Regulatory Framework for the Manila Water Concessions

Tomoyo Negishi

I. Introduction

Since the late 1980s, private sector participation has been adopted for infrastructure development in developing countries. Investment commitments to private infrastructure projects in water and sewerage sector increased by more than a hundredfold between 1990 and 2000, and peaked at approximately US$10 billion in 1997. The Manila water concessions which took place in the Philippines in 1997 were the world largest projects involving US$7 billion investment commitment at the time.

In 1994, the government of the Philippines conceptualized the privatization of the Metropolitan Waterworks and Sewerage System (MWSS), a government-owned corporation, to address “water crisis”. MWSS was responsible for providing water and sewerage services in the Metropolitan Manila, but it largely failed in its operation.

In August 1997, two private companies: Manila Water Company, Inc. (Manila Water) and Maynilad Water Services, Inc. (Maynilad) took over the operation of MWSS under a 25-year concession agreement. While MWSS retains ownership of its assets, the two concessionaires are responsible for operating, maintaining and investing in the water and sewerage system in Metro Manila under the Concession Agreement.

Although there was enthusiasm in the adoption of private sector participation in infrastructure development, many projects faced difficulties including the Manila water concessions. Maynilad which provided water and sewerage services in the west zone of Metro Manila terminated its concession in 2003.

Studies show that the private sector participation in infrastructure development seemed to enter a new phase since 2001. While investment in projects with private participation in water and sewerage sector has declined, the number of the projects has remained at high level, which means that a scale of projects is reducing. According to PPI Project Database[1], private activity has been more focused on water and sewerage treatment plants than utilities since 2003. Most of the projects with private participation occurred in two regions: East Asia and the Pacific, and Latin America and the Caribbean. In 2008, China alone accounted for 71 percent of new projects and 31 percent of investment.

Much has been done in analyzing the experiences of private sector participation in water and sewerage sector including the Manila water concessions. We can evaluate the case of Manila by comparing the performance of MWSS with that of the two concessionaires and also by comparing the performance of Manila Water with that of Maynilad. The focus of this paper, therefore, will not only be on the performance of the concessionaires but also on regulatory operations in the concessions.

This study will begin by giving an overview of the Manila water concessions. The institutional framework for committing public utility to private sector in the Philippines was established by the Build-Operate-Transfer (BOT) Law enacted in 1990 and its amendment in 1994. It was further enhanced by the Water Crisis Act enacted in 1995, which
gave the President of the Philippines the authority to privatize MWSS. This chapter will highlight the privatization process and its framework under the Ramos Administration and also how a regulatory body was established based on the Concession Agreement.

The second chapter will focus on the water and sewerage services provided by the two concessionaires. Manila Water, providing the services to approximately 5.6 million people in the east zone of Metro Manila, has accomplished remarkable improvements in many aspects such as water connections, water availability, non-revenue water\(^3\) (NRW) and services for the urban poor. Maynilad, on the other hand, faced difficulty soon after the privatization and experienced a change of ownership in 2007; despite of this, some improvements can still be seen in the west zone.

The paper will also discuss the regulatory framework in the Manila water concessions. The MWSS Regulatory Office (the Regulatory Office) was established as a regulatory body under the Concession Agreement. The Regulatory Office takes an important role not only in controlling tariffs but also in monitoring the operations of the concessionaires. The Regulatory Office became a quasi-autonomous office instead of an independent organization because of the tight timetable for the privatization. This chapter will describe the functions of the Regulatory Office.

Finally, the paper will show how the regulatory framework in the Manila water concessions works. The regulatory operations in tariff control and service monitoring will be analyzed. This chapter will be concluded by showing the challenges which the Regulatory Office is facing in implementing the regulations.

II. Overview of the Water Concessions in Metro Manila

1. Pre-Privatization of the Metropolitan Waterworks and Sewerage System (MWSS)

Metropolitan Manila is the national capital region of the Philippines which has approximately 11.6 million people constituting 13 percent of the total population of the country\(^3\). The Manila Water Supply System is considered the oldest water system in Asia, having been constructed in 1878.

In 1994, faced with "water crisis" in Metro Manila, the government conceptualized the privatization of MWSS. MWSS supplied water to only two-thirds of its coverage population for an average of only 16 hours per day and supplied sewerage to only 8 percent of its coverage population, and NRW in Metro Manila was 56 percent which was much worse than other Asian cities (Dumol 2000, p. 5) (Table 1 shows a comparison of the performance in water utility in Asian cities). At that time, MWSS relied on its financing on Official Development Assistance, and it also faced financial difficulty.

