



# Water Utilities – governance and performance

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## Network Industries Quarterly, Vol. 22, issue 1, 2020 (March) “Water Utilities – governance and performance”

This issue of Network Industries Quarterly is devoted to water utilities, their governance and their performance. With growing urbanization, pollution and water stress, utilities are ever more challenged to provide safe and affordable drinking water in an ecologically sustainable manner. Are they and will they in the future be up to the task? What is and should be the right size to do this? What is and should be the best governance of them (ownership, legal structure, regulation) to make sure that they can deliver? What is and should be the most appropriate articulation between governance of the water resource and governance of the utility? These are some of the questions that the four papers seek to address. The examples the authors refer to pertain mainly to Latin America, namely Brazil, Mexico, and Argentina.

The first contribution authored by **Klien** makes the argument that water utility aggregations do not necessarily lead to cost savings. The author uses a global database of utilities to document how aggregations change utilities with respect to network density and cost structure. He argues that aggregations typically do not change utilities in a way suited to deliver performance improvements.

**Smiderle, Capodeferro, Fernandes, Gonçalves** and **Dutra** discuss the concentration of state-owned water-supply and sanitation service providers in Brazil. In particular, they look at the contracts between these companies and municipalities and critically examine the kinds of goals that are pursued by means of these contracts.

**Aguilar-Barajas** and **Ramírez** examine the contextual and jurisdictional framework for metropolitan water provision in Mexico, based on the Monterrey Metropolitan Area case. They argue that proper understanding of the supply of drinking water requires an urban region-system framework so that major interactions are recognised and analysed.

**Akhmouch, Cañamas-Catala** and **Salveti** critically and very comprehensively analyse water and sanitation service regulation and regulatory functions in Argentina (including water resources). From their analysis, they derive suggestions on how to improve such regulations.

*Matthias Finger*

## dossier

### 3 When Utility Aggregations Fail to Deliver Cost Savings

Michael Klien

### 7 The Governance of Water and Wastewater Provision in Brazil: Are There Clear Goals?

Juliana Smiderle, Morganna Capodeferro, Pedro Fernandes, Edson Gonçalves, Joisa Dutra

### 12 The Contextual and Jurisdictional Framework for Metropolitan Water Provision in Mexico: The Case of the Monterrey Metropolitan Area

Ismael Aguilar-Barajas, Aldo I. Ramírez

### 16 Mapping and Strengthening Water and Sanitation Service Regulation in Argentina: from Diagnosis to Policy Recommendations

Maria Salvetti, Aziza Akhmouch, Antonio Cañamas-Catala

### 24 Announcements

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# When Utility Aggregations Fail to Deliver Cost Savings

Michael Klien\*

*There is growing evidence that utility aggregations do not necessarily lead to cost savings. In this paper I use a global database of utilities to document how aggregations change utilities with respect to network density and cost structure. I argue that aggregations typically do not change utilities in a way suited to delivering performance improvements.*

## Introduction

The goal of this paper is to explain the seeming contradiction between studies documenting economies of scale in the water sector and the disappointing results from studies analysing the effects of aggregation. After briefly reviewing the literature, the study compares ex-ante expectations of how aggregations change utilities with real-world examples of aggregations.<sup>1</sup> I argue that the effects of aggregations hinge on how they change the utilities involved. Therefore, the focus of the paper is to identify the relationship between aggregations, utility structure (volume, density and the number of towns served) and the input mix (labour cost, energy cost, others). I hope this will help to structure discussion on the effects of aggregations and I want to emphasize that the design of aggregations matters.

## Background

There is a very large literature on economies of scale in the water sector, concluding by and large that there are substantial economies of scale in water provision (González-Gómez and García-Rubio, 2008; Abbott and Cohen, 2009; Carvalho et al., 2012; and Saal et al., 2013). This finding has generated a widespread expectation that aggregation of water utilities leads to higher cost efficiency (see World Bank, 2017).

However, a careful reading of the literature suggests that several important qualifications arise. In many cases, diseconomies of scale have been reported for (very) large utilities. Particularly in countries like the UK and the Netherlands, which have very concentrated structures, there is discussion on whether utilities have become too large. Another qualification is that the type of utility expansion matters for the result. Many state-of-the-art studies – for instance Filippini et al. (2008) – distinguish economies of output density (cost elasticity w.r.t. volume), economies

of customer density (cost elasticity w.r.t. customers) and economies of size (cost elasticity w.r.t. service area). In most instances, a *ceteris paribus* increase in volume (keeping the service area constant) would result in a less than proportional increase in cost. Similar, albeit less strong, are the findings on customer density.

The results are much less clear when the service area, e.g. by aggregating providers, increases. For instance, Mercadier et al. (2016) find that cost savings among Peruvian water utilities can be achieved through increasing the volume or customers (density). Conversely, increasing the number of towns served at the same time (economies of scale) does not lead to a reduction in unit costs.

This finding is mirrored in the aggregation study by Urakami and Parker (2011), which finds that economies of scale through aggregations are curbed by a loss of density. In a similar vein, Klien and Michaud (forthcoming) find no cost savings for a sample of central and eastern European countries. Aggregated utilities do not show better cost efficiency than similar utilities that are not aggregated.

In addition to the question of how aggregations change a utility in terms of structure, there is also evidence that the input matters. Among the few studies analysing the sources of economies of scale, Shih et al. (2006) show that the largest cost savings from (potential) aggregations would arise from capital, labour and material costs, and somewhat less from energy and outsourced services. Particularly due to their large overall share, changes in labour costs represent a considerable portion of potential economies of scale. This suggests that reductions in labour costs are a crucial channel for aggregations to achieve cost savings.

Overall, the existing literature suggests that despite the presence of economies of scale, aggregations do not necessarily deliver cost savings. To achieve cost savings, the aggregations should tend to increase volume rather than

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<sup>1</sup> We define aggregations as organizational transformations where previously separate utilities are regrouped under a common ownership structure. A physical connection of the networks is not necessary, and in the cases analysed is an exception rather than the rule.

the service area and reduce the share of labour costs. In the following section, I try to assess the empirical content of these predictions by studying how utilities have been changed by actual aggregations.

### Empirical analysis

#### Data

To analyse how aggregations change utilities, I use data from the International Benchmarking Network (IBNet) database. IBNet is a data repository initiated and maintained by the World Bank with the objective of improving the service delivery of water-supply and sewerage utilities through the provision of international comparative benchmark performance information.

The utility coverage by IBNet varies strongly among countries, both in terms of the number of utilities and the population living in the utilities' service areas. While IBNet covers several thousand utilities all over the globe, the number of aggregations in the database is substantially lower. After cleaning the data and restricting the analysis to utilities suitable for an evaluation, 79 aggregation cases remain. Most of those cases occurred in Europe or Central Asia.

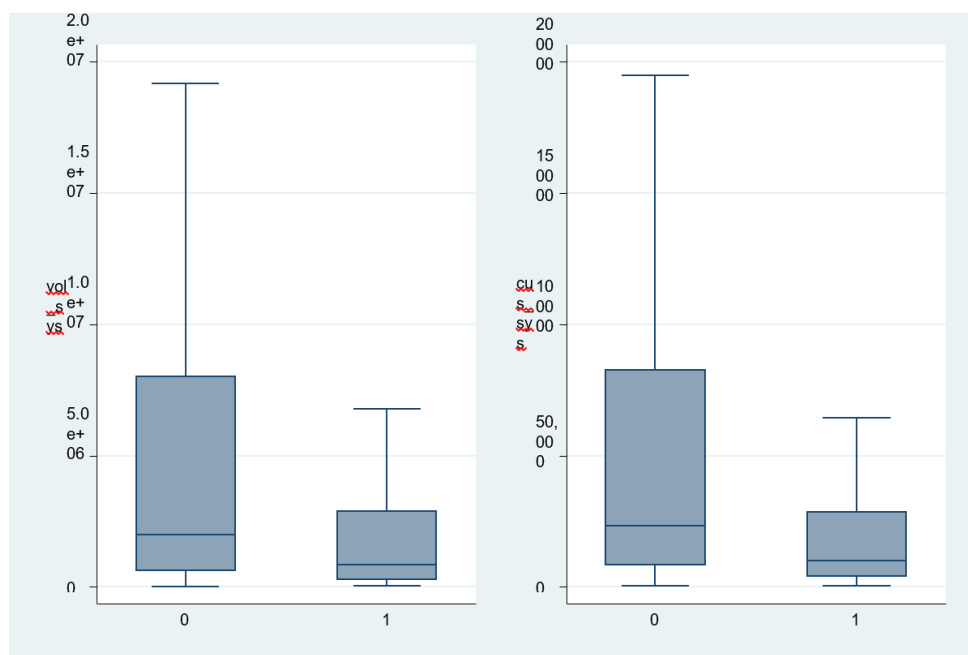
Virtually all the aggregations were in the time period from 2000 to 2010, with few before and after these dates. At

the country level, the following countries exhibit the most cases of aggregation: Romania (15), Poland (12), Hungary (6), Kazakhstan (7), Serbia (5), Macedonia FYR (4) and the Czech Republic (4). It should be noted, however, that, while the bulk are located in this region, 25 countries exhibit cases of aggregations that feed into the analysis. For further information about the data and their limitations, see Klien and Michaud (forthcoming).

