

Public-Private Partnerships Case Study #2

Efficiency Gains: the Case of Water Services in Manila

by Mathieu Verougstraete and Isabelle Enders (April 2014)

This case study considers the question of whether efficiency gains can be achieved by introducing private operators in sectors traditionally managed by public entities.

BACKGROUND

By opting for a Public-Private Partnership (PPP) model, governments often aim to achieve efficiency gains. They hope that private entities will be able to deliver higher performance than public operators. This expectation stems from the assumption that the profit-driven nature of private companies incentivizes them to find ways to reduce operating costs while increasing the volume of services.

This case study will try to shed light on whether the desired efficiency gains materialized in the case of a water services project in Manila. The case study will also touch on whether the efficiency gains are passed to the consumer through lower tariffs and better services.

MANILA WATER: CASE SUMMARY

In the early 1990s, Metropolitan Manila suffered from an old and inefficient water system. Three quarters of the homes in the eastern half of Manila lacked 24-hour service and only 8 per cent had sewerage connection. Almost two-thirds of the water produced was lost to leaks, poor metering and illegal connections.¹

In addition, Metropolitan Waterworks and Sewerage System (MWSS), the government agency responsible for delivering water and sewerage services to residents, was heavily indebted. Hence the necessary investments for maintenance and services could not be realized.

Government decision

In 1995, this situation prompted the Philippine government to enact the National Water Crisis Act, which set the framework for fundamental changes in the sector.

The centerpiece of the government's strategy was the decision to privatize the operation of MWSS to improve the quality and coverage of water and sanitation services, increase operating efficiencies, and dispel the financial burden of capital expenditures. The proposed concession of Metro Manila's waterworks and sewerage system was one of the largest around the world, affecting 11 million individuals.

The government decided to divide the MWSS system into two geographically separate concession zones (East: 40 per cent of the population awarded to Manila Water Company/ West: 60 per cent of the population awarded to Maynilad Water Service). Dividing the area was expected to facilitate the tasks of the regulatory agency by allowing it to make comparisons between the two regions (the same bidder could not win by rules both concessions). However, this geographical division made the operation much more complex to structure with issues such as network interconnections to address.

Concession terms

Under the terms of the concession contract, the two private operators were vertically integrated utility responsible for both water and sewerage services within the respective area. They were authorized to collect and



ESCAP supports governments in Asia-Pacific in implementing measures to efficiently involve the private sector in infrastructure development. This case study is part of this effort and promotes exchange of experience among the countries of the region

For further information consult our [website](#) or contact:

*Transport Division
United Nations ESCAP*

*Telephone:
(66) 2-288-1371*

*Email:
escap-ttd@un.org*



75 per cent of homes in the eastern half of Manila lacked 24-hour service and only 8 per cent had sewerage connection

own revenues from water tariffs, but have to pay for operating costs, investments plus a concession fee to the government (mainly to service the historical debt of MWSS).

At the same time, they were responsible for expanding the network to meet ambitious performance targets, including:

- Elevating water pressure to 16 pounds per square inch
- Uninterrupted 24-hour service within five years
- Immediately complying with Philippine national drinking water safety and water effluent standards
- Providing universal water coverage within 10 years and 83 percent sewerage and sanitation coverage within 25 years.

To achieve these targets, it was estimated that US\$7 billion of investment would be needed over the contract period.

Under the concession agreement, the ownership of the asset base was retained by MWSS and all additional assets invested by the concessionaires will be turned over to MWSS at the end of the concession period (a compensation mechanism was foreseen in that regard).²

Tariff procedures

Since the award of the concessions, tariffs have been set by the Board of MWSS upon recommendation of its regulatory office. Procedures for tariff adjustment were nevertheless defined in the concession contract including annual adjustment for inflation as well as the possibility of extraordinary price increases in case of force

majeure. In addition, there was a five-year rebasing system, which guaranteed a certain rate of return to the concessionaires. Such system was actually based on an “Appropriate Discount Rate” to be determined by the MWSS regulatory office (defined as the prevailing rate of return for similar infrastructure projects).³

EFFICIENCY GAINS

To assess whether efficiency gains have been realized by adopting a PPP model, there are two key questions: has performance improved and have tariffs declined following the entry of a private operator? These two questions are tackled in turn below.