In 1995, the Water Crisis Act was enacted, which granted the President of the Philippines the power to negotiate contracts for the water and sewerage sector. Prior to the enactment of the Water Crisis Act, the BOT law and its

### Table 1 Comparison of Water Utility in Asian Cities, 1995

<table>
<thead>
<tr>
<th>City</th>
<th>Population (million)</th>
<th>Water Coverage (percentage of population)</th>
<th>Water Availability (hours/day)</th>
<th>Non-Revenue Water (percentage of production)</th>
<th>Staff/1,000 Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manila</td>
<td>10.6</td>
<td>67</td>
<td>17</td>
<td>58</td>
<td>9.8</td>
</tr>
<tr>
<td>Bangkok</td>
<td>7.3</td>
<td>82</td>
<td>24</td>
<td>38</td>
<td>4.6</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6.3</td>
<td>100</td>
<td>24</td>
<td>36</td>
<td>2.8</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>1.4</td>
<td>100</td>
<td>24</td>
<td>36</td>
<td>1.1</td>
</tr>
<tr>
<td>Seoul</td>
<td>10.6</td>
<td>100</td>
<td>24</td>
<td>35</td>
<td>2.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>3.0</td>
<td>100</td>
<td>24</td>
<td>7</td>
<td>2.0</td>
</tr>
</tbody>
</table>

amendment were enacted to commit public utility to private sector. It was the Water Crisis Act, however, which became the legal basis for the privatization because it gave the President authority to privatize MWSS. In addition, the law gave authority to MWSS to retrench personnel and also criminalized the theft of water (Dumol 2000, p. 26).

The privatization of MWSS was carried out under the initiative of President Ramos. He tried to make the people understand the problems in the water and sewerage sector through “Water Summits”. The public gradually became aware of the problems and the necessity of reforming the sector (Dumol 2000, pp. 10–11). He succeeded in making a consensus among the people to have the water and sewerage sector privatized. Among the reasons cited to privatize MWSS were: to improve and expand the water supply and sewerage services, to reduce NRW, to raise customer satisfaction and to mitigate financial debt of the government. To implement the privatization smoothly, MWSS needed the service of advisers who have vast experiences with the water and sewerage sector privatization. It was able to achieve this by entering into a contract with the International Finance Corporation (IFC).

2. Privatization Process

According to the Philippine Constitution, public utilities must be owned and controlled by the Filipinos. A concessionaire must be 60 percent owned by a Filipino. Because of this provision, MWSS retained ownership of its assets after privatization. The concessionaire, on the other hand, took over the sole right to manage, maintain, and develop the water and sewerage system under the 25-year concession agreement.

According to the followed privatization framework based on the recommendation of IFC, Metro Manila was divided into two zones: East and West. The East Zone included the business districts such as Makati, and it seemed to require a higher investment compare to the West Zone. The West Zone, on the other hand, would require a lower investment because of its higher population than the East Zone. The population ratio was 60:40. The reasons to divide service area into two zones were to give the regulators more leverage in their negotiations with the concessionaires and to give a safety valve in case of financial trouble of one concessionaire (Dumol 2000, p. 45). In the Concession Agreement, the debt of MWSS was divided between the two concessionaires. The figure arrived at was 90:10 loaded heavily on the West Zone to balance the bids45. As a result, Maynilad was responsible for approximately US$800 million of the MWSS debt (Chiplunkar, Duehas and Flor 2008, p. 2).

Four bidders, joint ventures of international water operators and local firms, were allowed to submit a bid through the prequalified bidding process. The bidders were as follows:

a. International Water (composed of United Utilities of the United Kingdom and Bechtel Corporation of the United States) and Ayala Corporation
b. Lyonnaise des Eaux (France) and Benpres Holdings
c. Compagnie Generale des Eaux (France) and Aboitz Equity Ventures
d. Anglian Water International (United Kingdom) and Metro Pacific Corporation

(Dumol 2000, p. 84)

The bids were opened on January 23, 1997. Each bid was expressed as a coefficient representing a discount on the existing average basic tariff of MWSS (Castalia 2005, p. 23) (Table 2 shows the bids of the four bidders). A joint venture, which includes Ayala Corporation, submitted the lowest bid for both zones. However, a single entity was not able to have both zones. As such, the joint venture was only awarded the East Zone. The consortium of Lyonnaise des Eaux and Benpres Holdings which submitted the second-lowest bid was awarded the West Zone.
Table 2  Bids of the Four Bidders

<table>
<thead>
<tr>
<th></th>
<th>Percent bids</th>
<th>Peso bids</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alaya-International Water</td>
<td>28.6333</td>
<td>P2.5140</td>
</tr>
<tr>
<td>Benpres-Lyonnaisse des Eaux</td>
<td>56.5922</td>
<td>P4.9688</td>
</tr>
<tr>
<td>Aboitiz-Compagnie Generable des Eaux</td>
<td>56.8800</td>
<td>P4.9941</td>
</tr>
<tr>
<td>Metro Pacific-Anglian Water Int’l</td>
<td>66.8998</td>
<td>P5.8738</td>
</tr>
<tr>
<td>East Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alaya-International Water</td>
<td>26.3886</td>
<td>P2.3169</td>
</tr>
<tr>
<td>Aboitiz-Compagnie Generable des Eaux</td>
<td>62.8800</td>
<td>P5.5209</td>
</tr>
<tr>
<td>Metro Pacific-Anglian Water Int’l</td>
<td>64.5080</td>
<td>P5.6638</td>
</tr>
<tr>
<td>Benpres-Lyonnaisse des Eaux</td>
<td>69.7888</td>
<td>P6.1275</td>
</tr>
</tbody>
</table>

Source: Dumol (2000).