#### Aggregations and utility structure

Aggregations entail the expectation that utilities will grow in size. The way aggregations affected the utilities in the sample of IBNet data is displayed in Figure 1.

Looking at the volume per served town, the left-hand panel shows whether the aggregations were heavier in terms of increasing volume or increasing the number of towns served. The right-hand panel repeats the same measure for customers per town served instead of volume. Both figures strongly suggest that the aggregations added little volume/customers relative to the area served (measured with the number of towns). The main explanation for this finding is that many of the aggregations involved a large number of small utilities, and hence decreased the network density. This suggests that the design of the aggregations appears to have been unfavourable in terms of achieving cost savings. Moreover, economies of scale as the standard predictor of



**Figure 1.** Aggregations and change in utility structure

Source: IBNet data

Note: Box plots show the 10th, 25th, 50th (median), 75th and 90th percentiles.



aggregation effects – which are usually defined as a proportional increase in customers, volume and the number of towns – might be very misleading, as the changes were far from proportional but typically added relatively more towns.

*Aggregations and input mix*

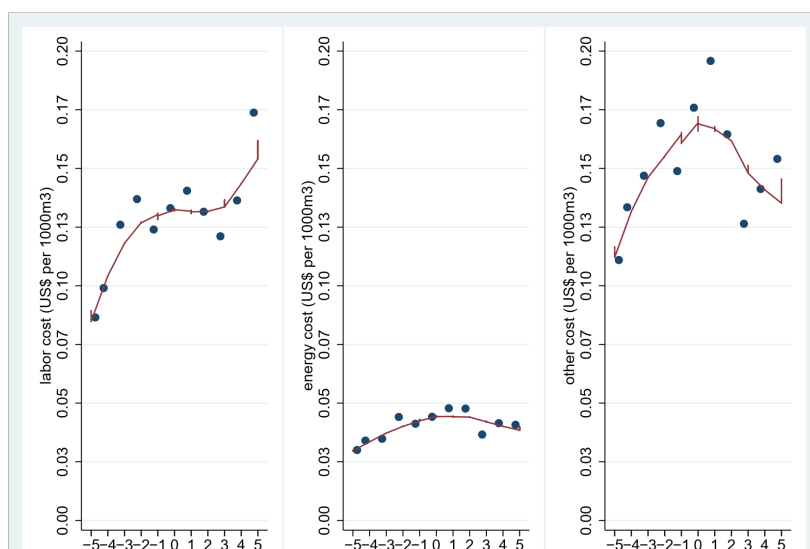
Another issue that calls into question the potential cost savings in the aggregations observed is the evolution of the cost structure. Findings from previous literature suggest that cost savings should typically be related to lower expenditure shares on labour. The data do not suggest any reduction in the labour share for aggregating utilities. While all the cost components increase before aggregations – which might be due to inflation and possibly also some short-run transaction costs of the aggregation reform – energy and other costs come to a halt and even decrease after the aggregations whereas labour costs continue to increase. This suggests that the aggregating utilities did not adapt their cost structures in the way that more cost-efficient utilities do. This finding is confirmed by case-study evidence from Romania suggesting that employment reductions are a considerable political constraint (see Frone, 2008).

**Conclusion**

The results of this analysis suggest that the aggregations analysed were not designed in such a way as to facilitate cost savings. Two explanations are important to understand why the aggregations did not improve utility performance. First, the aggregations did not add much volume

or many customers, which would be required to achieve significant cost savings. In contrast, the aggregations analysed typically added many additional (small) towns. That gains from aggregation are hampered by a loss of density mirrors findings in earlier literature such as Mercadier et al. (2016) and Urakami and Parker (2011). Second, I do not find evidence that the utilities changed their input structure following the aggregations. The aggregations in my sample show a slight reduction in energy cost shares, but no change or even an increase in the share of labour costs. While other sources of economies of scale might exist, aggregations that do not alter the input mix forgo a large potential for cost savings.

To conclude, the analysis stresses the importance of the reform design, which would be an interesting avenue for future research. More important than whether to aggregate or not seems to be the way a utility is transformed through the reform, and which utilities are affected.



**Figure 2.** Cost components before and after aggregations

Source: IBNet data

Note: The blue dots refer to averages in bins of the respective time since/till aggregation. The red line shows lowess smoothing.

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# The Governance of Water and Wastewater Provision in Brazil: Are There Clear Goals?

Juliana Smiderle\*, Morganna Capodeferro\*\*, Pedro Fernandes\*\*\*, Edson Gonçalves\*\*\*\*

Joisa Dutra\*\*\*\*

*In this paper, we discuss the concentration of state-owned companies as water supply and sanitation service providers in Brazil. We also analyse the content of the contracts signed between these companies and municipalities to verify the existence of well-defined goals.*

## Introduction

Government-owned water supply and sanitation companies serve most of the urban population in developing countries (Marin, 2009). Brazil has the same scenario. State-owned companies (SOCs) serve more than 70% of the urban population, even though municipalities are responsible for water supply and sanitation (WSS) services (SNIS, 2018). Private companies are responsible for providing these services to only 7% of the urban population.

There is a concentration of WSS service provision in SOCs due to the sector's historical evolution. As will be shown later in this paper, there have been incentives for municipalities to delegate WSS services to them since the 1970s. Currently, some barriers hinder private companies from entering this market. However, there is a reform under discussion in Congress to change the WSS Federal Law and allow for openings.

The purpose of this paper is to discuss the concentration of SOCs as WSS service providers and to explore the content of the contracts signed between these companies and municipalities to verify the existence of goals in these contracts. To achieve these aims, the paper is structured as follows. First, we present the sector's historical evolution and its implications for WSS service provision. Then, we assess the WSS service contracts between south-eastern Brazilian municipalities and SOCs. Finally, we comment on some

initial findings, such as the precariousness of WSS service contracts, and offer ideas for further research.

## The water and wastewater provision framework

We divide the Brazilian WSS sector framework into three phases: (i) The National WSS Plan - 1970-1990; (ii) WSS Federal Law – 2007 until now; and (iii) the current WSS Regulatory Reform. Below, we present the main characteristics of each phase and its implications for WSS service provision.

### *The National WSS Plan (PLANASA, 1970-1990)*

During the Brazilian military period (1964-1985), the national government defined the expansion of WSS service coverage as a national priority. As a way to tackle this challenge, Decree-law 949 of 1969 authorised the National Housing Bank (BNH) to apply its resources and FGTS's<sup>1</sup> resources to financing operations for the implementation or improvement of WSS systems.

In 1971, BNH implemented PLANASA. The objectives of the plan were:

*“1) to supply, by 1980, drinking water, to more than 80% of the urban population in at least 80% of Brazilian cities and all metropolitan regions;*

*2) to serve, by 1980, the metropolitan regions, capitals and larger cities with adequate sanitation services;*

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<sup>1</sup> FGTS is the 'Guarantee Fund for Time of Service,' a severance indemnity fund for workers. Companies must pay 8 percent of monthly pay into an account held in the name of the employee at CEF. The balance is only available on dismissal without cause, retirement, and in certain other situations (for example, to finance the purchase of housing).

3) to provide, as much as possible, simpler sanitation services to smaller cities and towns” (De Almeida, 1977).

SOCs were created to distribute PLANASA’s investments at the state level. BNH allocated investments with priority to SOC. Thus, municipalities had an incentive to delegate service provision to SOC in order to receive investments. The objective in adopting this model was to facilitate the control of loans and to enable financial self-sustainability through cross-subsidy between municipalities. Consequently, SOC became responsible for providing WSS services to 70% of Brazilians (Jorge, 1992).

