

Regulatory approach towards achieving CWIS in Metro Manila, Philippines

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Figure 1 – 100 MLD Ilugin Sewage Treatment Plant. Source: MWSS Regulatory Office.

Summary

Similar to many developing urban cities, Metro Manila has experienced an increase in population density and an urban sprawl with a disproportionate portion of households found at the bottom of the national income distribution. Consequently, achieving an inclusive sanitation programme requires intensive policy coordination and investment choices.

Prior to 1997, the Metropolitan Waterworks and Sewerage System (MWSS) only provided 9% of the 5.82 million inhabitants of Metro Manila with sewer connections and only 1% with basic sanitation services. From 1997 onwards, the provisions of water supply and sewage treatment in the whole of Metro Manila was privatized and awarded to Maynilad and Manila Water. This

followed further regulatory reforms with the subsequent enactment of the Philippine Clean Water Act of 2004 as well as the issuance of the 2008 Supreme Court Mandamus that ordered 13 government agencies/offices “to clean-up, rehabilitate, and preserve Manila Bay, and restore and maintain its waters to make it fit for contact recreation”. Hence, necessary investment programmes on infrastructure projects to address the increased targets in sewer and sanitation coverage, and the stringent effluent standards were institutionalized.

The approach employed towards achieving Citywide Inclusive Sanitation (CWIS) involves setting targets on sewer, sanitation and effluent quality every five years during the rate rebasing, which provides for financial restructuring, best-fit infrastructure and services, and a rewards mechanism to both Maynilad and Manila Water (Figure 2).

As of 2021, the sewer and sanitation coverage in the concession area is at 25.78% and 82.36%, respectively, servicing at least 14 million people.