Table 3  Service Targets in the Concession Agreement

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>2016</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>West Zone</td>
<td>East Zone</td>
<td>West Zone</td>
<td>East Zone</td>
<td>West Zone</td>
</tr>
<tr>
<td>New Water Supply Coverage Targets</td>
<td>84.7%</td>
<td>77.1%</td>
<td>97.1%</td>
<td>94.1%</td>
<td>97.7%</td>
</tr>
<tr>
<td>Sewerage Coverage Targets</td>
<td>16%</td>
<td>3%</td>
<td>20%</td>
<td>16%</td>
<td>21%</td>
</tr>
</tbody>
</table>

3. The Concession Agreement

On February 21, 1997, Manila Water and Maynilad were awarded the Concession Agreement and started their operation in August of the same year. The relevant provisions of the Concession Agreement are: the obligations of the concessionaire (Article 5 and 6), obligations of MWSS (Article 7), rate and connection charges (Article 9), and regulatory office (Article 11).

Article 5 provides that: “the Concessionaire shall make at least sufficient connections to meet the coverage target percentages of the population in the designated municipality at the time of the target set out in Schedule 2 hereto by the dates specified in that Schedule (Section 5.1.1)”. Also, for supply of sewerage service and sanitation cleaning services, it is provided that the Concessionaire shall meet the coverage target percentages of the total population in the designated municipality at the time of the targets set out in Schedule 3 and 4 (Section 5.2.1 and 5.2.4) (Table 3 shows the service targets specified in the Concession Agreement).

The tariff adjustment mechanism is one of the most important parts of the Concession Agreement. Article 9 provides for Standard Rates (Section 9.1) and Rate Adjustments (Section 9.2, 9.3 and 9.4). Standard Rates may be adjusted from time to time in accordance with the rate adjustment provisions set forth in Sections 9.2, 9.3, and 9.4, and the concessionaire may charge Customers a Currency Exchange Rate Adjustment (CERA) payment of one Peso per cubic meter of water consumed above the Standard Rates. There are three tariff adjustment mechanisms set in the Concession Agreement: inflation adjustment, extraordinary price adjustment (EPA), and rate rebasing. Inflation adjustment is the annual adjustment based on inflation measured by the consumer price index (CPI). EPA is a price adjustment to compensate for extraordinary events such as any change in law, government regulation, and an inevitable accident. Rate Rebasings is implemented every five years based on the historic and future cash flows intending to permit the Concessionaires to cover the 25-year term of the concession operating, capital maintenance, investment
expenditures, and other factors.

Article 11 provides an establishment of a regulatory office, and it takes an important role in making the Concession Agreement work. It is provided that the MWSS Board of Trustees shall establish and fund a regulatory office (the “Regulatory Office”) to be organized and operated in a manner consistent with the description contained in Exhibit A hereto (Section 11.1). MWSS allocates the concession fees received from the concessionaires to the Regulatory Office and MWSS as an annual budget each year. The Regulatory Office plays an important role not only in terms of monitoring concessionaires’ operation but also tariff control. However, the Regulatory Office only has the power for recommendation, and any decision to approve tariff adjustment rests on the MWSS Board of Trustees. The functions of the Regulatory Office will be discussed in the following chapters.

III. Water Supply and Sewerage Services in Metro Manila

1. Overview of the Two Concessionaires

Manila Water Company, Inc. is now providing water and sewerage services to the East Zone of Metro Manila including 23 cities and municipalities with a served population of approximately 5.6 million. Manila Water has already covered 99 percent of its service area with 24-hour supply of clean water and has experienced success not only in increasing the water connections and water availability but also in reducing NRW and providing water to the urban poor. Since March 2005, Manila Water has been listed in the Philippine Stock Exchange. Its shares are held by Ayala Group (31.7%), United Utilities (11.7%), Mitsubishi (7%), IFC (6.8%), and the Public (42.8%) (MWCI 2008b, p. 7).

Maynilad Water Services Inc., on the other hand, experienced a change of ownership in 2007 and is now managed by DMCI-MPIC Water Company, a joint venture between DMCI Holdings, Inc. (DMCI) and Metro Pacific Investments Corporation (MPIC). The DMCI-MPIC consortium took over Maynilad on January 24, 2007 and is supplying water and sewerage services to 6.4 million customers in 12 cities in the West Zone of Metro Manila. Only 58 percent of its service area has a 24-hour water supply.

The two concessionaires faced two crises in 1997–98: Asian financial crisis and the El Niño phenomenon. Maynilad was the one heavily affected by the crises. The 90 percent of MWSS’ debt which Maynilad shouldered as mentioned earlier, almost doubled with the Asian financial crisis. In addition, the El Niño phenomenon caused serious drought in Angat reservoir which the concessionaires relied on most of their water resources. This reduced the water supply by at least 40 percent (Chiplunkar, Duenas and Flor 2008, p. 3). Despite of the tariff increase granted as EPA and in Amendment No. 1 to the Concession Agreement, Maynilad was not able to cover the financial losses and pay the concession fees. Finally, after giving a notice for an early termination of the Agreement in December 2002, Maynilad terminated the concession. MWSS, however, claimed that it is the one who had the right to give a notice of termination due to nonpayment of concession fees. The dispute was resolved by arbitration\(^5\), and the appeals panel ordered Maynilad to pay the outstanding concession fees (Chiplunkar, Duenas and Flor 2008, p. 3).