Performance Level

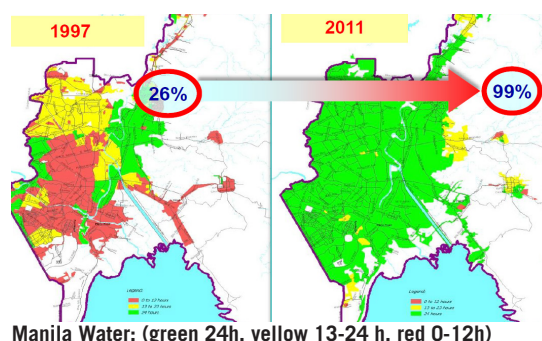
As the main reason for privatizing the operation of water services was to improve the quality of water services, it is worth considering whether performance has improved since the concessions were awarded. This can be measured via different indicators.

Water service

The service coverage improved considerably as both concessionaires increased dramatically the number of water service connections (the number of connections almost tripled between 1997 and 2013).⁴

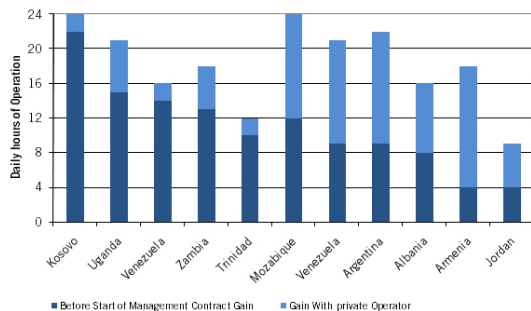
Today, Manila Water provides 24-hour service to 99 per cent of the population in its service area and approximately 97.8 per cent of Maynilad customers enjoy 24-hour uninterrupted water supply.⁵

FIGURE 1 : GAINS IN SERVICE CONTINUITY IN MANILA⁶



Such improvements in productivity and service continuity are consistent with the experience from other countries following the introduction of management contracts (see Figure 2).

FIGURE 2 : GAINS IN SERVICE CONTINUITY⁷



Water losses

The level of water losses has decreased significantly since 1997: from 45 to 12 per cent for Manila Water in the Eastern Zone and from 66 to 39 per cent for the Western Zone concession Maynilad (2013 figures).⁸ The pace of progress was however much slower than planned, as most reductions were only achieved in recent years.

Again, similar reductions of water losses have been experienced in many countries following the introduction of private water service companies as confirmed by several empirical studies.^{9,10,11}

Sewerage and Sanitation

The initial concession contracts foresaw ambitious targets for increasing access to sewerage services that would have required huge capital investments. These targets have, however, not been achieved and were drastically reduced in early 2000 to lower the operational and financial pressure on the concessionaires, as well as to avoid tariff increase which would have been unacceptable to customers.

Tariff Development

The expectation is that the efficiency gains would be passed to the users via lower tariffs. The following paragraphs will therefore look at how water tariffs have evolved over time in Manila.

Initial drop

The selection criterion for awarding the concession contracts was the lowest average water tariff bid.

To increase the chance of having a large discount on water tariff following the introduction of private operators, long overdue tariff adjustments were made prior to the

bidding phase (tariff went up by 38 per cent). Having a large tariff rebate as a result of the bidding process was very important to ensure that the deal would be accepted by the public.

The bidding results were actually beyond the most optimistic expectations as one of the bidders proposed a base rate amounting to only one-fourth of MWSS tariffs at the time of bidding (see Table 1).¹²

TABLE 1 : AVERAGE BASE TARIFF (PHILIPPINES PESO PER CUBIC METRE)

Pre-privatization rate	8.56
West zone: Maynilad Winning bid	4.97
East zone: Manila Water Winning bid	2.32

However, these very low bids raised the question of whether a “loss-leader” strategy was applied (i.e. a private consortium offers highly competitive bids with the objective of securing a concession and recouping any short-term losses by renegotiating a tariff increase at the first possible opportunity).

An empirical study reviewing more than 1,000 concessions in the Latin-America and Caribbean region has actually shown that renegotiations, defined as a significant amendment to the concession contract, are very common and can occur quickly after the award. This is particularly true for the water and sanitation sector where renegotiations in 74 per cent of concessions studied took place after an average period of 1.6 years following the award.¹³ This was the case of Manila.

Tariff renegotiation

Financial difficulties quickly emerged after the award of the concessions. In particular, the Asian financial crisis had a significant impact. The Philippine peso devaluation almost doubled MWSS’s dollar-denominated debt service burden that had to be covered by the concessionaires.