According to Decree-law 949 of 1969, the SOC should submit a proposal annually to the BNH with new tariff levels. The Ministry of the Interior, the ministry linked to the BNH, issued the rules regarding the calculation of tariff levels. Following evaluation by BNH, the Ministry of the Interior would decide whether to revise the tariffs charged by SOC. As it turns out, the BNH and the Ministry of the Interior both regulated services at the time.

Jorge (1992) states that because of PLANASA, sanitary conditions in urban areas, especially water supply, significantly improved. The author estimates that in the 1980s, urban water supply reached 80% of the population. However, the advance in sewage collection was not so significant, reaching only 32.4% of the population at that time.

Decree-law 2,291 dissolved BNH in 1986, which brought the end of PLANASA. Investments in the sector declined, and advances in WSS service expansion stalled. The institutional architecture remained unchanged: SOC mostly continued to perform service provision (as they still do).

#### *WSS Federal Law n° 11,445 – 2007 until now*

It was only in 2007 that a legal framework for the WSS sector was established, with the enactment of Federal Law No. 11,445. The law states that the WSS service holder (municipalities) is responsible for the planning, regulation and provision of these services. Both the regulation and the provision of the service can be exercised or delegated to another party.

The WSS Federal Law did not clearly define who the holder of the service is (municipality, state or union). Recognition of municipalities as service holders already existed as an interpretation of the Federal Constitution. In fact, the Federal Supreme Court only accepted this definition after the Unconstitutionality Action (ADI) 1,842 case in 2015. The interpretation given is that the municipality is the service holder, except in the case of a metropolitan

region, where the municipalities and the state are jointly responsible for WSS services.

As service holders, municipalities can provide WSS services by choosing among three options: (i) the provision may be performed directly by the service holder, which does not need to sign any contract; (ii) the provision may be performed indirectly through delegation to a SOC by way of agreement of a “programme” contract (according to the Public Consortia Law – Law No. 11,107 of 2005); or (iii) the provision may be delegated to a private company, although it must be done through a concession or PPP contract, with prior bidding and according to the law governing each case (Concessions Law – Law No. 8,987 of 1995; and the Public-Private Partnerships Law (PPP – Law No. 11,079 of 2004).

The current framework is that SOC are responsible for providing water to 72% of the total population with water access. Although there is legal provision for private partners to act as WSS providers, their representativeness is low – only 7%. Municipalities then make the provision for the other 21% (SNIS, 2018).

In terms of regulation, although it is also a service holder responsibility, it can be exercised at either municipal, regional or state levels. It is worth mentioning that the WSS Federal Law determined that the designation of the regulatory entity is one of the conditions for the validity of WSS service contracts. Despite this, less than half of Brazilian municipalities have a defined WSS service regulator (IBGE, 2017).

Currently, 52 competent regulatory authorities regulate WSS services in the country: 25 state entities; 22 municipal entities; and five regional entities (ABAR, 2019). There is a multi-level governance structure of the Brazilian WSS sector due to its decentralisation.

#### *WSS Regulatory Reform*

Given the limited access to WSS – about 33 million Brazilians still do not have access to the water supply and 95 million lack sewage collection (SNIS, 2018) – and the lack of public resources for investment, the federal government adopted a strategy to open this market to private capital. Hence, Congress began discussing a WSS legal framework reform in 2018 to attract the necessary investment for the universalisation of WSS services.

Among the proposed amendments, three stand out: (i) to establish the National Water Agency (ANA) as the WSS services regulatory supervisor; (ii) to introduce equal con-



ditions for competition; and (iii) to incentivise regionalised provision.

The reform gives ANA the power to create national reference standards to promote uniform WSS service regulation. Municipalities where the regulatory agency follows ANA’s reference standards will receive federal funds with priority.

Another of the reform’s amendments is a prohibition of ‘programme’ contracts. Under this amendment, it will only be possible to renew current ‘programme’ contracts once. These renewed contracts will necessarily be adapted to meet the same requirements as the concession contracts. After this transition period, the ‘programme’ contracts will be completely terminated and any contract signed with the municipality must follow the concession contract model. This will guarantee equal conditions for both private and public service providers. It will no longer be possible to hire a SOC without a prior bidding process. This proposal is being widely criticised, especially by SOCs, which will lose their preference in service provision.

Finally, regionalised provision is incentivised by prioritising access to federal investment. Regionalised provision occurs when a group of municipalities delegates the provision of their services to one company by signing only one contract. States will form these groups of municipalities (or blocks) to generate scale gains and guarantee the technical and economic-financial viability of WSS services. The advantage offered by this regionalised arrangement is a simplification of sector governance.

We conclude that the main proposals are moving towards a centralised approach as they attribute more capability to the union and the states. There are two main reasons for moving towards this model. First, the technical capacity of the municipalities is less than that of the states and the union and, second, the main financier of the sector is the federal government.

### Contract assessment

To contribute to the discussion on sector reform, we turn our attention to ‘programme’ contracts, aiming to answer the following question: what do we mean by ‘programme’ contracts? The focus of our analysis is on verifying the existence of well-defined contractual goals in the existing ‘programme’ contracts in south-eastern Brazil. Around 42% of Brazilians live in this region (IBGE, 2018), and 53% of Brazilian GDP is concentrated there (IBGE, 2017).

Our analysis considers well-defined goals to be those called SMART: specific (S), measurable (M), attainable (A), realistic (R) and with a given timeframe (T) (Cruz and Sarmento, 2019).

We consider that the goals will meet the criteria of specificity (S) and measurability (M) if the contract includes at least one of the following indicators: (i) coverage of water and sewage services; (ii) a reduction of distribution losses; or (iii) expansion of sewage treatment. In addition, we consider that the goal has a given timeframe (T) if the indicators have clear deadlines. We cannot evaluate whether the goals are attainable (A) or realistic (R) because this would require information regarding the companies’ investment capacities, which we do not have access to.

The analysis covers the ‘programme’ contracts signed between the municipalities and companies in the following states: Rio de Janeiro (Rio de Janeiro State Water and Sewerage Company – CEDAE); Espírito Santo (Espírito Santo Sanitation Company – CESAN); Minas Gerais (Minas Gerais Sanitation Company – COPASA); and São Paulo (São Paulo State Basic Sanitation Company – SABESP). These companies serve respectively 70%, 67%, 68% and 57% of the municipalities in the states (SNIS, 2018; IBGE, 2018).

Table 1 summarises the number of municipalities served by these SOCs and the sample of municipalities whose contracts we access and analyse. It is worth noting that it is possible to provide WSS services without a formal instrument of delegation (contract).

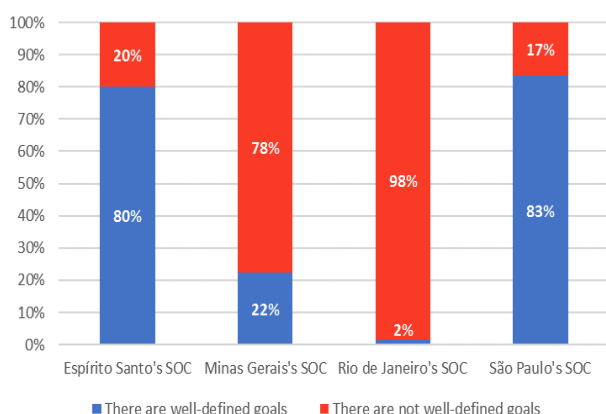
	Quantity of municipalities served <sup>1</sup>	Quantity of municipalities whose contracts we accessed	Quantity of contracts analysed <sup>2</sup>
<b>Espirito Santo's SOC</b>	52	39	40
<b>Minas Gerais's SOC</b>	581	555	618
<b>Rio de Janeiro's SOC</b>	64	60	60
<b>São Paulo's SOC</b>	369	363	363
<b>Total</b>	1.066	1.017	1.081

<sup>1</sup> Source: SNIS (2018)  
<sup>2</sup> A municipality may have signed two contracts - one for water supply services and other for sanitation services.

**Table 1.** Summary of the contracts analysed  
*Source:* SNIS (2018)

Figure 1 shows the results of our analysis. According to the definition adopted, on average 55% of the contracts accessed in the south-eastern region lack well-defined goals.<sup>2</sup>

\* See FGV CERI (2019).