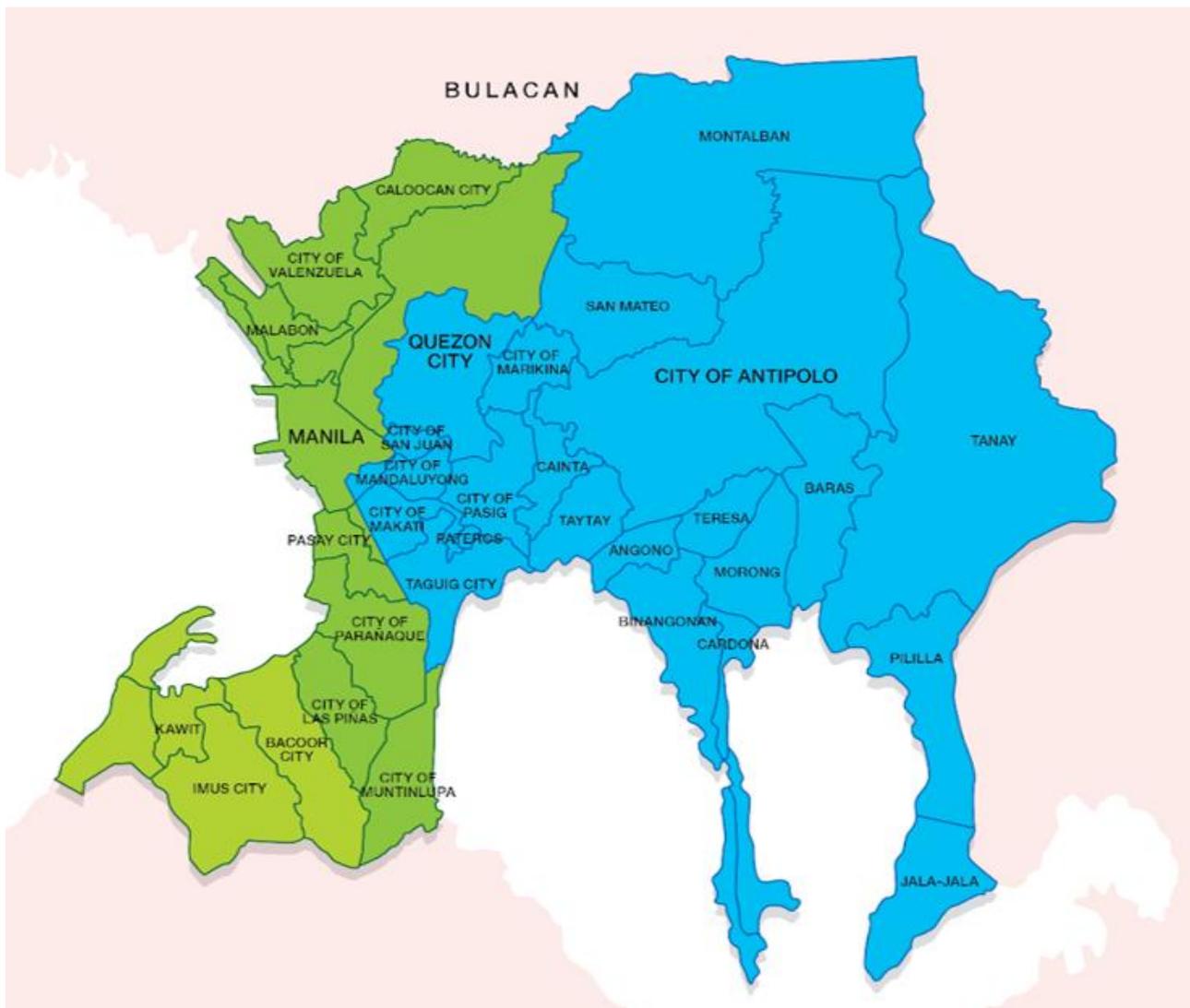


Figure 2 – Concession Areas: (Left/Green) West Zone – Maynilad Water Services, Inc., (Right/Blue) East Zone – Manila Water Company, Inc. Source: MWSS Regulatory Office.

Overview

Geographical information

Country: Philippines

City: Metro Manila

City population: 18,250,732



Problem

- High investment cost and burden of tariff increases to customers.
- Infrastructure footprint versus availability of land.
- Environmental targets versus construction timelines.
- Lack of awareness and low number of customers availing desludging services.

Solution

- Financial restructuring.
- Combined sewer system and desludging services.
- Rewards/recognition mechanism.
- Increase awareness about CWIS.
- Utilizing new technologies.

Problem

Before privatization, only 9% of the 5.82 million inhabitants of Metro Manila had sewer connections while 1% had access to basic sanitation services (i.e., desludging) for the safe disposal of septage.

In 1995, the Legislature passed into law Republic Act No. 8041, also known as “The Water Crisis Act,” which facilitates the privatization of the MWSS. In 1997, Manila Water Company, Inc. (Manila Water) and Maynilad Water Services, Inc. (Maynilad) won the public bidding in what is still considered the world’s largest and successful water privatization.

According to the service obligations under the original Concession Agreement (CA), the MWSS Concessionaires, Manila Water and Maynilad shall target to increase sewer coverage to 55% and 66% by 2021, respectively. Despite the improvement in sewer and sanitation coverage during the privatization, the targeted coverage was not realized due to several financial and physical constraints.

In 2008, the Supreme Court of the Philippines issued a Mandamus directing 13 government agencies, including the MWSS, to clean up, rehabilitate and preserve Manila Bay, and restore and maintain its waters to a level of quality fit for swimming and other forms of recreational activities which involve direct contact with water.

To increase sewer and sanitation coverage and ensure compliance with the Mandamus, the following strategies were employed:

Solution

Financial restructuring and incentives

Extension of the Concession Agreement

In order to achieve increased coverage, various sewerage and sanitation programmes must be implemented, which would entail massive investment to be borne solely by the customers given capital costs for projects are directly recovered from the water tariff. The realization of these projects will directly impact the customer's water bills.

To minimize the impact on the water tariff, the MWSS extended the CA by 15 years to make the services more affordable and acceptable to the customers. Thus, the costs will be lowered by spreading out the recovery period for a longer period of time. Furthermore, with the extension of the CA, wastewater coverage target was set at 100% at the end of the concession period in 2037.

Change in tariff structure for sewerage and sanitation

In the original CA, the Concessionaires are allowed to charge (a) environmental charge amounting to 10% of the water charge that is imposed on all customers, and (b) sewerage charge equivalent to 50% of the water charge and is levied on customers who are connected to the sewerage system. The environmental charge covers costs incurred by the Concessionaires through their five-year cycle of desludging services, watershed protection programmes and other

environmental-related projects beneficial to the concession area, while sewerage charge is used for building and maintaining wastewater infrastructure and services.

