

PCC Market Study No. 01, Series of 2026

Water Distribution Market Study

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**PHILIPPINE
COMPETITION
COMMISSION**

Ensuring businesses compete and consumers benefit

Water Distribution Market Study

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The PCC Market Study aims to provide a background of select industries and explore potential interventions for PCC's advocacy and enforcement initiatives. The opinions, findings, conclusions, and recommendations expressed in this study are those of the authors and do not necessarily reflect the views of the Commission.

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EXECUTIVE SUMMARY

The water distribution market in the Philippines operates as a natural monopoly, where the infrastructure and logistics involved make it most efficient for a single provider to serve a particular geographic area. Population growth and economic development lead to an increasing demand for water. Therefore, ensuring that the existing water distribution systems are optimized for efficiency and consumer satisfaction becomes ever more critical.

Recognizing the role of competition in water service provision, this market study aims to assess the competitive landscape within the water distribution market, particularly in the residential segment, with the ultimate objective of ensuring competition among water service providers (WSPs) leading to improved quality of services and increased satisfaction among users.

The market study dissects the water distribution market by analyzing it at different levels, ranging from the district level, which offers the broadest scope, down to the household level, representing the smallest unit of analysis. This approach enables a comprehensive examination of the availability and level of competition among WSPs across the different levels of the distribution market. The study then employs an analytical framework that delineates the concepts of “competition for the market” and “competition in the market” in industries characterized by natural monopoly. The framework sheds light on the dynamics of WSP selection and the limitations and costs of switching faced by consumers.

The study identifies the relevant product market as the market for piped water services, recognizing the complementary nature of piped and non-piped systems, while the relevant geographic market was assessed from the district level to the household level.

The framework underscores that while water distribution can be characterized as a natural monopoly, the presence of multiple WSPs in some areas and the possibility of switching or availing of additional WSP services may necessitate an approach that considers both competition for and in the market when analyzing the competitive landscape. For the avoidance of doubt, the study does not seek to provide a specific number of WSPs operating in the relevant market; rather, the study aims to assess whether existing choices have been unfairly restricted.

On the issue of consumer choice, as the industry is typically a natural monopoly, it is understood that consumer choice may be limited. Nevertheless, the benefits of competition may still be attained by ensuring that the monopolist undergoes a competitive selection process. This process, however, typically occurs only at the district level. At the household level, competition seems to be constrained by the developers' pre-construction decisions and residential managers' operational choices, which already limit available options.

Additionally, the availability of WSPs varies based on geographical conditions in the area. Both district and household levels indicate that although households have legal freedom to select and switch between WSPs, practical constraints hinder them from doing so.

The study also highlights the significant costs associated with switching WSPs. These costs, both monetary and non-monetary, include logistical barriers, such as the need to modify existing infrastructure, and contractual restrictions imposed by developers and residential managers. As a result, even when alternative providers are available, the practical ability of residents to switch providers is severely constrained, reinforcing the monopolistic control of the incumbent WSPs.

Given these issues, the study suggests enhancing consumer choice through improved transparency and the dissemination of information about available WSP options. This can be achieved through the development of a centralized and periodically updated online

platform that provides detailed information about accessible WSPs. Additionally, the study advocates for the enforcement of regulations that prohibit exclusivity clauses at the household level, ensuring that individual households retain the right to switch providers.

Through a policy dialogue, the findings and recommendations of this study were communicated to the National Water Resources Board (NWRB) which recognized the value of improving transparency and reviewing exclusivity arrangements in the water sector. The NWRB expressed support for the development of a centralized, consumer-facing platform and highlighted its own *Listahang Tubig* system—a national inventory of over 28,000 WSPs—as a potential foundation. The agency also emphasized that while exclusivity clauses are sometimes necessary during the early stages of residential development primarily to support substantial capital investment in pipeline installation, proper hydraulic design, and service continuity, such arrangements should remain time-bound, allowing homeowners to exercise their freedom to choose once projects are complete. These insights underscore the need for a balanced and realistic approach that aligns with long-term competition goals.

Ultimately, the study is not an argument against the natural monopoly structure in the water sector as it recognizes the significant benefits this structure offers, particularly in terms of efficiency and cost-effectiveness. However, in cases where multiple WSP options are legally or practically available due to the imperfect nature of the water industry, consumers should not be restricted in their choices, and switching costs should be kept low and transparent to ensure they can exercise their right to choose the most appropriate provider.

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I. INTRODUCTION

A. Background and Motivation

The Philippine Competition Commission (PCC) is mandated to enforce Republic Act (RA) No. 10667 or the Philippine Competition Act (PCA) and implement the National Competition Policy (PCA, 2015). Under the PCA (2015), the PCC has the power to conduct, publish, and disseminate studies and reports on anti-competitive business practices to inform and guide the industry and consumers; and advocate pro-competitive policies of the government by reviewing regulations and advising the Executive Branch on the competitive implications of government actions.

In line with its mandate and having identified the water industry as a priority sector, the PCC previously conducted a Competition Impact Assessment (CIA) on Presidential Decree (PD) No. 198, otherwise known as the Provincial Water Utilities Act of 1973. In the CIA, the PCC sought to examine the effect of PD No. 198 on the competitive landscape of the water sector (Dela Cruz et al., 2021).¹ As the CIA was limited to an examination of PD No. 198, the PCC Economics Office (EO) conducted a market study to further examine the water distribution market in the residential segment.

B. Objectives of the Study

This market study aims to analyze the Philippine water distribution market, focusing on the delivery of water from water service providers (WSPs) to end-consumers, primarily households or residents.²

Upon analyzing the competition landscape and identifying potential competition issues, the paper then proposes alternative recommendations.

Ultimately, this market study seeks to add to the growing literature on water with a competition perspective and to help pave the way to ensure that available WSPs can compete effectively to provide quality water to consumers. As a result, consumers are given the chance to choose their preferred WSP based on their needs.

C. Scope and Methodology

Data collection for the market study was carried out through a mix of desk research, key stakeholder interviews, a subdivision survey, and the sourcing of official figures and data from the National Water Resources Board (NWRB), Local Water Utilities Administration (LWUA), Metropolitan Waterworks and Sewerage System (MWSS), and two local water districts.³ Some of these data were also collected during the previous CIA on PD No. 198 but are presented here to corroborate the new findings and insights of this study.

First, the stakeholder interviews were conducted with two property management offices of residential developments in the National Capital Region (NCR) via Microsoft Teams and phone calls, respectively. Questions on the water distribution setup, institutional framework, and relationships with regulators, among others, were asked. Another interview was done with an industry expert to describe the current industry practices and

¹ In the CIA, PD No. 198 was found to have stringent requirements for local water districts (LWDs) to apply for loans, water permits, and joint ventures; limit the rates that may be imposed by the LWDs; and employ a co-regulatory regime to set standards for water quality, among others.

² WSPs are entities responsible for the supply of water. These providers can vary widely in terms of structure, ownership, and operation. There are four broad groups of WSPs that will be further discussed in the industry background of this study.

³ These interviews encompass three regulators, three water companies, two LWDs, two property managers, and one industry expert.

competition landscape. Moreover, in-depth interviews (IDI) were conducted with representatives of 11 homeowners associations, particularly on their responsibilities in choosing the WSP. Lastly, additional IDIs were conducted with two local water districts and three private water companies.

Second, a knowledge sharing session was organized by the PCC Communications and Knowledge Management Office with key officials from the LWUA and the MWSS. This session explored the intersection of competition and regulation within the water sector, which further enhanced our insights into the operations of MWSS concessionaires, Maynilad Water Services, Inc. (Maynilad) and Manila Water Company, Inc. (MWCI), as well as the operational dynamics of water districts and their regulatory framework. Further consultation sessions were organized to clarify certain points. Information and relevant data on existing WSPs were also requested from agencies such as the NWRB.

Third, an online survey called the PCC Nationwide Water Usage Survey was conducted. The survey asked the respondents' water utility setup and their satisfaction. A total of 834 respondents participated in the nationwide survey, with 194 respondents from Metro Manila, 371 from Balance Luzon, 97 from Visayas and 172 from Mindanao. Another survey was done for subdivision homeowners in Cavite with 400 respondents.

Lastly, online focus group discussion (FGD) sessions were conducted with residents of subdivisions or areas serviced by private utilities and managed by homeowners associations. Two FGDs were held in Luzon, and two others were conducted in the Visayas and Mindanao regions.

However, in crafting this market study, we faced limitations in contacting other WSPs and residential developments for additional interviews. These additional interviews were meant to supplement the interviews conducted for the CIA on PD No. 198. We also encountered difficulties in obtaining sufficient data on the exact number and details of existing and operating WSPs, particularly those with joint ventures (JV) with water districts.

After collecting data, we developed the market definition segment to guide the study on the relevant product and geographic markets to be discussed. This was determined using both demand and supply-side considerations. Finally, we analyzed the findings primarily using the "competition for markets" framework given the unique nature of the water distribution market as a natural monopoly.⁴

II. INDUSTRY BACKGROUND

A. The Water Sector

The water sector refers to the systems dealing with the collection, distribution, and consumption of water resources. In the Philippines, the water sector has been noted to be characterized by significant issues, namely: supply and accessibility problems, a fragmented regulatory framework, and a unique vulnerability to climate change (National Economic and Development Authority [NEDA], 2021; United States Agency for International Development [USAID], 2023; Uy et al., 2024; Velasco et al., 2021). A more detailed discussion of these problems may be found in **Annex A**.

First, the Philippines is classified as water-stressed (NEDA, 2021). The Food and Agriculture Organization (FAO) considers a territory as water-stressed when it withdraws 25% or more of its renewable freshwater resources. Philippine Statistics Authority (PSA) data in 2022 shows that freshwater withdrawal is already at 27.8% in the country (PSA, 2023). Given this,

⁴ However, some discussions will still be made using the competition in the market framework in cases where WSPs are already existing.

its current demand for water is projected to outpace the renewal of its supply (Maddocks et al., 2015). Moreover, PSA data from 2015 show that further pressure on water supply is expected because 12.3% of the population still do not have access to safe water (NEDA, 2021).⁵

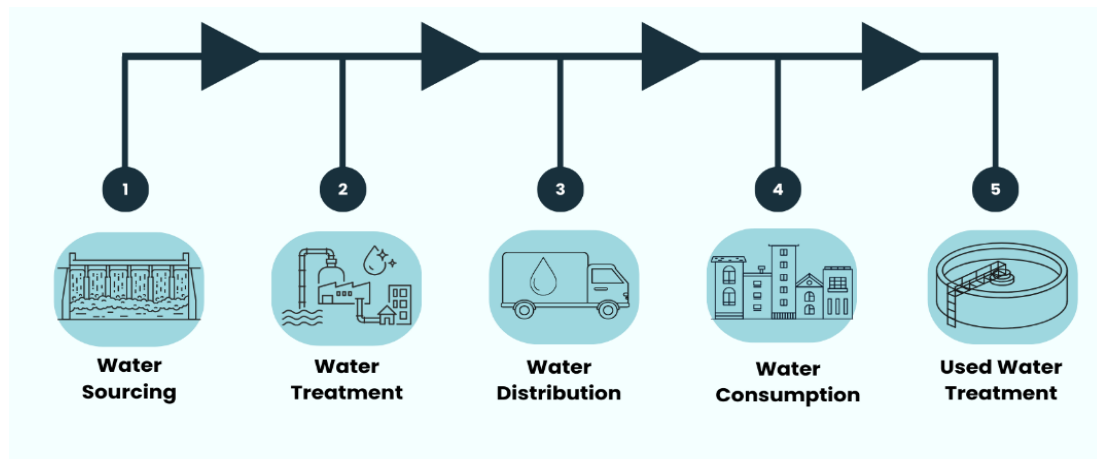
Second, the regulation of the Philippine water sector is overseen by various agencies without central leadership (NEDA, 2021).⁶ A number of findings by the Philippine Institute for Development Studies (PIDS) have observed that this fragmented regulatory framework has resulted in gaps in regulatory coverage, overlapping functions and mandates, and inconsistencies in the application of standards (Asian Development Bank, 2013; NEDA, 2021; Smets, 2015; Velasco et al., 2021; USAID, 2023). In turn, the lack of coordination has made financing and investments in various projects for the improvement of the water sector challenging (USAID, 2023; Velasco et al., 2021).