After the long struggle, Maynilad, MWSS, its shareholders and creditors underwent a debt and capital restructuring process\(^6\). Thereafter, MWSS became the largest shareholder of Maynilad in 2005. MWSS announced a bidding process for the ownership of Maynilad in August 2005. The successful bidder was DMCI-MPIC which took over the management of Maynilad in January 2007. Exactly one year later, the new Maynilad has paid off its remaining foreign debts of about US$240 million, allowing them to exit Maynilad’s rehabilitation phase way ahead of its 2013 deadline (Chiplunkar, Duenas and Flor 2008, p. 1).

2. Service Performance of the Two Concessionaires

Table 4 shows the service performance of the two concessionaires in 2001 and 2006 with the comparison to service
Table 4  Service Performance of the Two Concessionaires in 2001 and 2006 with the Comparison to the Service Targets in Water and Sewerage Coverage

<table>
<thead>
<tr>
<th>Service Indicators</th>
<th>MWCI</th>
<th></th>
<th>MWSI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Service Connections</td>
<td>779,380</td>
<td>352,982</td>
<td>562,499</td>
<td>577,637</td>
</tr>
<tr>
<td>Annual Average Water Production (mld)</td>
<td>2,800</td>
<td>1,689</td>
<td>1,316</td>
<td>2,217</td>
</tr>
<tr>
<td>Non-Revenue Water (NRW)</td>
<td>61%</td>
<td>48%</td>
<td>30.30%</td>
<td>66%</td>
</tr>
<tr>
<td>Water Coverage</td>
<td>67%</td>
<td>77.1%</td>
<td>76%</td>
<td>94.1%</td>
</tr>
<tr>
<td>Sewerage Coverage</td>
<td>7%</td>
<td>3%</td>
<td>3%</td>
<td>16%</td>
</tr>
<tr>
<td>Staff/1,000 Connections</td>
<td>9.8</td>
<td>4.3</td>
<td>2.4</td>
<td>4.5</td>
</tr>
</tbody>
</table>


targets in water and sewerage coverage. The number of water service connections between the period 2001 and 2006 increased compared to pre-privatization. It can also be observed that the rate of Manila Water is higher than that of Maynilad. Manila Water has reduced NRW to a half since 1997, however, NRW in the West Zone has increased. Water and sewerage coverage targets were set under the Concession Agreement every five year. Manila Water was behind the target in water coverage in 2001, but was able to achieve it in 2006. It has already covered 99 percent of its service area with 24-hour water supply as mentioned above. Sewerage coverage in the East Zone was only 10 percent in 2006, but Manila Water expanded its service and the coverage is approximately 16 percent in 2009 (Kim 2010, p. 7).

Water coverage of Maynilad in 2006 was far behind its target, and sewerage coverage declined to 9 percent. According to the Maynilad 2008 Annual Report, water service coverage has increased to 78 percent in 2008, and 58 percent of its service area has 24-hour water supply. The number of the staff per 1,000 connections was reduced in both Manila Water and Maynilad.

Figure 1 and Figure 2 illustrate the total number of water service connections and percent reduction in NRW from 1997 to 2008 for both concessionaires. While the number of water service connections for Manila Water increased slowly until 2003, it has increased sharply since 2004. From 2003, a stable increase in Maynilad can be seen. NRW has been a major problem in water supply system in Metro Manila. Its reduction in the East Zone by Manila Water is one of the significant achievements of privatization. NRW has decreased remarkably from 52.39 percent in 2002 to 19.6 percent in 2008. In the West Zone, however, NRW has not improved and is still at a high level of around 60 percent.

The remarkable improvement of the Manila Water is the expansion of its service to the urban poor. The Company has launched Tubig Para Sa Barangay (TPSB) (Water for the Community) program in 1998, which was aimed at providing water to the urban poor. This program has allowed more than 1.5 million individuals or 300,000 households, in marginalized communities to enjoy a 24-hour water supply in their own homes (MWCI 2006, p. 13). It has been observed that low-income family had to get water from deep well and depend on water vendors for drinking water. As

**Figure 1 Total Number of Water Service Connections**


**Figure 2 Non-Revenue Water (NRW)**
such, people suffer from water-borne diseases, and they have to spend more money to buy bottled water. The program enabled them to get a regular supply of clean, safe and affordable drinking water. It also reduced diarrhea cases.

3. Two Different Experiences

Even though the two concessionaires similarly faced two crises just after the privatization, they went to totally different ways. As mentioned above, while Manila Water has succeeded in making profit and being able to be listed in the Philippine Stock Exchange, Maynilad has experienced financial difficulty, and had the contract terminated. Some studies have shown that Maynilad was hit hard by the Asian financial crisis because it took over 90 percent of MWSS’ debt which was denominated in dollars which doubled after the crisis. Its problem was compounded when the water supply from Angat reservoir decreased due to the drought caused by the El Niño phenomenon. These external factors affected the water privatization in Metro Manila, especially the operations of Maynilad. There are, however, some identified internal factors that are regarded as important elements for determining the success of water privatization.