However, through the MWSS Regulatory Office (RO) Resolution No. 07-024-CA, the environmental and sewerage charges were rationalized based on the respective environmental charge and sewer fees schedule shown below to encourage more sewerage connections and to improve revenues from sewerage services (Table 1).

Table 1. Rationalized sewerage and environmental/sanitation charges

Charge	2007	2008	2009	2010	2011	2012
Environmental charge all customers	10%	12%	14%	16%	18%	20%
Separate sewer network (for sewer connections only):						
Residential sewer charge	50%	40%	30%	20%	10%	0%
Commercial sewer charge	50%	45%	40%	35%	30%	30%
Combined sewer system:						
Residential sewer charge	0%	0%	0%	0%	0%	0%
Commercial sewer charge	0%	0%	0%	0%	0%	0%

Source: RO Resolution No. 07-024-CA: Rationalization of Environmental Charge (10%) and Sewerage Charge (50%).

The elimination of the prohibitive 50% sewerage charge to residential customers connected to the sewerage system and increasing the environmental charge to 20% allowed for a more affordable tariff to all customers, as the cost will be shared by a wider group of customers whether they are connected or not to the sewerage system. This is premised on the fact that the sewerage projects are not solely beneficial to the connected individuals but to the entire community and the environment.

Aside from the shifting of the tariff structure, the sewer connection fees were also capitalized to enable cost recovery through water tariff.

Financial incentive through tariff adjustment

After rationalization, the environmental charge gradually increased to 20% of the water charge universally applied to all customers, while the sewerage charge decreased to 30% for Manila Water and 20% for Maynilad, which is now only imposed on commercial and industrial customers connected to the separate sewerage system. However, given wastewater facilities and conveyances are expensive to build, operate and maintain, the environmental and sewerage charges are not sufficient to cover the necessary capital costs to expand the system. Thus, capital costs are recovered by incorporating them in the water charge as complement for the environmental charges and sewerage fees. However, this tariff scheme was not able to incentivize the Concessionaires to significantly increase their sewer coverage within the

concession area, as there are no corresponding revenues that will be generated from rolling out and fast-tracking sewerage projects.

To encourage the Concessionaires to fast track and further increase their wastewater coverage, the MWSS, per the recommendation of the Regulatory Office (MWSS RO), has now approved financial incentive during the 5th Rate Rebased in 2022. Both Manila Water and Maynilad will be allowed to increase their environmental charge from 20% to a maximum of 30% as long as improvement in service obligations and coverage will be realized for their sewer projects pursuant to the CA. As such, the Concessionaires will be allowed to increase the environmental charge to 25–30% during the tariff adjustments in the next five years upon meeting the agreed targeted service obligations and coverage for sewerage services, subject to the review and approval of the MWSS RO. This increase in the environmental charge will materialize as revenue resulting to additional funds for sewerage infrastructure and services, and ultimately the expansion of wastewater coverage in Metro Manila.

Best-fit innovative infrastructure system

Utilizing combined sewer system

The utilization of combined sewer systems (Figure 3) is one of the strategies of the MWSS to accelerate the coverage of sewerage services. Since septic tanks in Metro Manila are designed to overflow to the existing drainage, construction of interceptor pipelines to catch wastewater from the drainage system and divert it to the wastewater treatment plants provides an expeditious solution at lower cost and allows immediate pollution reduction compared to constructing a separate sewerage system. By the end of 2021, Manila Water and Maynilad already reached 25.78% sewerage and 82.36% sanitation coverage, providing wastewater services to at least 14 million people (Table 2).