Lastly, the water distribution system's already limited capacity is further threatened by the adverse effects of climate change (NEDA, 2021; USAID, 2023). Specifically, more than half of the country's WSPs can only serve an average of 15 households due to limited supply (NEDA, 2021). Further, 30% of the country's water districts are classified as non-operational. These issues are exacerbated when earthquakes and typhoons damage critical water infrastructure or divert already-scarce funds to other disaster rehabilitation efforts.

B. Value Chain

The country's water distribution value chain involves several stages that include sourcing, treatment, distribution, consumption, and used water treatment (see **Figure 1**). For this study, we have narrowed the scope to focus specifically on the water distribution stage (stage 3), particularly concerning the distribution of water to residential developments.

Figure 1: The Philippine water distribution supply chain



Note: Authors' illustration.

⁵ In the Philippine Water Supply and Sanitation Master Plan (PWSSMP), safe sources of water refer to water from the following sources: own faucet community water system, shared faucet community water system, shared tube/piped deep well, piped shallow well, and protected spring/river/stream (NEDA 2021).

⁶ For instance, various aspects of the water distribution sector in particular are governed in different capacities by the following: the Department of Finance (DOF), the Cooperative Development Authority (CDA), the local government units (LGUs), Metropolitan Waterworks and Sewerage System (MWSS), the Department of Agriculture (DAR), LWUA, NWRB, the Department of Interior and Local Government – Project Management Office (DILG-PMO), Water Supply System Project (WSSP), and the Department of Social Work and Welfare (DSWD).

1. First Stage: Water Sourcing

The water delivered to households, industrial, and commercial users is sourced from either groundwater or surface water (Interactive Country Fiches, n.d.). Groundwater refers to water extracted from the subsurface, or those extracted from beneath a water table in soil and rocks, or from geological formations. Deep wells and pumps are used to extract this water. Surface water, on the other hand, comes from the surface which is open to the atmosphere and subject to surface runoffs such as streams, rivers, lakes, wetlands, and those in reservoirs constructed by humans (Greenpeace, 2007).

The Philippine water supply is composed of 12 water resource regions and 18 major river basins (NWRB, n.d.-c). The potential of surface water in the Philippines is estimated to be around 125,790 million cubic meters (mcm) which are sourced from 421 river basins, 59 natural lakes, and more than 100,000 hectares of freshwater swamps (NEDA, 2021). Meanwhile, groundwater accounts for 50% of the Philippines' potable water supply and 85% of its piped water supply (Barkwith, 2021). Groundwater also has an overall potential of 20,200 mcm per year (NEDA, 2021).

For both surface water and groundwater appropriation, interested parties must apply for a water permit from the NWRB. The application triggers an investigation to determine potential adverse effects on public interest. Subsequently, the NWRB hears any protests filed against the application. After the findings from the investigation are reported and protests have been heard, the NWRB rules on whether to approve or deny the application.

2. Second Stage: Water Treatment

The collected water then goes through a four-stage conventional water treatment process (Manila Water Company, Inc. [MWCI], n.d.). First, during coagulation and flocculation, coagulants are mixed into the water to facilitate the clumping of sediments, which are then removed through flocculators. Next, in the sedimentation stage, heavier particles sink to the bottom for removal. Subsequently, filtration is performed by passing the water through filter beds to eliminate microscopic debris. Lastly, the water is disinfected with chlorine gas to neutralize any bacteria or microbes still present in the water.

3. Third Stage: Water Distribution

After disinfecting the water, it is distributed to households and communities by WSPs. This stage will be discussed further in the next section on water service provision.

4. Fourth Stage: Water Consumption

The Philippines increased its overall water consumption from 89 billion cubic meters (bcm) in 2021 to 91 bcm in 2022. According to the PSA, the proportion of freshwater withdrawal to available freshwater rose from 27.2% in 2021 to 27.8% in 2022 (Manila Standard Business, 2023).⁷ In terms of water use efficiency, which is the value added per volume of water used, the services sector accounts for the highest usage, followed by industry and agriculture. Meanwhile, household expenses accounted for the highest share of total water spending, followed by mining and quarrying, manufacturing and construction, and then other sectors which were mostly composed of the services sector (Manila Standard Business, 2023).

⁷ This is not concerning given that it remains in the low classification range.

5. Fifth Stage: Used Water Treatment

Used and discarded water goes through five stages before being reused or released into bodies of water (MWCI, n.d.). First, the water is screened to remove various debris, such as sand and dirt. Second, the flow rate is regulated to prevent large variations in temperature, concentration, and volume. Third, the clarified water passes through aerators that sustain the bacteria that aid the decomposition of pollutants. Fourth, the clumps of biological debris are removed. Lastly, bleach is added in order to remove microorganisms.

C. Water Service Provision

1. Levels of Water Service Provision

Water is usually supplied by WSPs. However, some sources can be provided privately by the consumers themselves. These are sources such as private deep wells and rainwater collectors (NEDA, 2021).

The level of water service provision in the Philippines is mainly categorized into three distinct levels each characterized by its system of delivery, as well as the size of its service radius (NEDA, 2021; see **Table 1**).

Table 1: Level of water provision

Level I	Level II	Level III
A. Also referred to as “point source” B. Broadly categorized as a developed spring or a protected well with an outlet C. Usually limited to 15 households within an area of around 250 meters D. No distribution system yet and users must travel to the source directly and fetch water from there E. Usually found in rural areas	F. Referred to as the “communal faucet” system or standpost G. Characterized as having four parts: a source, a reservoir, a piped distribution network, and a communal faucet H. Similar to the point source, users must still travel directly to the communal faucet in order to fetch their water; but unlike Level I service, this is normally used in rural and urban fringe areas as each standpost within the system serves up to four to six households within a 25-meter radius.	I. The waterworks system provides a significant improvement in access compared to the prior levels. J. Composed of a source, a reservoir, a piped distribution system, and individual taps within households K. Removes the need to travel to the water source or communal faucet altogether L. Commonly found in dense urban areas where households have the capacity to pay for individual connections.

Source: NEDA, 2021.

In terms of safety, both Levels II and III are generally considered as safe sources of water. However, due to the unprotected nature of Level I water sources, they are vulnerable to contamination as this category is mainly composed of springs, rivers, streams, dug wells, lakes, rain, and peddlers of water (NEDA, 2021; see **Table 2**).

Table 2: Service levels of WSPs

Service Level	Source of Water	Classification (Safe / Unsafe)
Level III	- Own faucet community water system - Own tube/piped deep well	Safe Source
Level II	- Shared faucet community water system - Shared tube/piped deep well - Piped shallow well	Safe Source
Level I	- Protected spring, river, stream, etc. - Unprotected spring, river, stream, etc. - Dug well - Lake, river, rain, and others - Peddler - Other sources	Unsafe Source

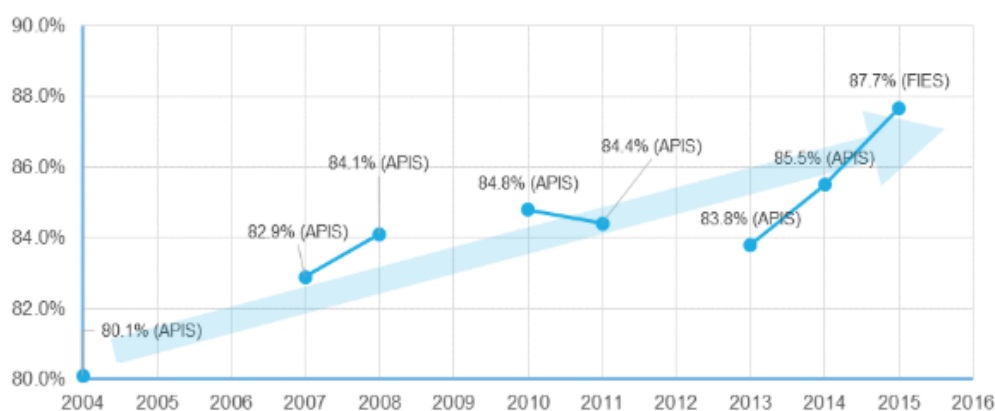
Source: NEDA, 2021.

In terms of the distribution of different levels of service across the Philippines, Level I comprises 55.2%, Level II takes up 22.2%, and Level III makes up the remaining 22.3% of the total water service provision.

Region II (Cagayan Valley) has the highest concentration of Level I service at 77.2% of the region's total. The National Capital Region (NCR), on the other hand, has the lowest concentration of Level I service at 0.3%. For Level II, Region XII (Caraga) reports the highest concentration at 43.7% while Region III (Central Luzon) has the lowest at 5.1%. Lastly, for Level III, NCR has the highest concentration at 86.1% and the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM) holds the lowest at 5.0% (NWRB, n.d.-c).

The PSA (2023) estimates that 97.6% of the population had access to improved sources of water as of 2022. This is part of a significant positive trend in the improvement of access to sources of water that are considered safe (see **Figure 2**). While it appears that Level I service is more prevalent in terms of number (see **Table 3**), this may be catering to a smaller portion of the population.

Figure 2: Graph of access to safe sources of water



Source: NEDA, 2021.