Wu and Malaluan analyze the cases of the two concessionaires and suggest that internal factors such as corporate governance, financial management and operations management are key factors that determine the success of water privatization. Both of the concessionaires are joint ventures between the largest family conglomerates in the Philippines and multinational water companies. According to their study, the relationship between the local and international firms in the two concessionaires was different. Manila Water has maintained an arm’s-length relationship but not Maynilad (Wu and Malaluan 2008, pp. 217–218). The study also showed that Manila Water made some critical adjustments to its financial management in response to the crisis such as focusing on domestic lenders for capital expenditures, slowdown in its capital expenditure and targeting the areas that were most likely to produce financial improvements with a limited amount of capital expenditure (Wu and Malaluan 2008, p. 219–220).

After the privatization, MWSS employees were hired by the two concessionaires. Manila Water gave its employees sufficient retraining and support, and the middle and senior management positions of Manila Water were mostly staffed by former MWSS employees whereas incomers from the international firm took up most of the new company’s management positions in Maynilad. The Company also succeeded in reducing NRW, which was the result of its innovative approaches such as territory management15 and the Water for the Community program.

IV. Regulatory Framework

1. Establishment of the MWSS Regulatory Office

Since water utilities are natural monopolies, customers can not choose suppliers. This means that there is no competitive pressure to ensure the concessionaires provide the services that customers want. Economic regulation is a way to address the problem of natural monopoly, which is defined as the rules and organizations that set, monitor, enforce, and change the allowed tariffs and service standards for water providers (Groom, Halpern and Ehrhardt 2006, p. 5). The objective of economic regulation is to ensure water providers offer appropriate services at reasonable prices.

In the process of the privatization, the advisors from IFC recommended the creation of an independent regulatory body such as OFWAT (the Water Services Regulation Authority) in the United Kingdom in terms of tariff control and operation monitoring. OFWAT is a non-ministerial government department established in 1989 when the water and sewerage industry in England and Wales was privatized under the Thatcher Administration. In the Manila water concessions, however, legislation was required to establish an independent regulatory office, and there was no time for that at that time (Dumol 2000, p. 56). Consequently, the Regulatory Office was created as a quasi-autonomous body within MWSS. Article 11 of the Concession Agreement provides the creation and fund of a regulatory office by the MWSS Board of Trustees. Section 11.1 provides:
The MWSS Board of Trustees shall establish and fund a regulatory office (the "Regulatory Office") to be organized and operated in a manner consistent with the description contained in Exhibit A hereto, subjected to such changes thereto that the MWSS Board of Trustees may make from time to time, and shall have the functions and powers described in that Exhibit. Decisions of the Regulatory Office requiring action by the MWSS Board of Trustees, including decisions affecting the level of Standards Rates, shall promptly be submitted to the Board in accordance with Section 7.1 hereof.

Article 7 provides for the obligations of MWSS. Section 7.1 requires “cooperation with actions undertaken by the Concessionaire to implement changes to the Standard Rates for water and sewerage services as instructed by the Regulatory Office or, as appropriate, by the Appeals Panel”. In addition, Section 11.2 provides that MWSS shall allocate annual budget form the concession fees to the Regulatory Office and MWSS. Table 5 shows the annual budget for the MWSS Regulatory Office and the Corporate Office.

2. Structure of the MWSS Regulatory Office

The organization and operation of the Regulatory Office is set out in the Concession Agreement (Exhibit A). The Regulatory Office is composed of the Office of the Chief Regulator and four divisions: Technical Regulation, Financial Regulation, Customer Service Regulation, and Administration and Legal Affairs. The chief regulator has overall supervision, and each division is headed by a deputy administrator and has two departments headed by department managers (Figure 3).

The Technical Regulation Division is “responsible for technical and engineering functions including asset management and investment”. The Division has two departments: Operations Monitoring Department and Water
Quality Control Department. The function of the two departments includes monitoring and evaluating asset condition reports submitted by the concessionaires, developing and implementing policies for the improvement of water supply and sewerage services, monitoring concessionaires’ service obligations on water supply and sewerage services, monitoring water quality in compliance with the Philippine National Standards for Drinking Water, and monitoring wastewater effluent quality in compliance with standards of the Department of the Environment and Natural Resources and other local and national environmental laws.

The Financial Regulation Division is “responsible for regulatory accounting, rate adjustment and economic functions”. There are two departments in the Division: Financial Audit and Asset Monitoring Department and Tariff Control and Monitoring Department. Financial Audit and Asset Monitoring Department analyzes and evaluates the concessionaires’ financial performance, monitors and evaluates the concessionaires’ receipts and expenditures in compliance with the “prudence and efficiency” test, and monitors the financial aspect for the concessionaires’ asset management. The functions of Tariff Control and Monitoring Department are to monitor reports of water supply and sewerage charges and reports of major economic indicators at the end of the year, to develop manual of operation on the rate adjustment, to evaluate reports on extraordinary price adjustment, and to monitor reports on the concessionaires compliance with the rate adjustment and reports on the correct application of other charges and surcharges.

