

a. Quality of ICR Rating Substantial