Table 3: Levels of service per region as of July 2024

REGION	LEVEL OF SERVICE			Total
	I	II	III	
Bangsamoro Autonomous Region in Muslim Mindanao	242 (58%)	154 (37%)	21 (5%)	419 (100%)
Cordillera Administrative Region	843 (58%)	377 (26%)	229 (16%)	1,449 (100%)
National Capital Region	1 (~1%)	44 (13%)	285 (86%)	330 (100%)
Region I (Ilocos Region)	932 (62%)	264 (17%)	319 (21%)	1,515 (100%)
Region II (Cagayan Valley)	1,865 (77%)	298 (13%)	244 (10%)	2,413 (100%)
Region III (Central Luzon)	1,528 (68%)	115 (5%)	607 (27%)	2,253 (100%)
Region IV-A (CALABARZON)	1,315 (43%)	531 (18%)	1,176 (39%)	3,023 (100%)
Region IV-B (MIMAROPA)	573 (50%)	281 (25%)	278 (25%)	1,133 (100%)
Region V (Bicol Region)	1,229 (61%)	543 (27%)	247 (12%)	2,021 (100%)
Region VI (Western Visayas)	1,929 (67%)	586 (20%)	360 (13%)	2,875 (100%)
Region VII (Central Visayas)	1,786 (64%)	250 (9%)	769 (27%)	2,805 (100%)
Region VIII (Eastern Visayas)	1,098 (43%)	932 (37%)	509 (20%)	2,540 (100%)
Region IX (Zamboanga Peninsula)	357 (37%)	359 (37%)	242 (26%)	959 (100%)
Region X (Northern Mindanao)	607 (43%)	377 (27%)	421 (30%)	1,406 (100%)
Region XI (Davao Region)	586 (45%)	407 (32%)	296 (23%)	1,289 (100%)
Region XII (SOCCSKSARGEN)	308 (43%)	266 (38%)	133 (19%)	707 (100%)
Region XIII (Caraga)	428 (37%)	504 (44%)	219 (19%)	1,151 (100%)
Total	15,627 (55%)	6,288 (22%)	6,355 (23%)	28,288 (100%)

Source: NWRB, n.d.-a.

Decomposing this further down to income deciles, the first decile reports the highest concentration of accessing water from Level I sources relative to other deciles at 20.3%. Meanwhile the second decile has the highest concentration of Level II service use at 40.1%. Lastly, the tenth decile holds the highest concentration of Level III use at 12.4%.⁸

⁸ The first decile represents the lowest 10% in terms of income, the second decile represents the next lowest 10%, and so on, up to the tenth decile, which represents the highest 10% of income earners.

2. Management Types of Water Service Providers

There are four broad groups of WSPs which are further decomposed into 12 management types: water districts, local government unit (LGU)-run utilities, community-based organizations, and private utilities.

Water districts serve as a quasi-public corporation established by the LGU under the Provincial Water Utilities Act for the operation and maintenance of the wastewater treatment and water supply systems, for which the LWUA has granted a Certificate of Conditional Conformance.⁹ As of December 2020, there are 532 water districts in the country, all classified as Level III water supply systems, serving 648 cities and municipalities and approximately 5.46 million households (see **Figure B1**).

LGU-run utilities are WSPs that are owned and operated by a provincial, city, or municipal government, as opposed to water districts which operate independently from the LGU.

Community-based organizations are organizations operated and managed by residents of a community in order to address issues of water supply. A barangay water and sanitation association (BWSA) is a non-stock and non-profit organization that owns, maintains, and operates water and sanitation systems and facilities at the barangay level. A rural water supply association (RWSA) is a non-stock and non-profit organization that is created by a group of individuals within a defined space such as a neighborhood or sitio which aims to establish and maintain a water supply system. Cooperatives are organizations created under the Philippine Cooperative Code that maintain and operate water supply systems and registered with the Cooperative Development Authority (CDA).

Private utilities are water supply systems owned by corporations or private organizations. A homeowners association is an organization that maintains and operates a water supply system that is registered with the Human Settlements Adjudication Commission (HSAC) or the Securities and Exchange Commission (SEC). Real estate developers can operate and own a water supply system in order to provide clean and potable water to lot owners and homeowners. Private operators are sole proprietorships, corporations, or private entities that are created under the general business and corporate laws of a state that are designed for the operation and maintenance of water supply systems. Unnamed WSPs are unregistered water service providers that service at least 15 households. Peddlers are individuals that extract, supply, and deliver water without the use of pipes.

Other private utilities include those that provide water supply systems for purposes other than domestic consumption. Industrial locators are organizations that operate water supply systems in special economic zones for their individual locators. Ship chandlers are water service providers for ships. Refilling stations are primarily used for drinking or cooking purposes only.

Unnamed water service providers are the leading type of WSP in the Philippines composing of 31% of the total number of WSPs¹⁰ (see **Table 4**). It is primarily characterized by providing Level I service to households. BWSAs, on the other hand, have the second largest share in the total number of WSPs at 28%, while LGU-run utilities and water districts take up only 16% and 3%, respectively (NWRB, n.d.-a).

⁹ This certificate signifies that the water district has met the preliminary requirements set by LWUA, allowing it to operate and receive initial support and assistance from LWUA.

¹⁰ While these WSPs are not registered, *Listahang Tubig* provides contact persons per unnamed WSPs that serve as the source of these data. Each LGU surveyed has a focal person, who has a record of all WSPs that were given survey forms. This person monitors the collection and encoding of the forms.

Table 4: Share of WSP per management type as of September 2025

MANAGEMENT TYPE	TOTAL NO. OF WSPS		LEVEL OF SERVICE		
	No.	%	I	II	III
Unnamed Water Service Provider	8,861	31%	8,046	593	214
BWSA	7,920	28%	3,923	2,717	1,276
LGU-Run Utility	4,448	16%	1,211	1,705	1,529
Other Private Operators	2,136	8%	767	267	1,101
RWSA	1,550	5%	68	659	823
Refilling Stations	1,271	4%	1,201	40	25
Water District	744	3%	21	5	716
Cooperative	417	1%	47	84	286
Homeowners' Association	397	1%	169	78	150
Peddler	346	1%	177	132	37
Real Estate Developer	211	1%	8	8	195
Industrial Locator	50	0%	3	4	43
Ship Chandler	4	0%	1	2	1
Grand Total	28,355	100%	15,642	6,298	6,396

Source: NWRB, n.d.-a.

Note: Figures may not sum to 100% due to rounding.

D. Regulatory Framework

1. Key Regulators

The water sector is primarily regulated by two key authorities.

The NWRB is primarily tasked with the setting, administration, and enforcement of rules related to water. Among its primary mandates are (1) policy formulation and coordination within the framework of integrated water resources management, (2) water resource regulation through the issuance of water permits, the resolution of water use conflicts, and the sustainable allocation of water resources, and (3) regulation of WSPs through the issuance of Certificate of Public Convenience (CPC) or Certificate of Public Convenience and Necessity (CPCN) and approval of water tariffs for water utilities. The NWRB also has regulatory and executory powers, as well as advisory and recommendatory powers.

Further, the NWRB issues CPCs and groups water utilities into three categories: Category A for water utilities operating for profit; Category B for government-owned or -run utilities; and Category C for community-based water utilities.¹¹

The LWUA, although primarily a lending institution, also has regulatory powers for water-related issues. It has the ability to prescribe minimum standards and regulations for water districts. It also supervises RWSAs (Velasco et al., 2021).

¹¹ The NWRB (personal communication, July 9, 2025) clarified that not all operating WSPs currently fall within the agency's CPC regulatory jurisdiction, particularly certain private, community-based, local water districts and LGU-run systems.

Apart from the NWRB and LWUA, the National Irrigation Authority (NIA) and the Department of Environment and Natural Resources (DENR) also exercise oversight for water-related issues (Velasco et al., 2021).

2. Water Laws

There are eight main legal frameworks that, with the Philippine Water Code at the helm, govern the ownership, appropriation, utilization, exploitation, development, conservation, and protection of water resources. The eight legal frameworks are listed below:

- Presidential Decree No. 1067 (Water Code) (1976)
- Presidential Decree No. 198 (Provincial Water Utilities Act) (1973)
- Presidential Decree No. 522 (Prescribing Sanitation Requirements for the Travelling Public) (1974)
- Republic Act No. 7586 (National Integrated Protected Area System Act) (1992)
- Republic Act No. 8041 (National Water Crisis Act) (1995)
- Republic Act No. 8371 (Indigenous People's Rights Act) (1997)
- Republic Act No. 9275 (Clean Water Act) (2004)
- Republic Act No. 8435 (Agriculture and Fisheries Modernization Act) (AFMA)

Among the laws regulating water enumerated above, Title II, Section 5 of PD No. 198 tackles water distribution most directly. Particularly, the law states that:

“[l]ocal water districts may be formed [...] for the purposes of acquiring, installing, improving, maintaining and operating water supply and *distribution systems* for domestic, industrial, municipal and agricultural uses for residents and lands within the boundaries of such districts, [and] providing, maintaining and operating waste-water collection, treatment and disposal facilities.”

Other laws tackle water distribution indirectly. First, PD No. 1067 sets safeguards especially for the prevention of diseases in the construction of water distribution infrastructure (The Water Code of the Philippines, 1976). Second, Section 27 of RA No. 9275 prohibits the use of “booster pumps in the distribution system or tampering with the water supply in such a way as to alter or impair the water quality” (Clean Water Act, 2004).

As of September 2025, several bills collectively known as the National Water Act are pending in both Houses of Congress.¹² Among these various bills, Senate Bill (SB) No. 225 or the Water Resources Management Act contains provisions related to water distribution (Water Resources Management Act, 2022).

Particularly, SB No. 225 seeks to establish the Department of Water Resources (DWR) and the Water Regulatory Commission (WRC) with the power to formulate a national framework for sustainable water resource management taking into consideration, among others, the efficient use of water through demand-side management and other programs, and the expansion and improvement of water and sewerage systems. This bill also gives the DWR the authority to delineate hydrologic boundaries of basins and establish regional offices therein to help implement the mandate of the DWR at the field level. Placing regional offices in these areas to help regulate water consumption could result in the improvement of water supply, however, the imposition of additional regulatory fees may also figure into water distribution costs down the line (SB No. 225, Section 6(c) in relation to Sec. 21).

¹² House Bill Nos. 21, 55, 144, 482, 858, 1013, 1014, 2175, 2298, 2523, 2538, 2558, 2690, 2818, 2880, 3082, 3226, 3237, 3302, 3435, 3610, 3670, 3677, 3727, 3788, 3886, 4057, 43626, 4535, 4536, 4865, 5177, 5205, 5810, 5877, 6266, 6306, 6311, 6278, 6360, 6463, 8660, 8679, 8998, and 9032; Senate Bill Nos. 185, 268, 1244, 1395, 2412, 9663, 102, 1021, 1428, and 2013.

Section 37 of the bill also provides that no public water supply, sanitation, and sewerage service provider shall commence or conduct the business of providing water supply, sewerage, and sanitation without first obtaining a license, as this may also result in added costs for water distribution.

In relation to competition, Section 31(j) of the bill provides that the WRC shall coordinate with the PCC by providing technical support to PCC's exercise of its authority and jurisdiction to establish rules and enforce regulations to monitor, investigate, provide remedies, and deliberate on cases involving market power abuse or anti-competitive or discriminatory act or behavior by or against any participant in the water supply, sanitation, and sewerage sector. Without prejudice to the PCA, the PCC may also direct the WRC to stop or redress such conduct within the scope of WRC's functions and powers.

3. The Public-Private Partnership Code

RA No. 11966, also known as the Public-Private Partnership (PPP) Code of the Philippines, was signed into law and took effect in December 2023. It codifies all prior statutes related to PPP under a comprehensive law and clarifies the ambiguities in the previous legislations.

The PPP Code covers all contractual arrangements between an implementing agency and a private partner to finance, design, construct, operate, and maintain, or any combination or variation thereof, infrastructure, or development projects and services which are typically provided by the public sector, where each party shares in the associated risks (PPP Code of the Philippines, 2023). JVs are likewise covered.