**Figure 1.** Panorama of the existence of well-defined goals in contracts signed between SOCs and south-eastern Brazil municipalities

Source: Authors' own compilation

The companies in São Paulo and Espírito Santo States are among those with the highest proportion of contracts with well-defined goals – approximately 80%. One hypothesis is that their contracts are, on average, more recent. This hypothesis is relevant as the WSS Federal Law (Article 11) establishes the existence of contractual goals as a condition for the validity of contracts. Of the São Paulo state company's contracts that we analyse, 83% of them were signed after 2007. This was the same year that the WSS Federal Law was enacted. We find that all the contracts signed within the legal framework contain well-defined goals.

In the case of the Espírito Santo state company, 93% of the contracts accessed were signed after 2010. A striking detail is that more than half of them were signed in the last two years. The contracts demonstrate efforts to regularise service provision during the WSS reform discussion.

The Rio de Janeiro state company finds itself in a worse position as in almost all the contracts analysed it does not have well-defined goals. The result is not compatible with the fact that 73% of these contracts were signed after 2007. This highlights the company's non-compliance with the legal provision. In general, this company's contracts do have a target plan attached but it does not fit the definition used in this analysis.

In the case of the Minas Gerais state company, more than 60% of the contracts accessed were signed prior to the WSS Federal Law, which may partly explain the absence of well-defined goals. Overall, 87% of the contracts signed after 2007 have well-defined goals.

### Concluding Remarks and Further Research

The concentration of SOCs as WSS service providers is historical as investments were allocated to them with priority during the PLANASA period. The barrier imposed on the entry of private companies into the market fosters the maintenance of this situation. SOC hiring is facilitated by the bidding waiver.

The governance of the WSS sector in Brazil is multi-level because of its allocation of responsibilities to each municipality. This adds complexity to the governance of WSS service provision and can be an obstacle to development of the sector. The sectorial framework reform is an attempt to drive the sector towards universal access to WSS services for the entire population.

Our preliminary analysis of 'programme' contracts shows the difficulty in public access to these contracts, and also their precariousness. From 2007, every contract should have had well-defined goals. We recognise that some of the companies analysed partially advanced by including clear goals in their contracts after 2007, but not all. The lack of well-defined goals makes it difficult to monitor the provision of WSS services. Without goals, there is no way to verify compliance.

In this paper, we have only analysed contracts, although we recognise that they are only one of the instruments that promote quality in service provision. We also recognise that the regulator can raise standards leading to progressive expansion and increased quality of services. Lastly, it is worth mentioning that there is a duty of legal regulation to guarantee compliance with the conditions and goals established in contracts.

For further research, we wonder about the existence of a benchmarking contract and the enforcement of them. Do regulators verify the achievement of the goals agreed in the contracts? Do regulators impose penalties when the goals are not met? Do they offer bonuses that encourage the service providers to pursue the achievement of these goals? These are questions that we aim to answer with a broader research agenda regarding Brazilian WSS governance and regulation.

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# The Contextual and Jurisdictional Framework for Metropolitan Water Provision in Mexico: The Case of the Monterrey Metropolitan Area

Ismael Aguilar-Barajas\*, Aldo I. Ramírez\*\*

*This contribution addresses the good provision of water services – drinking water and sanitation – in Monterrey, a major Mexican metropolis. It is argued that this experience is contextually based and, therefore, not easy to replicate elsewhere. An urban-region system framework is required in order to understand the key interactions involved. This case study confirms that is possible to divide basin waters and share the benefits.*

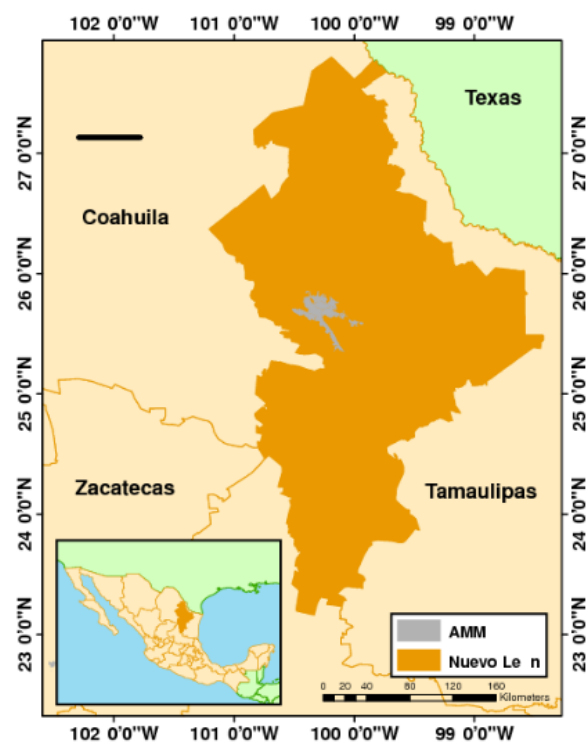
## Introduction

Urbanisation is expanding at high rates, especially in the less industrialised world. The effective provision of water services – drinking water and sanitation – is a key challenge to keep up with this accelerated growth. In this context, the search for good practices is highly relevant. The Monterrey Metropolitan Area (MMA) in Mexico offers good insights in this regard. This metropolis is considered a good national and Latin American reference. This contribution argues that its experience is contextually based and that therefore it is difficult to replicate elsewhere. Furthermore, a proper understanding of the supply of drinking water requires an urban-region system framework so that major interactions are recognised and analysed. Growing urbanisation will accentuate transfers of water from rural to urban areas. In this regard, the lessons derived from the MMA and the reallocation of water based on the El Cuchillo dam demonstrates that this process needs to be designed and assessed from a holistic perspective to identify, measure and share the costs and benefits. This case study confirms that is possible to divide waters and share the benefits.

## The case of the Monterrey Metropolitan Area and its significance in the local and national contexts

The Monterrey Metropolitan Area (MMA) is a rapidly growing semi-arid urban centre in north-eastern Mexico and a major economic hub in the country (Gobierno Nuevo León, 2019) (Figure 1) This metropolis, which includes 13 municipalities, is the historical birthplace of several Mexican multinationals of global significance. With a population of 4.5 million and a tradition of entrepreneurship, MMA has established itself as a preponderant destination for foreign direct investment in Mexico and is only second to Mexico City. The city has been a major actor in the North American Free Trade Agreement (NAFTA) and will certainly have an important role to play in the new United States-Mexico-Canada Trade Agreement (USMCA). The

MMA's water supply is therefore of regional and national interest.



**Figure 1.** Location of Monterrey Metropolitan Area, MEXICO

Source: Aguilar et al, (2015)

The MMA is often mentioned as a reference with regard to good provision of water services, notwithstanding the fact that it faces a relatively dry climate (with a mean precipitation of 622 mm/yr). The MMA has a limited local and regional availability of natural water sources, and recurring episodes of both droughts and hurricanes. The Monterrey Water Authority (*Servicios de Agua y Drenaje de Monterrey, SADM* – a public sector institution estab-

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lished in 1956), is the institution responsible for providing water services to Monterrey. SADM is a pioneering organization in Mexico.

The MMA is one of the few locations in Latin America that provide its inhabitants with 24/7 water services and treats 100% of its wastewater stream. In 1954, 55% of the MMA's half a million inhabitants had access to piped water at home; today over 99% of the population (over eight times more) enjoy the service. Between 1954 and 2017, water supply to the metropolis increased 16-fold, from 25 to 400 million cubic meters (MCM) a year (Aguilar-Barajas and Ramírez, 2020). In terms of users (i.e. contracts), in 1989 there were 477,249; at the end of 2017 the number had multiplied almost three times to 1,409,517 users (this corresponds to approximately 4.5 million people) – an increase of 195 per cent. SADM achieved this by developing multiple water sources (both surface and ground) and massively increasing the size and reach of its conveyance and distribution infrastructures. SADM is one of the few water authorities in Mexico generating yearly operating surpluses. Since 2007, SADM has met the national norms for water quality with rates of 97 to 99%. Its water is perfectly fine for human consumption. SADM has a 24/365 call centre to service water users. The institution produces an indicator named Quality of Attention to Customers' Complaints. This indicator, which measures the percentage of complaints that are resolved to the user's satisfaction, has been maintained at around 99%.