Table 2. Actual coverage as of 2021

	Manila Water	Maynilad	TOTAL
Total population	7,793,710	10,457,013	18,250,723
Water-served	7,328,196	9,881,684	17,209,880
Sewer-served	2,305,198	2,131,501	4,436,699
Sewerage coverage	31.46%	21.57%	25.78%
Sanitation offered	5,882,322	8,291,846	14,174,168
Sanitation coverage	80.27%	83.91%	82.36%
Sewer-sanitation population	8,187,520	10,423,348	18,610,867

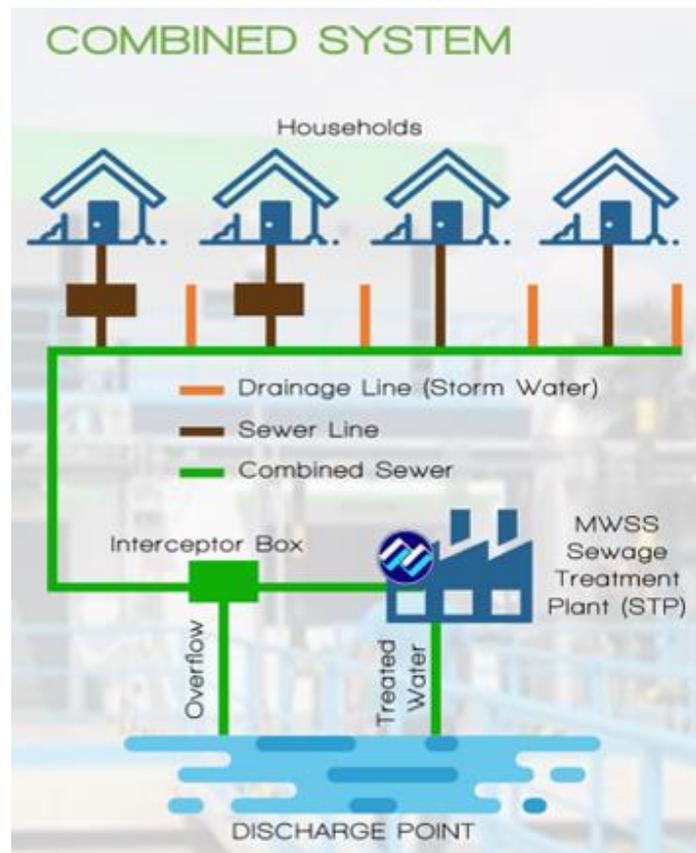


Figure 3. Combined sewer system. Source: MWSS Regulatory Office.

Wastewater reclamation facilities and direct reuse system

With the increasing demand but limited sources of water, the Concessionaires veered towards exploring technologies to continuously provide safe and potable supply of water, and to improve the level of service they committed to deliver to the customers, i.e. 24-hour water availability at 7-psi minimum pressure. Maynilad, considering its current limited available water supply, has constructed a modular treatment plant capable of processing treated wastewater from its existing Parañaque Water Reclamation Facility, and to produce 10 million litres per day of drinking water supplying approximately 39,000 households in two barangays in Parañaque City, Metro Manila. This direct potable water reuse, which is the first of its kind in Asia, may not directly increase wastewater coverage, but it encourages the Concessionaires to develop similar technologies on water and wastewater management, and to diversify their portfolio of water sources in the Philippines addressing future water stress.

Information, education, and communications strategies

Information campaign

The MWSS RO embarked on an information campaign via social media to increase the number of customers utilizing desludging services by raising consumer awareness on the importance of

servicing their septic tanks every five years. The campaign also focused on the fact that the desludging service provided is already part of their monthly water bill and there are no extra charges.

Recognition of Barangays, Cities and Municipalities with high number of customers utilizing desludging services

The MWSS RO acknowledges the importance of partnership with the local government sector in expanding and improving the sewerage and sanitation coverage of cities and municipalities within the concession area. In order to recognize local government unit's (LGU) efforts, incentives and awards are provided and given, respectively, to LGUs that remain steadfast in the achievement of CWIS. The most recent awarding ceremony was held on 1 August 2022 during the MWSS RO's Stakeholders' Assembly, wherein 25 LGUs, i.e. five cities/municipalities and 20 barangays, with outstanding numbers of customers who utilized desludging services from 1997 to 2021 (Figure 4), were recognized and commended for taking part in the efforts of the MWSS RO and the Concessionaires in expanding and improving the sanitation and sewerage coverage among stakeholders within the concession area.



Figure 4. Awarding Ceremony for LGUs during the MWSS RO's Stakeholder's Assembly on 01 August 2022.