Under Section 2(r) of the PPP Code, a JV is defined as a national or local PPP contractual arrangement, whether solicited or unsolicited, where both the implementing agency, performing its proprietary function, and the private partner pool resources comprising of capital, services, or assets, including equipment, land, or intellectual property, to jointly undertake a specified investment activity within a specific period of cooperation to deliver an infrastructure or development project typically provided by the public sector.

Under Section 11(c) of the PPP Code, the formation of the JV between the implementing agency and the private partner shall not prevent the other parties from entering into other JV PPP contracts; provided that such other ventures shall not compete with the first JV for the same product and geographic market.

Water districts are considered government-owned or -controlled corporation (GOCCs) under the PPP Code Implementing Rules and Regulation (IRR) (PPP-IRR) and therefore, projects undertaken by them are considered national PPP projects. The distinction between national and local PPPs is relevant for the determination of the appropriate approving body.

For national PPP projects with project cost of 15 billion pesos (PHP 15,000,000,000.00) and above, the approving body shall be the Department of Economy, Planning, and Development (formerly the National Economic and Development Authority [NEDA]) Board, upon favorable recommendation by the Investment Coordination Committee (ICC). For national PPP projects with project cost below 15 billion pesos (PHP 15,000,000,000.00), the approving body varies.¹³

¹³ For implementing agencies with a governing board, whether it is an attached agency, the respective governing board; for attached agencies without a governing board, the head of the department or agency to which the implementing agency is attached; or for implementing agencies without a governing board or a mother agency, the head of the implementing agency.

The PPP Code and its IRR expressly repealed, among others, the 2023 Revised Guidelines and Procedures for entering into JV Agreements between Government and Private entities (NEDA JV Guidelines). This, however, does not affect approved and existing PPP contracts and the suppletory application of the law shall not infringe upon established rights and obligations of the parties.

III. MARKET DEFINITION

To better analyze the water distribution market in the residential segment, it is important to determine the relevant market and choose the appropriate analytical framework. These elements will be the basis of the study's analysis of the competition issues in the Competition Assessment segment.

Under Section 4(k) of the PCA (2015), the relevant market refers to the market in which a particular good or service is sold, and which is a combination of the relevant product market and the relevant geographic market, defined as:

"A relevant product market comprises all those goods and/or services which are regarded as interchangeable or substitutable by the consumer or the customer, by reason of the goods' and/or services' characteristics, their prices, and their intended use; and

The relevant geographic market comprises the area in which the entity concerned is involved in the supply and demand of goods and services, in which the conditions of competition are sufficiently homogenous, and which can be distinguished from neighboring areas because the conditions of competition are different in those areas."

A. Relevant Product Market

WSPs in the Philippines are categorized into three levels based on the type of connection: Level I, Level II, and Level III (refer to the water service provision section of **Part II** for details). Based on related literature, these levels can be further classified into two main categories: piped and non-piped water services.

1. *Piped Water*

Piped water services, typically represented by Level III connections, involve a highly connected system comprising a source, a reservoir, a piped distribution network, and individual household taps. These systems provide direct access to water within individual homes, eliminating the need for residents to travel to a water source. The convenience and accessibility of piped water make it a preferred choice in densely populated urban areas where households can afford to pay for individual connections. The consistent pressure and quality of water supplied through these systems are also factors that influence household decisions to opt for piped water services (Madanat & Humplick, 1993).

2. *Non-Piped Water*

Non-piped water services encompass Level I and Level II connections. Level I, or point source systems, include developed springs or protected wells that typically serve up to 15 households within a 250-meter radius. Users must physically travel to these sources to fetch water. Level II, or communal faucet systems, involves a piped network that leads to communal faucets, serving four to six households within a 25-meter radius.

While these systems offer some level of piped distribution, they still require users to collect water from communal points rather than receiving it directly in their homes. Non-piped

water services are more common in rural and urban fringe areas and often suffer from issues of accessibility, quality, and potential contamination compared to piped water systems (Nauges & van den Berg, 2009; Sugiyono & Dewancker, 2021). To determine the relevant product market, the study looked at the demand and supply-side considerations.

3. Demand-Side

On the demand-side, the study asks whether consumers view and use piped and non-piped water the same way.

In the Philippines, anecdotal evidence suggests that non-piped water systems may serve to complement or act as backups for piped water systems. Based on our focus group discussion with residents in 2021, we found that some residents resort to using community water pumps (*poso*) outside their subdivisions during water interruptions but still avail themselves of piped water systems as their primary water supply.

Meanwhile, related literature reveals the complementary nature between piped and non-piped water in different regions and contexts. In addition, the studies show that while piped water systems offer convenience and higher-quality water supply, issues in reliability and accessibility often lead households to rely on non-piped sources.

In Faisalabad, Pakistan, households often have access to piped water but also utilize alternative sources due to deficiencies in piped water quality, pressure, or availability. Madanat and Humplick (1993) analyzed household choices, considering variables like income, education, household size, and perceptions of water quality. They found that many households use different water sources for various uses (e.g., drinking, bathing) and invest in alternative supplies and storage facilities, highlighting the complementary nature of piped and non-piped water supplies. In a broader context, Nauges and van den Berg (2009) examined the demand for piped and non-piped water supply services across various developing countries in Central America and parts of Asia.¹⁴ Piped water is supplied through a centralized system with household connections, while non-piped water sources include wells, boreholes, rainwater, and water vendors. Using this framework, the study looked at factors influencing household choices between these sources, considering reliability, cost, and accessibility in Sri Lanka. Despite having access to piped water, many households still rely on non-piped sources due to the unreliability of the piped system. These non-piped sources often serve as essential backups or primary sources in areas where piped water is insufficient.

In Kota Metro, Lampung Province, Indonesia, Sugiyono and Dewancker (2021) investigated the preferences of 599 households across 22 villages regarding piped and non-piped water sources. Piped water, delivered through a centralized system to public standpipes or individual household connections, was compared with non-piped sources such as private dug wells and boreholes. Despite the availability of piped water, many households preferred non-piped sources due to their reliability and ease of access.

Kulinkina et al. (2016) explored water consumption patterns in various towns in Ghana, focusing on households with private piped connections and those relying on public standpipes and other non-piped sources such as wells, boreholes, and water vendors. The study found that private household connections, which led to higher water consumption

¹⁴ As noted by Nauges and van den Berg (2009), the estimation of household water demand functions in developing countries is limited due to insufficient data availability. Challenges include unmetered water consumption and varying conditions of access and usage across households, necessitating well-designed household survey.

necessary for hygiene, were limited due to high installation costs. Consequently, many households depended on public standpipes and other non-piped sources.

4. Supply-Side

In examining the supply side, the study focused on whether WSPs could switch between supplying non-piped and piped water, and if they have the means and rationale to do so.

Switching from non-piped to piped water supply systems poses many challenges for WSPs. The infrastructure requirements for piped water systems are considerably different from those for non-piped systems. Piped water systems necessitate a comprehensive network of sources, reservoirs, distribution pipes, and household connections. Establishing such a network requires substantial investment in infrastructure, technology, and ongoing maintenance, which can be a major hurdle for WSPs.

Level III or piped WSPs must ensure high standards of service and reliability if they were to switch to or expand piped water systems (Madanat & Humplick, 1993). In regions where piped water systems are unreliable, WSPs may find it impractical to switch entirely to piped water without addressing the underlying issues of service consistency and quality (Nauges & van den Berg, 2009). This necessitates a significant investment in improving infrastructure, which may not always be feasible.

The feasibility of switching from supplying non-piped to piped water systems is further complicated by the existing issues as discussed in the water sector segment of **Annex A**. For instance, the low capacity of the water distribution system, with many non-operational water districts and limited operational capacity, further exacerbates the challenge for existing Level III piped WSPs to expand. This makes the transition even more daunting for those considering switching from non-piped to piped.

Inversely, because Level III is seen as the ideal WSP connection type due to its safety and accessibility, it would not be rational for WSPs to transition back to Level II or I connections (NEDA, 2021).

Given the literature review findings, the study maintains that, on the supply side, piped and non-piped water services are not substitutable.

5. Conclusion on the Relevant Product Market

The complementary nature of piped and non-piped services and the significant infrastructure requirements associated with switching from non-piped to piped systems highlight that piped and non-piped water services should not be considered as substitutes. Furthermore, the development goal of transitioning to more Level III connections emphasizes that the relevant product market will be Level III or piped WSPs.

B. Relevant Geographic Market

Determining the relevant geographic market is essential for identifying where potential competitive harm might occur. For instance, narrowing the geographic market to a single residential development could suggest a monopoly with only one WSP available. However, defining the relevant geographic market more broadly, such as at the barangay or city level, could reveal the presence of multiple WSPs, thereby offering more choices for consumers and mitigating such suggested competitive harm.

1. Demand-Side

Beginning with the demand-side, it is unlikely that residents will move due to water quality as revealed through the 2021 FGD with residents. Results from the nationwide water usage survey in 2021 on subdivision homeowners in Cavite suggest that water quality is not a primary consideration for most real estate buyers. Out of the 50 recent property buyers, only 18% considered water quality among their top three considerations, while 29% of 146 non-recent buyers ranked it similarly. This indicates that water quality is not a major factor in real estate purchasing decisions.

Given the stationary or locked-in nature of residents, who are ultimately the end-consumers of water services, the study shall shift its main focus to the coverage of WSPs on the supply-side to determine the relevant geographic market.

2. Supply-Side

The coverage area of WSPs can vary widely, from large districts to individual households. This section explores the potential ranges of coverage for WSPs.

Widest Range: District Level. Within Metro Manila, residential developments may usually opt to connect to the two concessionaires of MWSS. The Maynilad serves the West Zone, covering the cities of Caloocan, Malabon, Navotas, Valenzuela, Pasay, Parañaque, Las Piñas, Muntinlupa, and some parts of Quezon City, Manila, and Makati. In the East Zone, the MWCI provides services to Mandaluyong, Makati, Pasig, Pateros, San Juan, Taguig, Marikina, parts of Quezon City and Manila. (Metropolitan Waterworks & Sewerage System, n.d.).

Outside Metro Manila, water districts established under PD No. 198 provide water services within defined boundaries. These manage water supply and wastewater treatment systems for one or more municipalities, cities, or provinces. Section 6(b) of PD No. 198 states that a water district's boundary may include all land within a city or municipality. Water districts may also include one or more municipalities, cities or provinces, or portions thereof. The classification of a water district is determined not by the number of cities or towns it reaches, but rather by the number of service connections it manages.

As of December 2015, there were 297 water districts classified as Category D, each with fewer than 3,000 service connections, accounting for 57.7% of all water districts that year (see **Table 5**). According to the LWUA list from the same year, most Category D water districts serve a single town or city. The list also shows that, at most, some water districts reported serving up to 10 cities and towns (Local Water Utilities Administration [LWUA], 2015b).