From the national perspective, SADM provides the MMA with good water services (CCA, 2011; IMCO, 2014; Fitch Ratings, 2018). The results of the 2017 National Survey of Quality and Governmental Impact (ENIGH, 2017) rank Nuevo León as number one in the country. In comparison with other local water authorities, SADM has more management independence, a greater scale of provision of services and finance sustainability (IMCO, 2014). In fact, a report by the Mexican Institute of Competitiveness (IMCO) considers SADM a case study, the best practices of which should be followed by others. However, IMCO also makes it clear that the particularities of the Monterrey case would make this replication difficult. Two examples are provided: the state mandate and the high concentration of population in the state of Nuevo León in MMA.

The SADM credit rating by *Fitch Ratings* underlines the existence of distinctive characteristics with regard to other cities, such as its geographical location in a semi-desert climate, a state mandate, a prosperous metropolis of 4.5 million people, over 1.4 million users and a management board with public-private participation. It is also recog-

nized that the good performance of SADM is connected to a strong programme of investments undertaken over several decades. The rating takes into account a comprehensive framework, and not only economic and financial considerations. For example, the analysis of water sources and the institutional setting play important roles.

### **The particular institutional framework of *Servicios de Agua y Drenaje de Monterrey***

The MMA presents particularities, especially with regard to its institutional architecture, that at least partially explains its success. SADM is a state entity and serves the MMA through an integrated metropolitan system, an arrangement that has proven both efficient and cost-effective. This has been possible thanks to SADM's 1997 Water Law. This contrasts with most municipalities in Mexico, which according to Article 115 of the Mexican Constitution are responsible for water services. In the majority of cases they lack the resources to do this effectively. Their narrower mandate (only three years versus six years in the case of SADM) does not help either. In the case of the MMA, in the past some metropolitan municipalities wanted to provide the services themselves but cancelled their requests when they found out the complexity of doing so. This indicates that scale is crucial in the provision of metropolitan water services.

SADM has a management board with a strong involvement of the private sector. This is a unique experience in Mexico, and surely also in the Latin American context. This institutional arrangement provides SADM with a relatively good degree of independence from local and state political authorities. This has several advantages. Unlike many operators in Mexico, the Monterrey Water Authority has the capacity to set water rates, in most times away from the sphere of politics. This has aided its sound financial situation. Furthermore, the institution's directors and managers tend to stay in office much longer than is the case elsewhere, where the 3-year municipal political cycle impedes the accumulation of organizational and managerial experience.

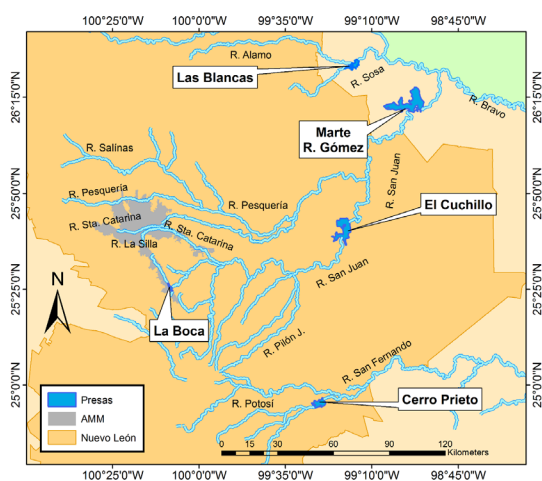
### **The regional jurisdictional framework that governs water supply in the Monterrey Metropolitan Area**

The regional and jurisdictional framework in which water services are provided is more complex than is commonly thought. The MMA's governance mechanisms related to water allocation within the San Juan basin – where the MMA is situated – link the local arena to the binational scale (with the United States) in ways that are not usually known, even by some authorities and professionals work-



ing in the field (Figure 2). The urban system perspective (Bourne and Simons, 1978) provides a good conceptual framework for understanding the interconnections between the metropolis and its surroundings, which include agricultural activities in the neighbouring state of Tamaulipas, and more particularly in Irrigation District 026. The District is irrigated mainly by waters from the MRG dam, which in turn receives water from upstream sources, including the El Cuchillo dam, treated water from the MMA (through the Pesquería River), the Las Blancas dam and even the Río Bravo. As the San Juan river is a tributary of the Rio Grande/Río Bravo basin which is shared by the states of Chihuahua, Coahuila, Nuevo León, Tamaulipas and Texas – it has direct links with binational waters.

The operating rules of El Cuchillo, the main surface source of water for Monterrey, which provides around one fifth (or 2.5 m<sup>3</sup> per second) of all the supply, reflect very clearly a regional dimension in the allocation of water. Water extractions from this dam to the MMA and the MRG dam are based on a 1996 Agreement. This accord was signed by the National Water Commission and the states of Nuevo León and Tamaulipas. According to the National Water Law, the 1996 Agreement established that the operation of these reservoirs is under the control of the National Water Commission. The agreement states that every October there will be an analysis of the regional system, in which a transfer of water from El Cuchillo to the MRG dam takes place if the first reservoir has more than 315 Mm<sup>3</sup> and the MRG dam contains less than 700. It was also agreed that Monterrey would send an annual minimum volume of 189 Mm<sup>3</sup> through the Pesquería River.



**Figure 2.** Regional hydrography of the Monterrey Metropolitan Area  
 Source: Aguilar-Barajas and Ramírez (2020)

An issue worth highlighting is that under the 1944 International Treaty signed between Mexico and the United States the waters of the San Juan basin, where Monterrey is located, are 100% Mexican waters and therefore are not officially considered in the deliveries to the US. However, in practice and due to difficult political circumstances, Mexico has used part of these waters to comply with the Treaty. This occurred in 2005 and more recently in February 2020. This shows the complexity of the issues at hand. For Monterrey, it basically means an external pressure on its sources of water.

### Concluding remarks

In view of its high relevance to the national economy, securing water for today and the future of Monterrey should be a matter of national interest. The construction of the reservoirs that supply water to the city was based on this premise. The metropolis is an excellent national (and Latin American) reference when it comes to the provision of good water and sanitation services. There are certainly lessons behind this provision – like the need for vision and permanent innovation together with a functional institutional framework. Paradoxically, the very existence of these ingredients makes it very difficult to replicate this experience elsewhere. At least, this should be done with caution.

On the other hand, the water supply to Monterrey is framed within a complex regional and jurisdictional framework that needs to be understood in debates about the region’s water future. The notion of an urban system is useful, so linkages with agricultural activities downstream are properly considered in this system, which also includes the management of binational waters with the United States.

Water reallocation from the El Cuchillo dam has been key in securing the water supply to MMA. The main lesson from El Cuchillo is, in fact, that water reallocation needs to be designed and assessed in a systemic regional context to track the changing costs, benefits and mechanisms for sharing water (Aguilar and Garrick, 2019). On balance, this case study shows that it is possible to divide water and share the benefits, which is precisely one of the major lessons from a four-nation study – Mexico and El Cuchillo being one of them – commissioned by the World Bank (Garrick et al 2019). This is a major finding which paves the way for further academic and policy discussions.

### Acknowledgments

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# Mapping and Strengthening Water and Sanitation Service Regulation in Argentina: from Diagnosis to Policy Recommendations

Maria Salvetti, Aziza Akhmouch, Antonio Cañamas-Catala\*

*This article draws on a broader work on water governance in Argentina led by the OECD jointly with the Secretariat of Infrastructure and Water Policy of Argentina. It builds upon a one-year policy dialogue with 200+ stakeholders from public, private, non-profit sectors and representatives from across all levels of government in Argentina, which concluded with the publication of a report on [Water Governance in Argentina](#) (2019).*

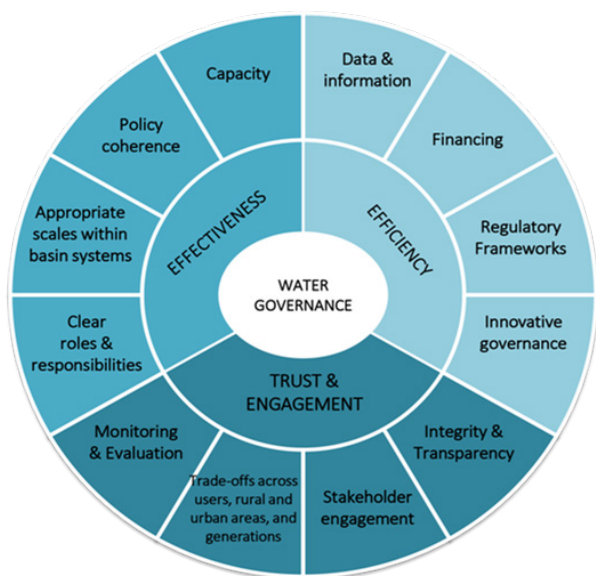
*Water and sanitation services (WSS) regulation in Argentina has been analysed using the [OECD Water Governance Principles](#) (Figure 1) as a reading template which provides a framework to understand whether water governance arrangements are performing optimally and help to adjust them where necessary.*