Lessons learned

In achieving CWIS for Metro Manila, policy restructuring and investment priorities should be geared towards flexibility and should take into consideration the following:

- Innovative Solution – different strategies using latest available technologies, as there's no one-fits-all solution given the profile of Metro Manila;

- Social Acceptability – challenges on the implementation of projects, especially STPs, given the perception that sewerage-related projects might adversely affect the community and public health;
- Tariff Impact – effect of tariff rates, including affordability and customer acceptability with focus on capital and operational expenditures necessary for the construction and operation of sewerage systems, respectively, because unlike water supply services, sewerage and sanitation would not have direct or apparent impact to the customers; and,
- Private Public Partnerships – advantages of an effective privatization (e.g., CA), wherein the private sector is in charge of putting-up the necessary capital outlay to deliver water and wastewater services. Hence, the budget that should have been allocated for such could be re-allocated to other important projects of the government.

Useful links

<https://ro.mwss.gov.ph/transparency-seal-2/>

https://lawphil.net/judjuris/juri2008/dec2008/gr_171947_2008.html

https://openjicareport.jica.go.jp/pdf/11948882_07.pdf

<https://www.manilawater.com/corporate>

<https://www.mayniladwater.com.ph/>

Further reading and references

- Maynilad Water Safety Plan 2021 Addendum to Rev1.
- Memorandum of Agreement and Confirmation for the 15-Year Term Extension of the Concession Agreements between the MWSS, and Manila Water and Maynilad.
- MWSS Corporate Office Administrator's Presentation on Metro Manila's Water Supply System during the World Bank Internal Session on MWSS Concessions last 5 May 2022.
- MWSS RO's Key Performance Indicators and Business Efficiency Measures Evaluation Reports for Calendar Year 2021.
- Original Concession Agreements between the MWSS, and Manila Water and Maynilad.
- RO Resolution No. 07-024-CA In re: Rationalization of Environmental Charge (10%) and Sewerage Charge (50%).
- Supreme Court Mandamus on Manila Bay (G.R. 171947-48).
- Water Supply, Sewerage, and Sanitation Master Plan for Metro Manila Final Report by Sinclair Knight Merz in association with DCCD Engineering Corporation.

About the author

Attorney Patrick Lester N. Ty is the incumbent chief regulator of the MWSS RO. From 2006 to 2017, Atty. Ty held positions in the Department of Finance, Authority of the Freeport area of Bataan, Central Bank Board of Liquidators, University of the Philippines (UP) Institute of Government and Law Reform, and Ocampo and Manalo Law Firm. He finished his Bachelor of Arts in Psychology at the Ateneo de Manila University and obtained his Bachelor of Laws degree from the UP College of Law.

About the institution / organisation

The **MWSS RO** was created in August 1997 by virtue of the CAs signed between the MWSS and the Concessionaires. Among its many functions to effectively regulate water and wastewater services within its concession area, the MWSS RO reviews, monitors, and enforces rates and service standards among its stakeholders; arranges and reports regular independent audits of the Concessionaires' performance; and monitors the Concessionaires' infrastructure assets. For more information, visit <https://ro.mwss.gov.ph/>



About the IWA Inclusive Urban Sanitation Initiative

IWA's Inclusive Urban Sanitation initiative responds to a huge and growing public need - safe sanitation in combination with access to safe drinking water and hygiene underpins good health. The aim of this initiative is reshaping the global urban sanitation agenda by focusing on inclusive sanitation service goals--and the service systems required to achieve them - rather than the traditional singular focus on expanding sewer networks and treatment works. This forms part of IWA's larger agenda to promote inclusive, resilient, water-wise, and sanitation-secure cities.

About the Inclusive Urban Sanitation Stories

The Inclusive Urban Sanitation stories are documenting some of the policies, practices, and approaches that demonstrate how stakeholders especially those in urban areas (e.g., public sector, operators, academics, regulators, and other key actors) are taking part or contributing to Sustainable Development Goal 6 which require water and sanitation concepts and norms to look beyond technology and the usual focus on building infrastructure. Increased focus is on safety, inclusion, environment, public health, and multiple technology solutions tailored to different geographies and socio-economic contexts for building climate-resilient cities. The stories aim to inspire urban stakeholders to discuss ways for advancing inclusive urban sanitation, especially in low- and middle-income countries.