Table 5: Summary of water district categorization by service connection as of December 2015

Category	Number of Service Connections	Number of Water Districts per Category	Percentage of Total Number of Water Districts
A	More than 30,000	27	5.2%
B	10,000 – 29,999	57	11.1%
C	3,000 – 9,999	134	26.0%
D	Less than 3,000	297	57.7%
Total		515	100.0%

Source: LWUA, 2015a.

The study determines that the widest relevant geographic market is at the district level considering that outside of these, there would likely be no Level III WSPs.¹⁵

Narrowest Range: Household Level. At the narrower end of the spectrum, we have identified the smallest relevant geographic market for WSPs at the household level. Typically, individual households manage their own water supply through private wells, boreholes, or other non-piped or Level I sources. However, these households may choose to access Level III services if they are available. The study will focus only on households with access to these Level III services.

We also suggest that this scope could extend to residential developments, such as subdivisions and condominiums, provided that decisions regarding water services within these developments are primarily made by a unified residential manager. Residential managers, including property developers, property managers, and homeowners associations (HOAs), traditionally have the authority to select and retain the WSP for the entire residential development. Consequently, households within these developments would be subject to uniform conditions concerning their water services, based on the 2021 FGD with residents.

The study concludes that the narrowest relevant geographic market is at either the household level or the residential development level, depending on who controls the decision-making process for water service provision.

3. Conclusion on the Relevant Geographic Market

The relevant geographic market for WSPs varies from the broadest level, encompassing entire districts, to the narrowest level, focusing on individual households or residential developments. The determination depends on the coverage area of WSPs and who controls the decision-making for water services—ranging from large districts with multiple WSPs to individual households or residential developments managed by a single entity. This variability in market definition helps identify potential competitive harm in different geographic contexts.

IV. FRAMEWORK

For a comprehensive assessment of competition impacts to the water distribution sector, this section establishes why competition for the market is more appropriate than competition in the market. The following discussions will explore: (i) the characteristics of water as a natural monopoly, (ii) the market failures of the water distribution sector, and (iii) the potential benefits for competition for the market in the water distribution sector.

The concept of *competition for markets* involves firms competing to become the sole or primary provider in a market for a certain period. It is often used in industries with natural monopoly characteristics or where exclusive rights are granted.

In contrast, *competition in the market* is where multiple firms compete directly within the same market to attract customers. In this scenario, firms try to outperform competitors through pricing, service quality, innovation, and efficiency (Geroski, 2003).

¹⁵ This definition is exclusive to this market study and does not serve as the default definition for other competition enforcement cases or mergers and acquisitions reviews.

A. Understanding Natural Monopoly in Water Distribution

Natural monopolies occur in industries wherein a single firm can efficiently provide goods or services to an entire market at a lower cost than multiple firms could. Water, in general, is categorized as a natural monopoly due to several inherent characteristics.

First, establishing and maintaining a water distribution business require extensive infrastructure investments, which include building water treatment plants, pumping stations, reservoirs, and vast networks of pipelines. The capital-intensive nature of the industry makes it economically inefficient for multiple companies because duplicating similar infrastructure in the same area leads to wasted resources (Marques, 2010).

Second, water sources and distribution systems are also often tied to specific geographic locations, limiting the feasibility of multiple providers operating in the same area. Water sources are not evenly distributed. Transporting water over long distances requires substantial infrastructure, which further consolidates the market into the hands of a few or a single provider (Bel & Warner, 2008).

Third, the huge capital requirement and the long-term nature of investment returns further discourage more entrants. This reinforces the monopoly structure.

Lastly, the industry benefits from economies of scale. As the water distribution network expands and serves more customers, the average cost per user decreases, making it more cost-effective for a single provider to serve an entire area (Carvalho et al., 2012).

Given these characteristics, water distribution naturally lends itself to a single-provider model where one entity manages the infrastructure and service provision. This model is considered more efficient than having multiple competitors, each attempting to build and operate parallel systems.

B. Market Failures in Competitive Water Distribution Markets

Competition within markets can drive innovation and efficiency; however, the natural monopolistic characteristics of the water sector often lead to market failures. This issue arises from the high fixed costs associated with infrastructure development, which discourages new entrants and limits competition. This results in monopolistic or oligopolistic markets where the incumbent providers may have little incentive to improve services or lower prices.

It can also lead to resource misallocation. For example, if multiple companies were to compete within the same geographic area, each might underinvest in infrastructure to avoid the high costs, leading to substandard services. Additionally, water distribution requires significant coordination and regulation to ensure that all areas receive adequate and equitable access to water. In a competitive market without proper oversight, this coordination can break down, resulting in some areas being over- or underserved.

Due to the essential nature of water and the dire consequences of supply disruptions, competition in the market is often not viable for water distribution, as it can exacerbate inefficiencies and fail to meet public needs. However, in certain circumstances, multiple WSPs may be present in the same geographic area due to supply gaps or infrastructure limitations. This is the case in Tagaytay City, where the city's terrain makes it difficult for WSPs to serve all consumers effectively. A detailed discussion of the Tagaytay City case is provided in **Part V**.

C. Potential Benefits of Competition for the Market

Given the natural monopolistic characteristics of water distribution, competition for the market can potentially offer several advantages.

Competition for the right to operate a water distribution system can create efficiency incentives for WSPs. By vying for exclusive operational rights, firms are motivated to propose the most efficient and cost-effective solution to secure the place and contract (Chong et al., 2006). This can lead to advanced technologies and methods that improve the effectiveness and sustainability of the water services.

Furthermore, a performance-based selection allows the authorities or LGUs to choose operators based on price, quality of service, and even environmental performance. With proper regulatory oversight, this competitive selection process maintains the benefits of having a single operator while still ensuring that the interest of the public is protected.

The succeeding sections of this study will examine the competitive dynamics of water distribution in the case of the Philippines, including the selection process for WSPs and the impact and challenges faced by consumers based on this framework and the relevant markets. However, given that several WSPs are present in some areas, this opens the possibility that residents may switch WSPs or avail of additional WSP services. Thus, the study employs both competition for and in the market approaches in analyzing the competition landscape.

V. COMPETITION ASSESSMENT

In assessing the competition within the water distribution market, particularly in residential areas, a key starting point is to ask the actual availability of WSPs for residents.

While acknowledging that regulatory requirements and funding costs are inherent barriers in the water distribution market as discussed in **Part II**,¹⁶ it is more pertinent to inquire whether there are limitations on the part of residents or consumers in choosing their WSPs.

Thus, this section explores the range of WSP availability for residents from the district level (widest range) down to the household level/residential development level (narrowest range).

A. Competition Issue #1: Limiting Consumer Choice

In promoting competition, antitrust laws are intended to ensure that the marketplace remains competitive, allowing worthwhile options to be produced and made available to consumers, without significant impairment or distortion by anti-competitive practices. Rather than prescribing a specific number of choices required in the market, these laws prevent business conduct that artificially limits the natural range of options available to consumers. Through these measures, antitrust laws aim to permit and maintain a sufficient, though not perfect, array of options for consumer choice (Lande, 2001).

Therefore, this segment does not aim to dictate the number of WSPs operating in an area but rather examines whether current options are artificially restricted, thus limiting consumer choice.

At the district level, competition concerns related to consumer choice are typically addressed through a competitive selection process (CSP), where the primary WSP for a

¹⁶ A more detailed discussion of these problems may be found in the Annex.

district is chosen. Legally, households are not obligated to connect to this primary WSP. In fact, we found that, in some cases, households connect to other types of WSPs such as private WSPs, BWSAs, RWSAs, and cooperatives as their primary providers other than the one selected via CSP. However, some residents from the 2021 FGD state that they have no other alternative WSP to choose from. This indicates that while the regulatory framework does not tie the household into availing of the district's primary WSP, in practice, there may be no other WSP options available, or residents may not be aware of them. This reveals limited consumer choice to some extent.

At the household level, residents are also legally allowed to choose and switch between WSPs. However, in practical terms, consumer choice may be more restricted than at the district level, as decisions made by developers and residential managers can limit the available options for residents in terms of which WSP serves residential development.

1. District Level

At the district level, households typically have access to at least one designated WSP. For instance, in Metro Manila, the water distribution market is served by two main concessionaires: Maynilad, which operates in the West Zone, and MWCI, which covers the East Zone. This was established under the RA No. 8041 or the National Water Crisis Act of 1995.

Outside of Metro Manila, the water districts serve as the primary WSPs through PD No. 198. These water districts are often the sole providers within their designated areas, providing Level III water supply systems that comply with national water standards. Water districts focus on higher density areas to optimize their connections and avoid unnecessary overlaps with other districts (Former Chairperson, Local Water Utilities Administration, personal communication, March 3, 2021). While not formally a requirement, water districts may obtain consent from existing districts to prevent overlapping services (Property Manager 1, personal communication, May 22, 2024).

Based on the results of a nationwide survey on water usage in 2021, 49.3% of respondents reported being serviced by water districts, while 47.0% were serviced by private WSPs.

Water districts may also enter into JVs with private water companies. The trend towards JVs and PPPs is driven by large private companies seeking to expand their market presence, targeting densely populated areas for profitability (Former Chairperson, Local Water Utilities Administration, personal communication, March 3, 2021; Property Manager 1, personal communication, May 22, 2024). The JV agreements typically include provisions for service obligations, financial reports, and timelines for project implementation. Ultimately, the water district remains responsible for complying with regulations and audits, while the private partner handles daily operations and reporting (Water Company 2, personal communication, 2021.).

However, in some areas, especially where there are geographic landscape difficulties, households are also forced to look for additional or alternative water supply that can meet their demand for water. Apart from private WSPs that provide competition constraints, there are also water peddlers and haulers.

Given the competition landscape at this level, we employ both competition for and in the market approach.

Competition for the Market - District Level. The competition for the district-level market segment has been shaped largely by necessity, as the creation of concessionaires and water districts emerged in response to the pressing need to meet water demand that existing systems were unable to satisfy. However, due to the persisting challenges in water

provision by water districts over the past years, PPPs through JVs have also grown in number with the objective of providing sufficient financing, technical expertise, and manpower resources to improve delivery of services.

Water provision at the district-level entails substantial costs and resources to provide the service effectively. It is often argued that, at this level, the market strongly exhibits the features of a natural monopoly, i.e., water demand can be supplied at the lowest cost by one firm rather than by two or more. As the market tends to favor only one supplier, competition mainly takes place during the selection process for this sole spot in the market.

In the case of Maynilad and MWCI, these concessionaires have secured their spot in the market after participating in an open public bidding, and after demonstrating sufficient financial, technical, and economic feasibility.

On the other hand, water districts do not necessarily undergo a CSP at their inception. A water district begins with the local legislative body enacting a resolution to form one. It is only when these water districts enter into PPPs with private WSPs that a CSP takes place (see **Table 6**).