## The legal and institutional framework for water and sanitation services in Argentina

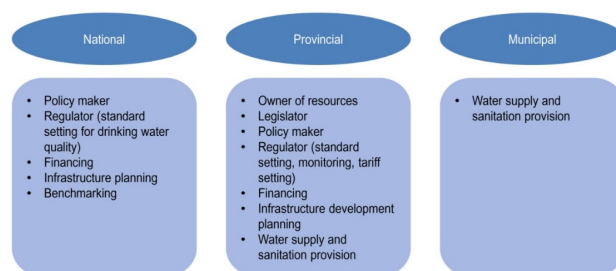
*The present legal and institutional setting*

The current legal and institutional setting for WSS in Argentina is rooted in decades of decentralisation and constitutional reforms. In 1980, with the decentralisation of the state-owned Obras Sanitarias de la Nación (ONS) the provision of drinking water and

sanitation services was transferred to the 23 provinces of Argentina. In 1994, Argentina underwent a constitutional reform that introduced an environmental provision (Article 124) acknowledging the historical right whereby the 23 provinces and the autonomous city of Buenos Aires own their water and have jurisdiction over it. From then on, they were therefore responsible for the provision of water services within their own boundaries. Article 41 states that the national state may dictate minimum standards of quality and protection, which can be supplemented by the provinces. This means that the national government can establish a national water policy, strategy, programme or plan, but needs the support of the provinces to implement it (Figure 2). In practice, there is no national water law, and each of the 23 provinces and the city of Buenos Aires have their own water legislation, both for resources management and for WSS.



**Figure 1.** OECD Principles on Water Governance  
Source: OECD (2015d)



**Figure 2.** The allocation of responsibilities regarding water and sanitation services, Argentina  
Source: OECD (2019b)

\* The Water Governance Programme advises governments at all levels on how to design and implement better water policies for better lives. Water governance, defined as the set of rules, practices, and processes through which decisions for the management of water resources and services are taken and implemented, and decision-makers are held accountable, plays a key role in contributing to the design and implementation of such policies. OECD Water Governance Programme corresponding author: aziz.akhmouch@oecd.org

*The national level*

Since the recent elections held in Argentina in October 2019, the Ministry of Public Works has the sectoral competence for WSS policy at the national level. Within this ministry, the Secretariat for Infrastructure and Water Policy (SIPH) establishes the national policy and planning for water and sanitation services and decides the national financial resource allocation to and within the sector.

In particular, the SIPH is the enforcement authority for the regulatory framework for water and sewer services provided by Agua y Saneamientos Argentinos SA (AySA), which is a public limited company owned by the state (90%) and by the employees' union (10%). Currently AySA provides services to the capital of Buenos Aires and 26 municipalities in Greater Buenos Aires.

Two further self-governing bodies, the Water and Sanitation Regulatory Entity (Ente Regulador de Agua y Saneamiento, ERAS) and the Planning Agency (Agencia de Planificación, APLA) respectively have the functions of service provision control (including pollution control of water discharge) and review/validation of investment planning by liaising with the municipalities and concessionaires, and monitoring the execution of works.

	Yes (Name)	No	
Public water supply and sanitation operators	C.A.B.A. y 26 Partidos de la Provincia de Buenos Aires (ERAS-APLA)	Entre Ríos <sup>1</sup>	
	Buenos Aires (ADA)	La Pampa <sup>1</sup>	
	Catamarca (ENRE)	Neuquén	
	Chaco <sup>4</sup> (APA)	San Juan	
	Formosa (EROSP)	San Luis	
	Jujuy (SUSEPU)	Santa Cruz	
	La Rioja (EUCOP)	Tierra del Fuego	
	Mendoza (EPAS)		
	Río Negro <sup>4</sup> (DPA)		
	Salta (ERSP)		
	Santa Fe (ENRESS)		
	Tucumán (ERSPT)		
	Private water supply and sanitation operators	Córdoba <sup>2</sup> (ERSEP)	Chubut <sup>3</sup>
		Corrientes (AOSC)	
Misiones (EPRAC)			
Santiago del Estero (ERSAC)			

**Table 1.** The existence of provincial regulatory authorities, Argentina

Source: SIPH (2016)

Notes: 1. Predominantly municipal. 2. Only the Córdoba drinking water service; other water and sanitation services are operated by municipalities and/or cooperatives.

3. Predominantly co-operatives, with one regulator for the city of Trelew. 4. Regulatory functions exercised by water directorates.

*The subnational level*

The most frequent institutional organisation structure at the provincial level consists of a body responsible for sector-based planning and revenue collection (provincial ministry, secretariat or undersecretary) and a regulatory body for WSS. When there is no economic regulator, as is the case in eight provinces (Table 1), the regulatory functions are exercised by provincial water administrations.

Economic regulators are generally responsible for regulating all the water and sanitation operators within a province or territory, including municipal operators and cooperatives, and generally apply the same regulatory framework across all the operators. However, the regulatory frameworks provide limited economic efficiency incentives to operators as financial operating cost recovery is generally sought through tariff increases, not efficiency gains. Furthermore, other financial and institutional incentives generally focus on short-term investment and solutions which can close gaps in access to services – there is no longer-term focus.

WSS are generally provided by provincial companies which cover the main cities in the provinces (except for the provinces of Chubut, Entre Ríos and La Pampa, where services in the main cities are provided by municipal entities and cooperatives). In many small localities and local communities, services are provided by the municipal administration, user cooperatives or community entities (Table 2).

**Regulatory functions in water and sanitation services in Argentina**

Regulatory functions in WSS encompass economic, environmental and social aspects. They can be shared among

Water supply and sanitation providers	Geographical scope of the service provider	
	Provincial/regional	Municipal
Public operator	15	13
Private operator	4	8
Municipal centralised operator	4	377
Co-operatives		1 407
Total	23	1 805
Population served (as a share of total population connected)	70%	30%

**Table 2.** Scale and number of water supply and sanitation providers, Argentina

Source: SIPH (2016)

<sup>1</sup> Prior to the October 2019 elections in Argentina, the SIPH used to be within the Ministry of the Interior, Public Works and Housing which has now been split into two ministries: the Ministry of the Interior and the Ministry of Public Works.



several institutions but need to be clearly allocated to avoid overlaps and incoherence. Table 3 provides a list of regulatory functions WSS and the level and institution to which they are allocated in Argentina.

### Regulatory functions in water and sanitation services in Argentina

Regulatory functions in WSS encompass economic, environmental and social aspects. They can be shared among several institutions but need to be clearly allocated to avoid overlaps and incoherence. Table 3 provides a list of regulatory functions WSS and the level and institution to which they are allocated in Argentina.

#### *Quality and reliability standards*

Whereas provincial regulatory authorities are in charge of drinking water and wastewater quality control, the national level defines compliance with bacteriological and chemical parameters and thresholds. While there have been no serious and widespread water quality breaches, many operators face specific compliance problems. Some are resolved within reasonable timeframes, but this is often not the case due to ineffective management or lack of resources. With regard to service continuity, some unscheduled service cuts or low-pressure issues can occur in the summer due to peak

consumption. In order to mitigate these problems, storage tanks are common, but they can generate drinking water quality issues. Likewise, in the outskirts of large cities, there are risks of poor water quality and pollution due to poor maintenance of networks and the precarious state of septic tanks. In addition, it is difficult to set a clear and sound diagnosis of the quality levels of water provided throughout the country due to very limited information being available. Large operators have quality-monitoring programmes, which sometimes involve the use of contracted specialised laboratory services which can guarantee the quality of the testing. While regulators are entitled to carry out additional verification inspections, they often only check the water quality information provided by operators.