The Customer Service Regulation Division is “responsible for service and customer relations including customer complaints and appeals” and has Metering Efficiency Department and Complaints Services Monitoring Department. The Metering Efficiency Department has functions such as formulating and recommending policies, rules and regulations in the improvement of customer services on metering, billing and water and sewer connections, developing
standards and evaluating the performance of the concessionaires' customer service efficiency on metering, billing and service connections, and monitoring of the concessionaires' metering program and ensuring that the meters installed comply with the acceptable standards. Complaints Services Monitoring Department recommends policies, rules and regulations in the improvement of the concessionaires' customer services, develops standards and evaluating performance of each concessionaires' customer service efficiency and institutes a smooth feedback system, efficient monitoring and faster resolution of complaints received from customers and other interested groups.

The Administration and Legal Affairs Division has two departments: Legal Department and Administrative Department. While the Legal Department monitors compliance of concessionaires’ with their obligations under the Concession Agreements, the Administrative Department provides personnel and administrative support and is responsible for recruitment, assignment and training for the staff of the Regulatory Office.

The base tariffs were set during the bidding process, and the service obligations were set in the Concession Agreement between MWSS and the concessionaires. The role of the Regulatory Office, therefore, is to monitor and enforce the tariff limits and the service standards of the concessionaires. However, changes on the tariff and the service standards recommended by the Regulatory Office must be approved by the MWSS Board. OFWAT, on the other hand, is responsible for not only setting, monitoring and enforcing tariffs and service standards but also changing tariff and level-of-service indicators. Since the Regulatory Office is under the MWSS Board, its regulatory functions are limited compare to an independent regulator such as OFWAT. For customer services, complaints would be handled by the Regulatory Office. The Department of Health and the Department of the Environment and Natural Resources set drinking water standards and wastewater effluent standards respectively, and the Regulatory Office plays a role in monitoring concessionaires’ performances.

V. Implementation of the Regulatory Practices

1. Extraordinary Price Adjustment and Amendment No. 1

The main functions of the Regulatory Office are monitoring the operation of concessionaires and setting tariffs, and this chapter will examine how it works. In March 1998, seven months after taking over the operation of MWSS, Manila Water submitted a petition for an extraordinary price adjustment (EPA) to compensate for financial losses because of unforeseen events. Grounds for EPA are provided in the Concession Agreement (Section 9.3.1). The grounds for the petition of Manila Water were: the devaluation of the peso by 52 percent; the reduction in water supply by 35 percent due to the El Niño phenomenon and changes in government rules affecting raw water allocation; the material deterioration of the water distribution network and increases in employee salaries during the transition period; and increases in concession fees due to anticipated cost overruns of existing projects (Castalia 2005, p.57).

In August 1998, the Regulatory Office determined to allow EPA, but Manila Water did not accept the determination and filed a notice of appeal in September arguing the calculation errors of the Regulatory Office. Manila Water and the Regulatory Office differed in their calculation of the appropriate discount rate (ADR) which was used in the EPA. The Concession Agreement defined ADR as follows:

In determining the Appropriate Discount Rate, the Regulatory Office shall apply conventional and internationally accepted methods, and in particular shall make estimates of the cost of debt in domestic and international markets, the cost of equity for utility businesses in the Philippines and abroad and shall make adjustments to such estimates to reflect country risk, exchange rate risk and any other project risks. The Regulatory Office, at its sole discretion, may consider the Concessionaire’s rate of return, either stated or implied in its bid, in determining the Appropriate Discount Rate.
There are vague expressions in the definition of ADR, and they caused the difference in the calculation of ADR between Manila Water and the Regulatory Office. While Manila Water insisted that ADR should be based on current market conditions at the time of the EPA petition and proposed an ADR of 18 percent, the Regulatory Office approved an ADR of 5.2 percent which is derived from the financial model submitted in the bid (Castalia 2005, pp.57–60). The Appeals Panel consequently decided against relying solely on the ADR derived from the bid financial model and in favor of considering observable market rates in the calculation and made a decision to set an ADR of 9.3 percent (Castalia 2005, p. 58, 61). The EPA was determined by using the figure, and this allowed a 9.6 percent increase in Manila Water’s Basic Charge. This was the first case of how the regulatory system works on tariff adjustment. Although the issue was filed by Manila Water to the Appeals Panel, the Regulatory Office made its decision based on an interpretation of the Concession Agreement.

As mentioned above, Maynilad heavily affected by the Asian financial crisis and faced serious financial difficulties by 2000. Maynilad made a request for a mechanism to recover the losses due to the devaluation of the peso by 56 percent in August 2000. In February 2001, however, the request was rejected. Thereafter, Maynilad suspended payment of concession fees in March 2001. MWSS, the Regulatory Office and Maynilad had to find a way out of the situation. Finally, after involving the Office of the President in resolving the problem, the MWSS Board of Trustees approved an amendment to the Concession Agreement (Amendment No.1) on October 5, 2001 that allowed the accelerated recovery of the foreign exchange losses. The Amendment allows Maynilad to:

- Implement a rate adjustment of PhP4.21 per cubic meter during the period 15 October 2001 to 31 December 2002 or up to the next immediate Rate Rebasings period to recover the foreign exchange (FOREX) losses incurred from 1 August 1997 up to 31 December 2000.
- Implement a rate adjustment for foreign currency differentials (FCDA) with respect to present and future FOREX losses or gains, including all accruals and carrying costs thereof, from the period 1 January 2002 until the Expiration Date on a quarterly basis.