Table 6: Comparison of the selection for district level WSPs

	Maynilad and Manila Water	Water Districts	JV between Water Districts and Private WSPs
Legal Basis	RA No. 8041 or the National Water Crisis Act of 1995 as implemented by EO No. 296 (1995) and EO No. 311 (1996) ¹⁷	PD No. 198	NEDA JV Guidelines (prior to the enactment of the PPP Code) PPP Code
Creation	Open public bidding and selection Originally awarded 21 February 1997 for 25 years Subsequently amended and renewed ¹⁸	Enactment of a resolution from the local legislative body of any province, city or municipality forming the water district Resolution filed with the LWUA If sufficient in form and substance, LWUA issues certificate of compliance to the water district	Under the NEDA JV Guidelines, direct CSP posted by the water district Unsolicited JV proposals may be received by water districts, further negotiated upon, and must later on be subjected to a Swiss/competitive challenge Negotiated JVs – when two failed CSPs occur, the water district may seek out a private partner and negotiate a JV proposal; thereafter, the proposal is submitted to a competitive challenge Presently, the PPP Code governs and provides

¹⁷ RA No. 8041 (1995). Currently, Maynilad's franchise is embodied in RA No. 11600 (2021) while MWCI's is in RA No. 11601 (2022).

¹⁸ Current franchises will expire in 2047.

Table 6, continued

	Maynilad and Manila Water	Water Districts	JV between Water Districts and Private WSPs
			substantially similar procedures for approval of JVs
Coverage area	Maynilad (West) ¹⁹ Manila Water (East) ²⁰	Any province, city, municipality or any combination thereof	Effectively assumes the area originally covered by the water district partner
Governing Authority	MWSS	LWUA	LWUA

Competition in the Market – District Level. Assuming there is already one WSP present in the relevant area, this segment asks whether there are alternative WSPs available to supplement or switch water services.

Zooming in, community-based organizations take up a significant portion of the connections in the Philippines, with BWSAs, RWSAs, and cooperatives amounting to 34% of the total number of WSPs (NEDA, 2021). Different barangays may also have various existing waterworks and cooperatives, contributing to the diversity of WSP options available (Water District 1, personal communication, March 3, 2021; Water Company 3, personal communication, 2021.). These show that at a district level, holding other things constant and assuming the presence of a primary concessionaire or water district, there is supposed to be a reasonable number of WSPs available to residents.

However, as indicated in the water usage survey, 73.6% of 834 respondents noted the absence of other WSPs in their area.²¹ Of those who did mention the presence of alternative WSPs, a significant majority of them (75.5%) identified the WSPs as private providers, according to a nationwide water usage survey conducted by the PCC in 2021. While the lack of alternatives reinforces the natural monopoly nature of water distribution, this may also suggest that other factors (e.g., profitability of setting up a WSP in that area, the involvement of residential managers, geographic considerations) may play a role in determining the level of competition in the market.²²

Furthermore, the availability of WSPs may also depend on geographical circumstances. For instance, in areas like Tagaytay, which is elevated and classified as a protected area by the DENR (The Philippine Clearing House Mechanism, n.d.), contracting water hauling services is necessary due to the scarcity of local water supply providers (Property Manager 2, personal communication, June 3, 2024; see **Box 1**).²³

¹⁹ The West Zone covers: Manila (excluding the districts of Santa Ana, Manila and San Andres, Manila), Caloocan, Las Piñas, Malabon, Muntinlupa, Navotas, Pasay, Parañaque (except for Barangay San Martin de Porres), Valenzuela, Quezon City (northwest), Makati (west), Bacoor, Imus City (except for the Barangays of Carsadang Bago, Medicion, Toclong, Bayan Luma, Tanzang Luma, Pag-asa and Poblacion is part of West Cavite Business Area), Cavite City, Kawit, Noveleta, Rosario, Imus City. (Maynilad Water Services Inc. [Maynilad], n.d.)

²⁰ Makati (east), Mandaluyong, Manila (Santa Ana and San Andres area), Marikina, Parañaque (San Martin de Porres area), Pasig, Pateros, Quezon City (east), San Juan, Taguig.

²¹ The other 19.4% stated they did not know.

²² However, we were unable to study these factors in depth due to resource limitations and scope. Future researchers are encouraged to investigate these dynamics on a case-by-case basis.

²³ As of July 2024, Tagaytay City has only three registered water service providers, with two of them designated to supply water to specific subdivisions, while the other one is the water district.

Box 1: Case study: Tagaytay

In Tagaytay, properties typically rely on a combination of their main piped WSP and additional water hauling services due to the unique challenges in the area. Water hauling services are sourced from nearby regions like Cavite and Batangas, as local providers are scarce.

One property manager cited that daily water hauling is necessary to maintain a minimum reserve threshold of 50% in their property's cistern tank, with the main WSP supplying approximately two-thirds of the total monthly water requirement. This setup is a response to the limited number of local WSPs due to its geography. Some properties even invest in their own water trucks to manage costs effectively.

In this case, supplementary water services play a crucial role in ensuring a consistent water supply, especially in areas where the main WSP cannot meet the full demand. The property manager noted that the contractor rates for additional water hauling services

were approximately 20% higher than those of the main WSP. This price difference is likely attributed to the costs associated with delivering water to the area.

The process for selecting supplementary water hauling services typically occurs while the annual contract with the main WSP is still active. Property managers conduct a quarterly competitive bidding process to identify other contractors who can supplement the water supply.

Source: Property Manager 2, personal communication, June 3, 2024.

Therefore, at the largest level, provided that the geographical circumstances permit, it is possible that multiple WSPs are present. However, information from the nationwide water usage survey by PCC in 2021 says otherwise, with most of the residents unaware of any other WSP that could service their residence. This suggests that while the regulatory framework does not compel households to use the district's primary WSP, practical limitations may mean that alternative WSP options are unavailable or unknown to residents, thereby slightly restricting consumer choice. The benefits and costs of such limitations owing primarily to the natural monopoly nature of water distribution is a question outside the scope of this study. The following section explores these issues further at the household level.

2. Household Level

Households may opt to connect with the existing WSPs, either the main concessionaires or the water districts. Aside from those major connections, in residential developments such as condominiums and subdivisions, the water services may be provided or selected by either the property developer, property manager, or the HOAs.

One such practice is property developers availing water services from their affiliated water companies. Companies like PrimeWater Infrastructure Corp. (PrimeWater), initially formed to handle water utilities for the Villar Group of Companies, have expanded through PPPs and JVs. PrimeWater supplies water to numerous residential subdivisions of Camella Homes, Crown Asia, and Brittany Corporation. These residential developments are subsidiaries of Vista Land and Lifescapes, Inc., which is part of the Villar Group of Companies (Miraflor, 2021).

Similarly, the 8990 Housing Development Corp. (8990 Housing), which develops several residential projects, has BP Waterworks (BPW) in some of its projects like Deca Homes Resort Residences in Davao City, Deca Homes Marilao, Bulacan, and Deca Homes GenSan in General Santos City (BP Waterworks, n.d.). Unlike Primewater, however, BPW is a separate and distinct corporate entity from 8990 Housing (Padillo, 2020).

Some property developers, however, directly provide water services to their residents using their own facilities, as noted in the 2021 FGD. For instance, Charles Builders Co., Inc. (Charles Builders), whose developments are mainly focused on Pasig and Muntinlupa, supplies its residents with water from deep wells despite being under the jurisdiction of Maynilad (Charles Builders, n.d.). Borland Development Corporation (BDC) has a similar arrangement. During the 2021 FGD with residents, we found that while neighboring areas and subdivisions have PrimeWater or water districts, residents of BDC use deep wells provided by the developer.

Similar to the approach at the larger district level, the study looks at the availability of WSPs from both the competition for the market and competition in the market approaches.

Competition for the Market - Household Level. For residents that purchase a property in a subdivision or condominium, the WSP is often predetermined and is already included as part of the property amenities. This means that the new homeowners do not need to actively choose a provider, as revealed during the 2021 FGD with residents.

Role of Residential Managers. Respondents in the focus group discussions stated that their water was provided either by the developer, typically through a deep well, or by an external provider upon moving into their subdivision, according to the 2021 FGD with dependent residents. Aside from the property developer, property managers and HOAs or condominium corporations are also types of residential managers who have the authority to choose and manage a residential development's water services.

Property managers play a critical role in the administration and management of water services within residential developments. They are hired by developers to oversee facilities, handle administrative tasks, and manage billing processes. Property managers are responsible for contracting potential WSPs, although in some cases, the final approval rests with the board of directors (BOD) of the condominium corporation (Property Manager 2, personal communication, June 3, 2024).

The condominium corporation serves as the representative body for residents in condominiums, analogous to HOAs in subdivisions. The BOD of the condominium corporation has the authority to approve contractors for water service providers in residential developments (Property Manager 2, personal communication, June 3, 2024). In most subdivisions, especially those where rights have been transferred to the HOA, dependent residents discussed during the 2021 FGD that HOA's responsibilities include maintenance, peace and order, event management, representation, and decision-making regarding utilities.

In cases where the developer still retains control, the responsibilities of the HOA are limited, requiring the developer's approval for major decisions such as the choice of WSP. HOAs also face challenges in resolving water issues, such as intermittent water loss or poor water quality. Some of the dependent residents in the 2021 FGD respondents feel that their complaints to LGUs and the NWRB are not adequately addressed.

Ultimately, it is the developers that must provide basic utilities like electricity and water to secure construction and/or occupancy clearances, as revealed in the in-depth interview with HOAs in 2021. Legally, they are also required to provide the water service before selling units under Regulating the Sale of Subdivision Lots and Condominiums, Providing Penalties for Violations Thereof or PD No. 957 and other related laws (NWRB, personal

communication, July 9, 2025). Developers seeking projects need to apply for development permits (from LGUs for subdivisions, from the Department of Human Settlements and Urban Development for condominiums) and barangay clearance.

Property developers also coordinate with the utility providers in the early stages of development. Once fully turned over to HOA, the decision regarding entry of utilities falls under the prerogative of the HOA. The HOA's major responsibility, based on the interview in 2021, is ensuring the basic utilities such as water and electricity are provided in the residence.

According to the Revised Rules and Regulations (RR) for PD No. 957 (1976), which safeguards subdivision and condominium property buyers from real estate misrepresentations, the water supply for subdivisions and condominiums must be connected to a public water system or community system, provided the supply meets the requirements of the population. If this is not available, a centralized water supply system²⁴ shall be accepted as a water source. A central water system will only be accepted if it meets the necessary conditions for water requirements, fire protection demand, pipe specifications, and other relevant criteria.

At this stage, the selection of the WSP for a newly-built residential development often rests on the developer's preferences. This approach enables developers to choose a WSP that best fits their needs. The decision could also be influenced by the existing infrastructure or pre-construction planning. For example, one property manager noted that even though the developer is affiliated with Maynilad, said developer ultimately chose Manila Water because it is the most accessible infrastructure existing in the area (Property Manager 1, personal communication, May 22, 2024).

Competition in the Market - Household Level. The LWUA, in a knowledge sharing session held with PCC in 2024, emphasizes that residents always have a choice with regards to whoever they want to provide their water service. Like in the case in Deca Homes Davao, the community was previously supplied by PrimeWater. However, due to residents' complaints about the poor quality of water and service, Deca Homes Davao switched to a local water district (Padillo, 2020).

LWUA's sentiment is also echoed by the MWSS (2024) stating that consumers have the freedom to switch suppliers, asserting that there are no compulsory ties to concessionaires and that multiple water distributors are available to ensure consumer choice.