#### *Tariff regulation*

Tariffs are proposed by operators to provincial or municipal authorities for approval before being reviewed and cleared by subnational regulatory authorities. In the case of AySA, the company proposes tariff increases to the SIPH, the authority responsible for tariff-setting. In Argentina tariffs are commonly set below cost recovery level for a large number of utilities. This reflects the trade-off made by public operators and local authorities between economic and affordability objectives. However, it has been ob-

Regulatory function	Level in charge of exercising the function	Type of institution in charge of exercising the function
Tariff regulation	Subnational*	Regulator or provincial/municipal administration
Quality standards for drinking water	National and subnational	National Food Commission and regulator or provincial administration
Quality standards for wastewater treatment	Subnational	Regulator or provincial administration
Defining public service obligations	Subnational	Provincial administration
Defining technical/industry and service standards	Subnational	Regulator
Setting incentives for efficient use of water resources	Subnational*	Regulator or provincial administration
Setting incentives for efficient investment	Subnational*	Regulator or provincial administration
Information and data gathering	Subnational	Regulator
Monitoring of service delivery performance	Subnational	Regulator
Customer engagement	Subnational	Regulator or provincial administration
Consumer protection and dispute resolution	Subnational	Regulator or provincial administration
Licensing of water operators	Subnational	Provincial/municipal administration
Supervision of contracts with utilities/private actors	Subnational*	Regulator or provincial/municipal administration
Analysing water utilities' investment/business plans	Subnational	Regulator or provincial/municipal administration

\* For the Metropolitan Area of Buenos Aires, these functions are jointly exercised by a subnational and a national (SIPH) entity.

**Table 3.** Allocation of regulatory functions in water and sanitation, Argentina  
Source: OECD (2019b) based on OECD (2015c)

<sup>2</sup> Food code and regulatory standards.



served that for some private operators (in Córdoba, Corrientes, Misiones, Santiago del Estero) higher tariffs and/or operating cost coverage ratios have been established as compared to public operators.

When there is no provincial dedicated regulatory authority, prices are directly approved by provincial or municipal authorities. The ‘*canilla libre*’ system<sup>9</sup> completely disconnects tariff-setting from production costs and local conditions of service delivery, which prevents regulators from assessing efficiency and setting tariffs accordingly. This, in turn, fails to drive behavioural change towards lower water consumption and a reduction in operational costs.

Currently, periodic or ordinary tariff reviews are rare, especially in state-owned companies. In general, rates are increased on an annual or semester basis due to cost increases or extraordinary modifications.

#### *Incentives for an efficient use of resources and spending*

Water service providers are subject to the provisions of the General Environment Law No. 25.675 regarding environmental impact assessment, and to the requirements of Law 25.688 regarding water use permits for extraction and wastewater discharges. Nevertheless, there are currently neither systematic nor standardised *ex ante* economic and social assessment processes for proposed infrastructure development, with the exception of investment projects funded by donors, which usually include a cost-benefit analysis. As a result, most projects funded by the provinces are neither routinely appraised nor selected according to a cost-effectiveness, cost-benefit or multi-criteria analysis.

It is worth mentioning that for national projects financed by the national government the Public Investment Project Bank (BAPIN) verifies that investment projects to be incorporated in the BAPIN comply with certain standardisation criteria in order to allow comparability and prioritisation of their eventual inclusion in the national budget.

Nevertheless, due to the federal structure of the country and depending on the province, the limited scrutiny of resource use and spending is done either by a regulatory authority, the provincial administrative authority or a dedicated agency.

#### *Social obligations*

Given the multiplicity of subsidy systems in the different provincial and municipal jurisdictions – including direct, crossed and social schemes – it is difficult and complex to

compare situations and plans among providers. Nevertheless, the information regarding social obligations is only available at the operator level.

#### *Participation by users and consumers*

At the national level, there are legal guarantees for consumer access to information. Decree 1.172/2003 on Access to Public Information was promulgated in 2003. This decree contains five bylaws dealing with public participation in the drafting of regulations and access to public information. Also in 2003, the Law on Free Access to Environmental Public Information (Law 25.831) was passed. This law, which is applicable at the national, provincial and municipal levels, guarantees the right of access to environmental public information provided by the national government. In 2016, a Law on the Right to Access Public Information (Law 27.275) was passed establishing “the possibility to search, access, request, receive, copy, analyse, reprocess, reuse and redistribute freely information in custody” (Article 2). Article 42 of the National Constitution establishes that consumers and users of goods and services have the right to the protection of their health, security and economic interests; to adequate and truthful information; to freedom of choice; and to conditions of fair and dignified treatment. The protection of economic interests and the right to adequate and truthful information can be exercised by users against the service provider and before the regulatory authority.

In addition to these national, generic and overarching legal provisions, a few regulators and operators disclose information and data to the public through annual reports freely accessible on their websites. Furthermore, public hearings in the tariff adjustment process exist in several provinces (for example, Buenos Aires, Córdoba, Salta, Santa Fe, among others).

#### *Handling consumer complaints and disputes*

Each provincial regulatory framework stipulates specific mechanisms for consumer complaints and dispute-handling. In provinces where there is a regulatory authority, it generally exercises this function.

#### *Collection of information*

Despite recent efforts of the National Directorate for Water Supply and Sanitation (DNAPyS) to set up a national standardised data system, there is currently no unified col-

<sup>2</sup> In the ‘*canilla libre*’ (free tap) system, a fixed rate is charged regardless of the water volume consumed, thus providing no incentives for the efficient use of water. This ‘free tap’ system is based on an old presumed consumption criterion taking into account the location, surface covered, quality and age of the property. These variables are supposed to reflect users’ income levels and therefore their ability to pay. However, the ‘*canilla libre*’ system appears somewhat outdated and would need to be modernised to ensure cross-subsidies between wealthy and vulnerable customers are still effective.

lection or monitoring system regarding the performance of WSS in Argentina. In each province, operators report information to their regulatory or administrative authority, and the nature and content of reporting varies between operators and provinces.

Regarding affordability, the National Institute of Statistics and Censuses (INDEC) is currently the main source of information at the national level, as it is in charge of preparing the National Household Expenditure Survey (ENGhO).

Regarding infrastructure maintenance data, there is no national or provincial information available. Two surveys are presently being carried out by the DNAPyS to identify the status of drinking water treatment plants and wastewater treatment plants.

*Performance monitoring of service provision*

There is currently no comprehensive performance-monitoring of service provision at the national level due to a lack of standardised data and indicator collection systems (see above). Nevertheless, as part of the NWSSP, the DNAPyS is implementing a performance-monitoring system using synthetic performance indicators encompassing technical and economic efficiency.

In the provinces, regulatory authorities publish reports on the performance of regulated providers. However, these reports remain largely descriptive and include neither regulatory recommendations nor targets. While only a few regulators publish reports regarding their yearly operations (including information such as financial execution, administrative compliance, activities undertaken, etc.), the publication of performance indicators measuring progress in achieving the regulator’s policy objectives is not common practice.

**Ways forward to enhance the regulation of water and sanitation services in Argentina**

*Implement continual and uniform information collection and performance-monitoring*

The continual, consistent and standardised collection of information and data on the performance and efficiency of WSS across the country would be a key asset for the development and improvement of the sector. It could be used both to support the definition of public policies and to evaluate the service actually provided to society to convey a reliable and regularly updated overview of the sector. Such an information system would be useful for the DNAPyS to design relevant WSS policy targets, produce mid-term reviews and monitor achievements. It could also be used to

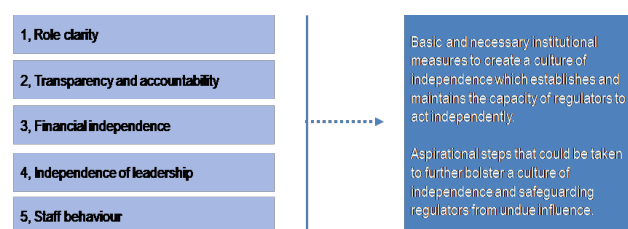
implement result-based funding allocation for investment projects and be a central element in incentive mechanisms.

An information system on the performance of WSS could also be used at the utility level to routinely report key performance indicators to the provincial regulatory entity in a uniform easy-to-interpret manner. For this purpose, performance evaluation should be done according to the underlying policy objectives targeted by the regulator. Finally, these key performance indicators could also be used as steering tools by utilities themselves to monitor and gradually improve their performance.

The set of indicators defined by the DNAPyS (based on 91 variables) could be supplemented with additional indicators to better reflect the overall quality and performance of utilities: continuity of service, collection period and ratio, metering level, sewer blockages, pipe breaks, average revenue per cubic metre produced and sold. In addition, a synthetic performance index could be built to give a quick and clear outlook on the performance of a utility compared to the rest of the sector.