Amendment No.1 for Manila Water was also signed on October 26, 2001. Table 6 shows the evolution of average tariff in Manila Water and Maynilad through rate adjustments. Average tariff of Manila Water increased from P2.32/m³ in 1997 to P6.75/m³ in 2002, and that of Maynilad increased from P4.96/m³ to P15.46/m³ in the same term.

2. Rate Rebasings

The Concession Agreement provides the implementation of rate rebasing in every five years, and the first rate rebasing was implemented between March and October in 2002 (the new rates went into effect on January 1, 2003). The intention of the rate rebasing is to allow the concessionaires to recover the operating, capital maintenance and investment expenditures efficiently and prudently incurred, Philippine business taxes and payments corresponding to debt service on the MWSS Loans and Concessionaire Loans incurred to finance such expenditures.

Use of outside experts is provided in the Exhibit A of the Concession Agreement. It provides that the Regulatory Office will appoint economic experts who will develop and assist in the implementation of methodologies for rate rebasing, Extraordinary Price Adjustments, and application of the rate adjustment limit provisions, including the derivation of the Appropriate Discount Rate. Experts from the University of the Philippines School of Economics (UPecon) were invited to advise on the rate rebasing. Thereafter, the Regulatory Office and the consulting team reviewed the business plans submitted by the concessionaires in March 2002.

The initial submission of Manila Water was an All-in Tariff\(^{90}\) of P19.54/m³. The Regulatory Office rate rebasing team submitted its preliminary findings in June 2002, recommending an All-in Tariff of P15.65/m³ based on the analysis of the Manila Water’s business plan. After the consultation between Manila Water and the Regulatory Office from July
Table 6  Evolution of Average Tariff through Rate Adjustments

<table>
<thead>
<tr>
<th>Charging Year</th>
<th>MWCI Average Tariff (p/cu.m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997–1998</td>
<td>2.32</td>
</tr>
<tr>
<td>1999</td>
<td>2.61</td>
</tr>
<tr>
<td>2000</td>
<td>2.76</td>
</tr>
<tr>
<td>2001</td>
<td>2.95</td>
</tr>
<tr>
<td>Provisional Implementation, Apr. 1, 2001</td>
<td>3.22</td>
</tr>
<tr>
<td>Accelerated EPA, Nov. 12, 2001</td>
<td>4.22</td>
</tr>
<tr>
<td>2002</td>
<td>4.51</td>
</tr>
<tr>
<td>FCDA 2002</td>
<td>6.75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Charging Year</th>
<th>MWSI Average Tariff (p/cu.m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997–1998</td>
<td>4.96</td>
</tr>
<tr>
<td>1999</td>
<td>5.80</td>
</tr>
<tr>
<td>2000</td>
<td>6.13</td>
</tr>
<tr>
<td>2001</td>
<td>6.58</td>
</tr>
<tr>
<td>Accelerated EPA, Oct. 20, 2001</td>
<td>10.79</td>
</tr>
<tr>
<td>2002</td>
<td>11.39</td>
</tr>
<tr>
<td>FCDA 2002</td>
<td>15.46</td>
</tr>
</tbody>
</table>


to October 2002, the Regulatory Office made the final decision for the All-in Tariff of P17.00/m³. Figure 4 illustrates the tariff evolution in Manila Water. The tariff after the rate rebasing increased sharply, and we also see the gradual increase after 2004.

On the other hand, Maynilad did not accept the new rate provided by the Regulatory Office and filed the notice of termination in December 2002. Maynilad submitted its business plan and requested an All-in Tariff of P34.72/m³, but UPecon recommended an All-in Tariff of only P24.00/m³ (Castalia 2005, p. 75). Because of the disagreement not only between Maynilad and MWSS but also among Maynilad’s partners, it became difficult to reach an agreement in the rate rebasing. The Regulatory office finally decided for a rebased rate with All-in Tariff of P26.75/m³. Maynilad did not accept the decision and instead it filed a notice of termination of its Concession Agreement. Figure 5 illustrates the tariff evolution in Maynilad.

3. Establishment of Performance Based Evaluation

During the rate rebasing in 2002, the Regulatory Office decided to establish a performance based evaluation methodology adopting Key Performance Indicators (KPIs) and Business Efficiency Measures (BEMs). KPIs are composed of 14 indicators for water service (six indicators), sewerage and sanitation (three indicators), and customer service (five indicators), and BEMs are composed of 9 indicators for income (two indicators), OPEX (operating expenditure) (three indicators), CAPEX (capital expenditure) (three indicators), and NRW (one indicator). The concessionaires are required to submit KPIs and BEMs report, which the Regulatory Office evaluates and make a report every quarter. Adopting KPIs and BEMs is effective not only in measuring the concessionaires’ performance but also in raising their accountability.
**Figure 4  Tariff Evolution in Manila Water**

![Graph showing tariff evolution in Manila Water](image)


Notes: Maynilad did not implement the rates approved in the rate rebasing in 2003. For Charging Year 2004, Maynilad did not accept the conditions set by MWSS Regulatory office hence no approved tariff schedule (MWSS Regulatory Office).