To alleviate these difficulties, a contract amendment was granted in October 2001 to allow tariffs to be adjusted more rapidly following exchange rate fluctuations.¹⁴ Hence the tariffs increase began to accelerate after that date.

Current Level

The tariffs, in real terms, started to exceed pre-concession levels (from 2002 for the West Zone and 2005 for the East Zone / see

Considerable improvements were achieved: connections almost tripled, 24-hour service availability is widespread and water losses decreased by around 30%

Despite an initial drop, tariffs quickly started to exceed pre-concession levels

Figure 3). In 2012, tariffs were around 50 and 100 per cent higher compared to the pre-concession period.

This pattern contradicts the expectation that a more efficient company would be able to provide cheaper services.

Whether the tariff increases could have been avoided without the privatization of operation or not is unclear. A recent study from the World Bank using a sample of almost one thousand public and private water utilities in the developing world, found no statistical difference in average tariff levels between utilities under PPPs and those under public management (provided that the latest were run under a tariff regime that promoted full cost recovery).¹⁵

In the case of the Manila Water project, the argument is that MWSS would most likely not have been able to achieve the level of service provided by the two concessionaires without at least increasing the tariff to the same level (or receiving public subsidies). One of the reasons is that the productivity level of MWSS was below the one reached by the concessionaires. For example, before the introduction of private operators, MWSS was overstaffed with 13 employees per 1,000 connections, which was two to five times more than similar water utilities in the region.¹⁶ The private concessionaires managed to improve that level by a combination of staff reduction and expansion of customer base. As a result, Manila Water company had, for example, 1.4 employees per 1,000 connections by 2010.¹⁷

CONCLUSION AND OUTLOOK

It is possible to conclude that significant improvements were been achieved from the use of the PPP model for water services in Manila. Given the operational track record of MWSS, it is unlikely than these efficiency gains could have been done without the introduction of private operators.

On the other hand, the project has faced difficulties: the tariff formula had to be revised quickly after the award, progress on sewerage services has been lower than expected and prices went up after an initial drop. One of the concessionaires (Maynilad) even went bankrupt and public funding had to be provided to ensure service continuity before a new owner could be found.¹⁸

Despite these issues, it is fair to say that this case study confirms that efficiency gains can be triggered through the introduction of private operators. This conclusion is also in line with empirical studies from other countries.

End Notes

- ¹ **Infrastructure Advisory Services (2010)**: Philippines: Manila Water. Washington, DC: IFC.
- ^{2,17} **Rivera, V. C. Jr. (2011)**: The business of water: going the corporate way the case of Manila water. Water Practice & Technology Vol 6 No 4. IWA Publishing.
- ^{3,16} **Dumol, M. (2000)**: The Manila Water Concession. A Government Official's Diary of the World's largest Water Privatization. Washington, D.C: World Bank.
- ^{4,8} **MWSS Regulatory Office website** accessed on April 2014.
- ⁵ **Maynilad website** accessed on April 2014
- ⁶ **Abon, A. V. (2012)**: Manila Water Concession Case Study. PPP Days 2012. Regional and Sustainable Development Department Asian Development Bank.
- ^{7,9} **Marin, P. (2009)**: Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries. The World Bank.
- ¹⁰ **Andrés, L., Guasch, J. L., Haven, T. & Foster, V. (2008)**: The Impact of Private Sector Participation in Infrastructure: Lights, Shadows and the Road Ahead. Latin American Development Forum Series. Washington, DC: World Bank.
- ^{11,15} **Gassner, K, Popov A.& Pushak, N. (2008)**: Does Private Sector Participation Improve Performance in Electricity and Water Distribution? An Empirical Assessment in Developing and Transition Countries. PPIAF Trends and Policies Series. The World Bank. Washington, DC: PPIAF.
- ^{12,14} **Wu, X. and Malaluan, N. A. (2008)** : A Tale of Two Concessionaires: A Natural Experiment of Water Privatisation in Metro Manila. Urban Studies. 45(1) pp. 207–229.
- ¹³ **Guasch, J.L. (2004)**: Granting and Renegotiating Infrastructure Concessions. Doing it right. Washington, DC: The World Bank.
- ¹⁴ Source: **Maynilad website** accessed on April 2014
- ¹⁸ For further information please see **Kim, J.-H. and J. Kim (2011)**: Case Studies from the Republic of Korea Attachment: Global Country Comparison of Public-Private Partnership, KDI and ADB Picture on page 2: Stefan Ray (from flickr website)

FIGURE 3 : WATER RATES DEVELOPMENT