This shows that, at the household level, residents have the legal right to choose and change their WSP. However, in practice, consumer choice may be constrained by decisions of developers and residential managers restricting the options available to residents for selecting their WSP provider in residential developments, as compared to the district level.

However, the scenario of having multiple available WSPs to choose from is not always realistic due to various constraints. Many WSPs lack the financial and technical capacity to meet the needs of a growing population, let alone expand their services. In some areas, WSPs may be entirely absent (NEDA, 2021). For the purposes of the discussion, we focus on the scenario where multiple WSP options are available. Assuming there are other available WSPs present, the question is whether residents can switch or supplement their current water services.

²⁴ A centralized water supply system is a private water system established by the developer to serve a new subdivision or re-subdivision. It includes water treatment and distribution facilities.

B. Competition Issue #2: Switching Costs

In areas where multiple WSPs operate, residents may face challenges in changing their water services due to constraints imposed by residential managers and the structure of existing agreements. For instance, residents may have to pay a hefty fee for the logistics of connecting the new WSP to their pipes. Additionally, the costs associated with switching providers may come in the form of time and effort, as some WSPs may require altering existing pipes, which residents would need to spend time coordinating. These monetary and non-monetary switching costs can act as deterrents, discouraging residents from actually making the switch.

However, a scenario where switching costs are low may empower residents as it is easier for them to move to a different provider if they are not satisfied with the service or pricing offered by their current WSP. This ease of switching forces providers to be more competitive in terms of quality, price, and customer service, as they know that dissatisfied residents can easily choose another WSP. As a result, this scenario may incentivize providers to continually improve their offerings to retain customers, which benefits residents by ensuring they receive better value for their money.

When surveyed, 76.3% of the respondents of the 2021 nationwide water usage survey by PCC stated they would not be willing to switch to a different provider if their current provider imposed a 10% increase in monthly water rates, while 23.6% expressed willingness to switch.²⁵ The respondents also indicated that they would not switch providers in the event of a price increase due to the inconvenience of switching, such as extra paperwork and processing. Those connected to barangay water services added that their current rates would still be cheaper compared to alternatives.

On the other hand, participants in the PCC FGD reported several reasons for their reluctance or inability to change providers. For some, residents are not permitted by the developer to switch providers. In some subdivisions, even when the local water provider is allowed, homeowners must bear the costs of transferring services, including manpower, materials, and new piping. Additionally, dependent residents said in the 2021 FGD that they cannot cancel their subscription with the current provider and must continue paying the minimum fee, even if they do not use the service.

There are also cases where the developer has unilaterally changed the water provider without consulting residents. For instance, some residents who initially received water from local water districts found themselves serviced by a private provider after the local water district's rights were purchased. These residents were often not consulted and only learned of the change through their billing statements. Conversely, some homeowners have demanded a change in water providers due to issues with water supply, although they still require the developer's approval to make such changes, as revealed in the 2021 FGD with dependent residents.

The costs incurred by residents for switching WSPs vary depending on the provider, according to the MWSS in a knowledge sharing session with the PCC in 2024. Although developers typically construct pipes connected to each unit, the costs are often passed on to tenants through joining fees (the initial moving-in fee). Additionally, the use of water in common areas is charged through association fees (Property Manager 1, personal communication, May 22, 2024).

²⁵ This is under the assumption that there are possible alternative options.

Despite the challenges with water services, most residents claim in the 2021 FGD that they do not plan to move, primarily because they already own their homes and cannot afford to relocate.

Water service provision is a natural monopoly where the infrastructure and logistics involved make it impractical for multiple providers to operate concurrently within the same area. As a result, switching providers is almost always difficult, if not impossible, due to the significant inconvenience and associated costs mentioned above. The natural monopoly nature of water services means that residents are often locked into using a single provider, as the alternative involves expenses such as connecting to a new WSP, altering existing pipelines, and continuing to pay fees to the original provider.

These barriers, compounded by developer restrictions and the residential manager's decisions to change, reinforce the monopolistic control of the current water service provider, making the concept of switching more theoretical than practical for most residents (see **Box 2**).

Box 2: Issues with the water service

As a result of being unable to switch WSPs, residents might have to endure poor water service quality. This can include high and unexplained water bills, non-potable tap water, and low water pressure, especially during peak hours.

Water Rates and Other Costs to Residents

Water rates are based on the approved tariff rates for that WSP, and any additional charges posed by the residential manager for the management or billing services of the water utility. The water bill may be computed by adding the original bill from the main WSP that the resident pays, to the cost of using an additional water supply.

The FGD respondents generally find their water bills reflective of their consumption, with higher bills in some months attributed to increased usage. However, some feel their bills are too high or inaccurate, particularly those who have experienced local water districts as their main water service provider before. Some of the respondents said that issues with high water bills often lead to unsatisfactory explanations from developers or providers, who attribute the costs to usage or maintenance, even when service quality issues persist.

The overall satisfaction with water billing is mixed, with some residents highlighting the need for better explanations and options for managing their water expenses, such as online payments and more transparent billing practices.

Water Service Quality

Despite variations in water quality across different subdivisions, a common concern among residents is the non-potability of tap water. Many residents refrain from drinking faucet water due to past experiences or perceptions that water from deep wells and tanks is not clean or safe. For example, deep well water may mix with dirt, and tank water is prone to rust. Consequently, most residents use this water only for bathing, washing dishes, and clothes, while purchasing mineral water for drinking, which adds to their expenses.

Low water pressure, especially during peak hours, is another prevalent issue causing inconvenience for residents. Some residents have to schedule activities like laundry late

Box 2, continued

at night when water pressure is stronger. During brownouts, residents may also experience water interruptions, and even after power is restored, there can be a delay before water services resume. This dependency forces some residents to resort to using a water pump ("poso") outside their subdivision.

Sources: Property Manager 2, personal communication, June 3, 2024; 2021 FGD with dependent residents.

VI. CONCLUSIONS AND RECOMMENDATIONS**A. Summary of Competition Issues in the Water Distribution Market**

Two main competition issues have been identified in the water distribution market for the residential development segment.

First, at the district level, competition issues regarding consumer choice are mitigated by the CSP. However, at the household level, competition appears limited due to pre-construction decisions by developers and management decisions by residential managers, which restrict the options available to residents. The availability of WSPs also varies depending on the geographic conditions of the area. Both district and household levels show that while households are legally allowed to choose and switch freely between WSPs, in practice, there is some degree of restrictions preventing them from doing so.

Second, the high costs associated with switching WSPs pose a significant challenge as residents may face logistical and financial barriers imposed by their residential managers, despite the theoretical availability of alternative providers. However, this could also be in part due to the nature of water distribution as a natural monopoly, where the infrastructure and logistics make it difficult for multiple providers to operate simultaneously.

B. Recommendations

To address the identified issues in the residential water distribution market, several key actions are recommended.

Advocacy Efforts. First, enhancing consumer choice, while crucial, may be challenging given the high costs associated with setting up Level III water systems. Although it is not feasible to compel the emergence of new WSPs in an area, developers and residential managers could be mandated to disclose available WSP options to potential and existing buyers and residents, enabling informed decision-making.

Related agencies may also develop and implement educational programs to inform consumers about their rights to choose and switch among WSPs. These programs could include informational brochures, online resources, and community workshops explaining the benefits and processes involved in switching providers.

Additionally, a centralized online platform, like the *Listahang Tubig* project, could provide consumers with information about different WSPs, including service quality ratings, pricing, and customer reviews. The *Listahang Tubig*, or any similarly planned platform, should be designed to function as a comprehensive, user-friendly tool where consumers

can compare WSPs.²⁶ This would also involve close collaboration between regulatory bodies, such as LWUA and NWRB, to ensure that the platform is regularly updated with accurate and relevant data, helping to reduce information asymmetry in the market and ultimately driving competition.

The NWRB (personal communication, July 9, 2025) proposed enhancing the platform by improving its public interface, incorporating visualization of service coverage, publishing tariffs and performance indicators, and providing user-friendly search and comparison tools for households and developers. They also suggested establishing inter-agency data linkages with the DTI, HLURB and LGUs, and expanding access to verified data of the WSPs with active CPCs.

Enforcement Efforts. Second, ensuring that households have the ability to switch WSPs is vital for enhancing competition. Enforcing regulations that prohibit exclusivity clauses at the household or resident level can ensure that while a main provider may be chosen by the developer or property management, individual households retain the right to shift to another provider if they choose to do so. In addition, it should also be clear to residents whether there are any fees associated with choosing another WSP, such as a switching fee or an installation fee imposed by the developer or property management. Residents should also be informed of how much these fees would cost.

In the strategic policy dialogue with the representatives from NWRB held on June 11, 2025, they recommended that service contracts include clear turnover provisions that allow HOAs and residents the option to change WSPs. This could be done by limiting the period of exclusivity to a reasonable timeframe of around five to 10 years to allow developers to recover their investment and to ensure smooth transition to avoid regulatory gaps. Additionally, requiring WSPs and developers to clearly communicate the options available to residents, including the process and costs associated with switching providers, can empower consumers to make informed decisions and ensure a smoother transition if they decide to switch.

The findings of the study show that while the water distribution market in residential developments may not be critically compromised in terms of competition, there are still areas for improvement. These include enhancing consumer choice through information campaigns and required transparency from property developers and residential managers, as well as reducing barriers to entry for newer and potential WSPs. By addressing these issues, the water distribution market can become more competitive and consumer-friendly, ultimately leading to improved service quality and better outcomes.

That said, we acknowledge the structural and regulatory challenges facing the water distribution market, as highlighted by ongoing initiatives such as the National Water Resource Management Framework Plan and the Philippine Water Supply and Sanitation Master Plan. This market study offers a complementary solution through the lens of competition policy, aimed at enhancing consumer choice, promoting efficiency, and driving innovation within the sector.

It is important to note that competition policy and regulation are not mutually exclusive; rather, they work hand in hand to ensure that the market functions effectively while safeguarding public welfare. By addressing both regulatory and competitive dimensions, a more comprehensive and sustainable approach to water resource management can be achieved.

²⁶ Other countries have similar platforms that allows consumers to choose their water and wastewater service providers, or to search public water systems by geographic area, such as the United Kingdom's Open Water platform, and the United States Environmental Protection Agency's Safe Drinking Water Information System.

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VIII. ANNEX

A. Detailed Discussion of the Water Sector

Previous literature on the water sector in the Philippines highlights numerous issues, including significant accessibility problems, a fragmented regulatory framework, low capacity, underinvestment, and a special vulnerability to climate change (NEDA, 2021; Velasco et al., 2021; USAID, 2023; Uy et al., 2024).

1. Accessibility

Given the country's supply of water vis-à-vis the demand, the Philippines is classified as water-stressed (NEDA, 2021). In general, water stress occurs when the demand for water exceeds the available supply during a certain period (European Environment Agency, 1999). In particular, on the demand side, the United Nations (UN) considers a territory as water-stressed when it withdraws 25% or more of its renewable freshwater resources (Food and Agriculture Organization of the UN, 2021). Meanwhile, from the supply perspective, an area is water-stressed when annual water supplies drop below 1,700 m³ per person (United Nations, 2012).