*Strengthen the independence of subnational regulators to lower the risk of political interference*

In a fragmented, decentralised and politicised sector such as WSS, a certain degree of independence (or distance from political appointees) helps to overcome political interference in key decisions, such as tariff regulation. However, the extent to which a subnational body would manage to achieve the necessary level of independence is not clear. *De jure* independence is achieved through explicit reference in the law. *De facto* independence of regulators is ensured through a mix of governance features and operational modalities. These involve: independent decision-making, i.e. decisions that are taken without being subject to government assessment; staffing based on technical grounds rather than political criteria; protection of the board and top management from political interference; and a budget which does not depend primarily on the government (Figure 3).



**Figure 3.** The five dimensions of independence of regulators  
 Source: OECD (2017)

*Corporatisation for autonomous water and sanitation service operators*

Decentralisation shifts the control rights of WSS to local government. With the limited political contestability of local elections, political interference may serve to slacken efforts to improve public services. Overcoming political interference requires strengthening the trend to make water utilities more efficient, self-sustained and performance-oriented. The corporate governance of utilities should ensure a clear separation of functions and responsibilities between utilities and local governments. This would help promote transparency and accountability, and avoid political interference. *“State-owned enterprises should observe high standards of transparency and be subject to the same high-quality accounting, disclosure, compliance and auditing standards as listed companies.”* (OECD (2015a).

In this regard, it is worth mentioning Administrative Decision 85/2018 of the Office of the Cabinet of Ministers of the National Government that approved the “Guidelines for Good Governance of Companies with Majority State Participation in Argentina” and Decree PEN 202/17 stating the procedure to be carried out in the case of conflict of interests of any person in charge of public procurement or licenses, permits, or authorization-granting over a public or private domain. Both regulations follow the guidelines established by the Inter-American Convention against Corruption and the United Nations Convention against Corruption, together with standards set by the OECD.

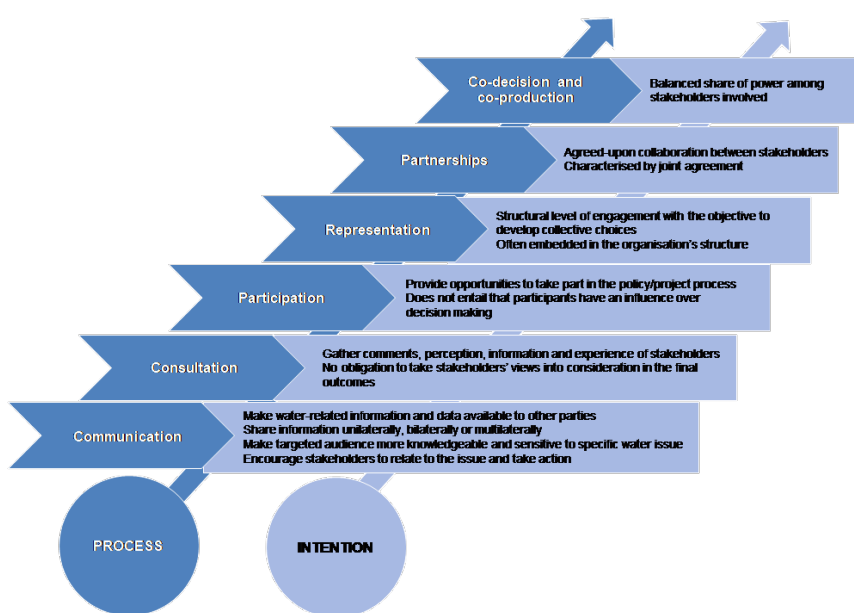
*Accountability and stakeholder engagement*

Accountability and transparency are the foundations of trust for economic regulators, but also a mechanism to align expectations between regulators and stakeholders. The main message is that compulsory or self-imposed practices in accountability and transparency promote the decision-making process and provide elements to lower the risk of regulatory capture.

Despite the existence of several national laws on access to information in Argentina, there is low/insufficient engagement between WSS users and operators. Strengthening users’ participation in water utility consultative bodies and in water decision-making is a necessary step and an essential accountability mechanism to ensure effective and efficient public services. There are various possibilities of engagement processes between customers and service providers, ranging from communication to co-decision and co-production (Figure 4).

*Addressing financial sustainability*

Revenues from water tariffs do not cover the costs of the water sector in Argentina. This is partly due to non-cost-reflective tariffs, a large amount of non-revenue water (NRW) and in some cases low staff efficiency. Nevertheless, financial sustainability of WSS crucially depends on revenue raised through tariffs (in addition to subsidies) to cover operation and maintenance costs. The politicisation of tariff-setting is an important barrier to more effective



**Figure 4.** Level of stakeholder engagement  
*Source:* OECD (2015b)

use of tariffs to promote financial sustainability. For instance, making tariff-regulation transparent and disclosing information and technical reports on the use of revenue would help to build a more consensual understanding of the link between tariffs and sustainability of service provision. In addition, operators should not only approach cost recovery through tariff increases but they should also as a priority seek efficiency gains, as there are many areas for improvement (staff efficiency, NRW, metering level, energy costs, etc.). Moreover, a sound accounting system should be put in place to enable optimal accounting management and documented tariff calculation. As the metering level increases, the ‘*canilla libre*’ system should be progressively abandoned as it prevents tariffs from reflecting the real costs of service-provision and does not incentivise operators to be more efficient. In addition, improvement of providers’ financial sustainability should go along with a fine-tuning of the subsidy system to target efficiency-vulnerable and disfavoured populations. This subsidy system should be designed carefully to avoid or at least minimize errors of exclusion and inclusion.

*This contribution builds on the publication OECD (2019), Water Governance in Argentina, OECD Publishing, Paris, <https://doi.org/10.1787/bc9cbbf6-en>. The additional opinions expressed and arguments employed herein do not necessarily reflect the official views of the member countries of the OECD.*

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# networkindustries

quarterly

Network Industries Quarterly, Vol. 22, issue 2, 2020 (June)

*“The Implications of the European Green Deal for Network Industries”*

#### **Presentation of the next issue**

In its long-term decarbonisation strategy ‘[A Clean Planet for All](#),’ the European Commission paints a clear picture of the vast transformations that will have to take place across all sectors of the economy for Europe to reach net-climate neutrality by 2050. Following the release of [The European Green Deal](#) late last year, European Commission President Ursula von der Leyen pledged to propose Europe’s first-ever ‘Climate Law’ in March 2020 with a view to enshrining the climate neutrality objective in legislation. The European Green Deal, which covers all sectors of the economy, notably transport, energy, agriculture, buildings and industries such as steel, cement, ICT, textiles and chemicals, presents a roadmap for transitioning to a sustainable European economy by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

The next special issue of Network Industries Quarterly is dedicated to papers that discuss the EU’s targeted climate-neutrality objective and the implications this will have in terms of legislative reforms as proposed in the Green Deal for the different network industries. Academics and practitioners will discuss the aforementioned implications for the rail, aviation and transport sectors more broadly

## OPEN CALL FOR PAPERS

Implementation of the liberalization process has brought various challenges to incumbent firms operating in sectors such as air transport, telecommunications, energy, postal services, water and railways, as well as to new entrants, to regulators and to the public authorities.

Therefore, the Network Industries Quarterly is aimed at covering research findings regarding these challenges, to monitor the emerging trends, as well as to analyze the strategic implications of these changes in terms of regulation, risks management, governance and innovation in all, but also across, the different regulated sectors.

The Network Industries Quarterly, published by the Chair MIR (Management of Network Industry, EPFL) in collaboration with the Transport Area of the Florence School of Regulation (European University Institute), is an open access journal funded in 1998 and, since then, directed by Prof Matthias Finger.

## ARTICLE PREPARATION

The Network Industries Quarterly is a multidisciplinary international publication. Each issue is coordinated by a guest editor, who chooses four to six different articles all related to the topic chosen. Articles must be high-quality, written in clear, plain language. They should be original papers that will contribute to furthering the knowledge base of network industries policy matters. Articles can refer to theories and, when appropriate, deduce practical applications. Additionally, they can make policy recommendations and deduce management implications.

Detailed guidelines on how to submit the articles and coordinate the issue will be provided to the selected guest editor.

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