**Figure 5  Tariff Evolution in Maynilad**

![Graph showing tariff evolution in Maynilad](image)
Furthermore, the Regulatory Office established a new framework for encouraging the concessionaires to reduce NRW. Despite the high NRW in Metro Manila, there was no incentive for concessionaires to lower the number of leaks. During the first rate rebasing exercise, the Regulatory Office came out to develop a reward and penalty mechanism for NRW. Under the reward and penalty framework, the concessionaires get reward for the attainment or excess in the annual NRW reduction target and get penalty in the case of failure to meet the annual target.

Figure 6 shows reward and penalty thresholds, NRW reduction targets and actual reduction figures for Manila Water from 2002. Since the mechanism was established, Manila Water has succeeded in reducing NRW. In 2004, 2005, 2006 and 2007, end-of-year actual NRW exceeded its targets by 5.62, 11.53, 15.01 and 16.1 percent respectively. Although we can only see the performance evolution of Manila Water, the mechanism has been working.
VI. Conclusion

More than ten years have passed since the two concessionaires took over the operation of MWSS in August 1997. While Manila Water achieved improvement in many aspects of the water supply and sewerage services in the East Zone, Maynilad experienced the change of its ownership and entered a new phase. The government opens to extend the contract of another 15 years, until 2037. With the contract extension, public private partnerships in the water and sewerage sector will become solid. Also, the role of the Regulatory Office will be inevitable to ensure the concessionaires provide appropriate services at reasonable prices.

Since the Regulatory Office is a quasi-autonomous regulator within MWSS not an independent regulator, final decisions to adjust tariffs and change service standards need to be approved by the MWSS Board. This means that the operations of the Regulatory Office are limited. Some regulatory players, the Regulatory Office, the MWSS Board, the Office of the President and the arbitrator, were involved in tariff adjustments, which made the cases more complicated. However, regulatory functions could be allocated to different organizations, and how to implement better regulatory operations with their capabilities seems to be important.

During the rate rebasing exercise in 2002, the Regulatory Office established the performance based evaluation and the incentive mechanism for reducing NRW. Manila Water has reduced NRW remarkably in the East Zone since then, which means that the incentive mechanism has been working well. Challenges the Regulatory Office is facing are to ensure Maynilad improve its services in the West Zone under the new ownership and to ensure the two concessionaires scale up sewerage services.

The Regulatory Office aims to balance the interest of stakeholders including the government, the concessionaires and customers through its regulatory operations. Corporate governance is one of the most important factors to determine the success of Manila water concessions. Adopting indicators such as KPIs and BEMs seems to raise accountability and enhance corporate governance of the concessionaires. This means that the Regulatory Office plays an important role to facilitate corporate governance of Manila Water and Maynilad. The Regulatory Office itself also needs to raise accountability by sharing the information on regulatory processes and evaluation procedures among the stakeholders. This will ensure the transparency of the regulatory operations and solid public private partnerships in the Manila water concessions.

Notes

1) PPI Projects Database is a joint product of the World Bank’s Infrastructure Economics and Finance Department and the Public-Private Infrastructure Advisory Facility (PPIAF). PPI Project Database covers infrastructure projects that are owned or managed by private companies in low- and middle-income countries. It has data on more than 4,300 projects in 137 low- and middle-income countries (World Bank and PPIAF, PPI Database).
2) Non-revenue water (NRW) refers to water that is not billed because of leakage through holes in the pipes, illegal connections or measurement problems due to faulty meters (Wu and Malaluan 2008).
4) The actual figure was 80:20 because some of the debt would come in after financial closure and would be loaded in the East Zone (Dumol 2000, p. 46).
5) Article 12 of the Concession Agreement provides that all disagreements, disputes, controversies or claims arising out of or relating to this Agreement or the interpretation hereof or any arrangements relating hereto or contemplated herein or the breach, termination or invalidity hereof (including all decisions by the Regulatory Office with respect to the Concession) which cannot be resolved through consultation and negotiation among the parties hereto shall be finally settled by an arbitration panel consisting of three members (the "Appeals Panel") appointed and conducting proceedings in accordance with the arbitration
rules of the United Nations Commission on International Trade Law as in effect on the dates of this Agreement (the “Rules”), except insofar as the Rules conflict with the provisions of this Agreement (Section 12.2).

6) Details are described in Chiplunkar, Duenas and Flor Mai 2008.

7) Territory management is a part of Manila Water’s management decentralization initiative, partitioned its service areas in the East zone into smaller and more manageable clearly defined territories. The East zone was divided into seven business areas, which were in turn sub-divided into a total of 43 operational districts, termed demand monitory zones (Wu and Malaluan 2008, pp. 221–222).

8) All-in-Tariff is composed of base/average tariff, CERA (currency exchange rate adjustment), FCDA (foreign currency differential adjustment), EC (environmental charge) and VAT (value added tax).

9) The rate that was to go into effect on January 1, 2003 was P13.38/ m³ since President Arroyo asked that the rate be gradually implemented (Castalia 2005, p. 76).

References


Concession Agreement between MWSS and Manila Water Company, Inc. (MWCI), February 21, 1997.

Concession Agreement between MWSS and Maynilad Water Services, Inc. (MWSI), February 21, 1997.


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