The NEDA estimates that the country has a freshwater supply of 146 bcm annually (NEDA, 2023 as cited in Uy et al., 2024). Meanwhile, the Philippine Statistics Authority (PSA)'s Water Flow Accounts data reveal that the total freshwater extractions in 2020 amounted to 87,355.7 mcm (Ordinario, 2021).

Total water abstraction for 2020 was recorded at 218.46 bcm (PSA, 2020).²⁷ Consequently, as of 2020, the country's water stress level was measured at 26.7% (NEDA, 2021; Velasco et al., 2021; USAID, 2023; Uy et al., 2024). Historically, this is the third highest mark since 2010 (Ordinario, 2021). More worryingly, the data suggests that at least 40% to 80% of the country's total water supply would be depleted by 2040 (Maddocks et al., 2015).

Situating these statistics within 2015 population data, the Philippines has a yearly figure of 1,446 m³ of available water per capita (NEDA, 2021). The UN notes that when annual water supplies drop below 1,000 m³ per person, the population faces water scarcity, and below 500 m³, absolute scarcity (NEDA, 2021).

In 2015, out of a total population of 100 million, 12.40 million Filipinos or 12.3% of the population, did not have access to safe water (PSA, 2015 as cited in NEDA, 2021).²⁸ Moreover, about 55% need an upgrade to fully meet safely managed water access (PSA, 2015 as cited in NEDA, 2021).

Meanwhile, 12.4 million Filipinos do not have access to basic drinking water services, relying mainly on unsafe sources (PSA, 2015 as cited in NEDA, 2021); and about 26 million do not have access to basic sanitation, including four million that practice open defecation.²⁹

²⁷ Water abstractions refer to the process of extracting water from the ground or surface water sources, either permanently or temporarily, and conveying it to the place of use. On average, around 98.1% of total abstraction was from surface water sources, e.g. lakes, artificial reservoirs, rivers, and streams. Further, the same study found that 98.6% of this water was for own use while the remaining was for distribution to other economic units.

²⁸ In the PWSSMP, safe sources of water refer to water from the following sources: own faucet community water system, shared faucet community water system, shared tube/piped deep well, piped shallow well, and protected spring/river/stream.

²⁹ Meanwhile, the following are categorized as unsafe sources: dug wells, lakes, water sold by peddlers, rain, and unprotected springs, rivers, and streams.

2. Fragmented Regulatory Framework

Currently the Philippine water sector is overseen and regulated by 26 different agencies performing various water-related functions.³⁰ Essentially, there is no lead nor central agency overseeing all water-related matters, and there is a heavy reliance on ad hoc coordination (NEDA, 2021). Studies by NEDA and the PIDS have found that this fragmented regulatory framework has resulted in gaps in coverage, overlapping mandates and functions, and inconsistencies in the application of standards (Velasco et al., 2021; Uy et al., 2024; Velasco, 2021; USAID, 2023; Asian Development Bank, 2013; Smets, 2015).

First, the current framework leaves certain sectors without adequate regulation. According to the NEDA (2021), only 27% of the country's piped water utilities are subject to economic regulation, meaning 73% operate without any standard guidelines for tariff setting or performance oversight. Moreover, LGU-run utilities and the MWSS are not required to adhere to national standards or targets (Uy et al., 2024).

Second, different agencies performing various water-related functions results in overlapping and conflicting mandates across multiple areas (Velasco et al., 2021; Velasco, 2021; NEDA, 2021).

In turn, this leads to coordination problems, with different agencies pursuing narrow and compartmentalized agendas often at the expense of more efficient integrated solutions (Uy et al., 2024). For example, the NIA and the LWUA or local water districts both manage water resources, but the NIA prioritizes irrigation while the LWUA/local water districts focus on water distribution for mostly commercial and domestic use (Uy et al., 2024; An Act Granting the National Irrigation Administration, 1963; PD No. 198).

Further, this also leads to duplicated efforts and unclear accountability. For instance, the Forest Management Bureau (FMB) of the DENR and the NWRB are both mandated to coordinate and recommend programs for water resource development (Providing for the Reorganization of the Department of Environment, Energy and Natural Resources, 1987; Creating a National Water Resources Council, 1974).

Third, operating standards, evaluation metrics, and technical regulations are not consistent among agencies (Velasco et al., 2021). For example, "NWRB's technical regulations do not include several metrics required by the LWUA, such as collection efficiency, capital expenditure, reserves, and staff productivity index. Conversely, LWUA does not consider aspects like customer feedback and water pressure standards" (Uy et al., 2024, p. 15).

Because of these persisting challenges, several bills have been filed in both the House of Representatives and the Senate to push for the establishment of a central policy making body for the water sector. The National Water Act, identified as a priority bill, seeks to establish a Department of Water Resources and a Water Regulatory Commission, and to reconstitute the NWRB into the National Water Resources Allocation Board.

The Department of Water Resources shall be the apex governing body for water. All other agencies will fall under its oversight including the National Water Resources Board and the Local Water Utilities Administration.

³⁰ For instance, various aspects of the water distribution sector in particular are governed in different capacities by the following: the Department of Finance (DOF), the Cooperative Development Authority (CDA), the local government units (LGUs), Metropolitan Waterworks and Sewerage System (MWSS), the Department of Agriculture (DAR), the LWUA, the NWRB, the Department of Interior and Local Government – Project Management Office (DILG-PMO), Water Supply System Project (WSSP), and the Department of Social Work and Welfare (DSWD).

The Water Regulatory Commission shall be an independent, quasi-judicial regulatory body with overall authority and powers that shall cover and apply to all service providers, whether private or public, providing or intending to provide water supply, including suppliers to subdivision or other service providers, sewerage, or septage treatment and disposal services.

3. Underinvestment

The regulatory framework of the water sector has been noted to create barriers to financing, leading to significant underinvestment in water management infrastructure, particularly from the public sector.

NEDA has calculated that the country needs to invest a total of PHP 1.1 trillion to achieve the Sustainable Development Goal (SDG) on water supply and sanitation by 2030 (Ordinario, 2021). Meanwhile, an estimated PHP 730 billion is needed to achieve the Philippine Development Plan (PDP) targets (NEDA, 2021). However, this daunting amount has never before been invested by the country in the water sector. For one, funding for local water utilities and local government support is weak and intermittent. For instance, in most local government budgets, public investments in water resource management are below 1% (USAID, 2023).

Further, even when the national government steps in, the funding is not consistent. For instance, while the Local Government Support Fund Assistance to Municipalities (LGSF-AM) hit PHP 1,500 million total expenditures in 2017, the mark was at PHP 500 million in 2013 and 2018 (Velasco et al., 2021).³¹

Lastly, the lack of investment coordination has “resulted in multiple water supply utilities operating in the same areas” (Velasco et al., 2021, p. 35). For example, in Taytay, Palawan, both LGU-run and local water district-led utilities operate, showing a duplication of investment and inefficient use of funds (Santos Jr., 2020 as cited in Velasco et al., 2021).

4. Low Capacity

The water distribution system in the country is characterized by low capacity and weak technical and financial management. Notably in 2016, of the 748 water districts in the Philippines, only 515 or 69% are operational, leaving 233 classified as non-operational (NEDA, 2021).

Level I service. As of 2024, there are a total of 28,285 WSPs in the country. Of this number, 15,626 or 55% provide Level I service (NWRB, n.d.-a). This service level provides a protected well or a developed spring with an outlet but without a distribution system. These sources serve an average of 15 households within a radius of 250 meters (NEDA Board Resolution No. 12, 1995 as cited in NEDA, 2021).

LGU-run utilities. There are 4,440 WSPs recorded as LGU-run utilities, which have been noted to be an ineffective model for water distribution (NEDA, 2021; Velasco, 2021), with a reported average of only 19 hours of water supply a day (NEDA, 2021). Further, records show that only 21% of sample LGU-run utilities reported water potability tests (NEDA, 2021). Studies have traced these poor results to: the lack of clear performance targets for accountability, a lack of long-range planning and trained staff, and a sensitivity to short-term political considerations (World Bank, 2013; NEDA, 2021).

³¹ The LGSF-AM is a performance- and equity-based program that started as the Bottom-up Budgeting (BUB) program. Other programs for water supply projects are the Performance Challenge Fund in 2015 and the water supply and sanitation for poverty areas and priority tourism sites led by the Department of Public Works and Highways in 2016.

Vulnerability to Natural Disasters and Climate Change. The Philippines' unique vulnerability to natural disasters coupled with the adverse effects of climate change further threaten water supply and distribution especially for the future (USAID, 2023).

The Philippines is highly hazard prone with weak adaptive capacity and low disaster risk reduction policies (Garschagen et al., 2016 as cited in NEDA, 2021). Particularly, the country experiences a significant number of typhoons and earthquakes. An average of 19.4 tropical cyclones enter the Philippine Area of Responsibility every year, with 9 of them making landfall (Cinco et al., 2016). Meanwhile, the Philippines Seismic Network records an average of 20 seismic movements a day (Castillejos, 2011).

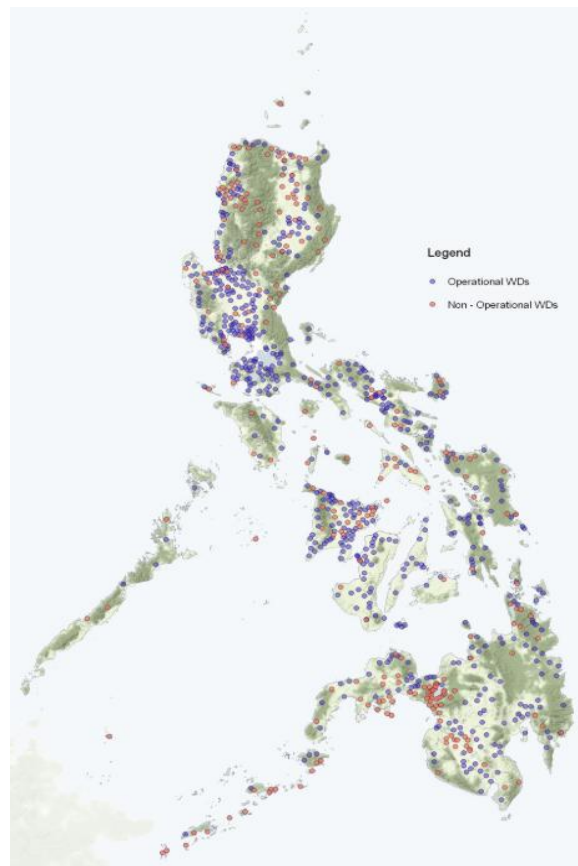
These natural disasters cause large-scale destruction of infrastructure, including for water supply, and redirect funds that could have otherwise been used to improve water sanitation and distribution systems (NEDA, 2021).

Climate change further exacerbates these problems. For one, changing rainfall patterns “could mean lower flows, resulting in water shortages” (NEDA, 2021, p. 18)

Further, higher temperatures caused by climate change “will increase evapotranspiration and cause longer and more intense droughts.” In turn, this can affect soil porosity and vegetation, which lessens the capacity of groundwater to recharge (NEDA, 2021, p. 18).

B. Map of Water Districts in the Philippines

Figure B1: Map of water districts in the Philippines



Source: NEDA (2021).

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