

# Case Study— Aguas Do Ribatejo, Portugal

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## Key Characteristics of Aggregation Case Study

AGUAS DO RIBATEJO, PORTUGAL	
<b>Context</b>	<ul style="list-style-type: none"> <li>• High-income country</li> <li>• Aggregation covering urban and rural areas</li> <li>• Medium level of WSS performance</li> </ul>
<b>Purpose</b>	Performance, professionalization, environment benefits, equity
<b>Scope</b>	WSS functions and services
<b>Scale</b>	<ul style="list-style-type: none"> <li>• Administrative boundaries</li> <li>• Localities covered: 7</li> <li>• Population covered: 139,853 inhabitants for water and 96,654 for wastewater</li> <li>• Connections: 74,875 for water and 55,035 for wastewater</li> <li>• Coverage: 96 percent for water and 66 percent for wastewater</li> <li>• Network length: 2,051 km for water and 1,035 km for wastewater</li> </ul>
<b>Process</b>	Voluntary and Incentivized (EU funds)
<b>Governance</b>	<ul style="list-style-type: none"> <li>• Delegated (40 years)</li> <li>• Public company</li> <li>• Decision making: During General Assembly of share holders; share allocated according to the value of asset transferred by each municipality</li> <li>• Asset transfer: Asset transferred from municipalities to the aggregated utility through lease agreements without a rent payment but with maintenance obligation. These transferred assets remain the property of municipalities.</li> <li>• Liability: No liability undertaken</li> <li>• Staff transfer: Partial staff transfer from municipal departments to the aggregated utility</li> <li>• No clear entry and exit rules</li> </ul>
<b>Outcome</b>	• Positive, but with OPEX increase
<b>Findings</b>	• Staff transfer (50%), doubts and tensions overcome after two municipalities withdrew permanent political support after implementation, time used to design institutional arrangement is factor of success, higher tariffs, environmental protection arising from sanitation improvement.

Note: OPEX = operating expenses.

In 2001, nine municipalities from the Ribatejo region in Portugal decided to aggregate their water supply and sanitation (WSS) services as they felt they needed to improve their quality and performance, among other aspects. However, the design of the aggregation process was to take almost a decade, as the municipalities could not reach agreement on the aggregation governance model to adopt. Some significant tensions appeared, and some municipalities withdrew from the aggregation process. A few years later, the remaining municipalities finally reached an agreement and consolidated into a single utility. The implementation of the aggregation benefited from strong financial incentives from the EU Cohesion Fund, which helped to make it successful with regard to its purposes.

### **The Emergence of a National Legal Framework for Aggregation of WSS Services in Portugal**

Until 1974, Portuguese water and sanitation services were fragmented, with more than 300 municipal operators functioning without any economic or administrative autonomy. The urgent need to improve WSS services quality and performance in the context of stringent EU directives led to the adoption of a new specific law in 1993 enacting a broad-scope reform of the sector. It kept the distribution of drinking water and domestic sewage collection at the municipal level. It maintained the possibility for direct management and also allowed public-private partnerships. It created an innovative solution to improve WSS “bulk” systems through regional entities, called “multimunicipal systems,” owned by the region’s municipalities and a state-owned holding (Águas de Portugal) as a majority shareholder. This solution was a compromise between maintaining municipal jurisdiction over WSS and setting up new and broader utilities to allow quicker infrastructure development, better management, and improvements in technical capacity as well as absorption of EU funds.

The implementation of multimunicipal systems was always surrounded by controversy, as many

municipalities considered that this model was jeopardizing their municipal attributions regarding WSS. To overcome the resistance of some municipalities, a new management model was introduced in 2009, allowing state-municipality partnerships. In 2013, in a context of harsh economic crisis, a trend toward aggregation of multimunicipal systems emerged to overcome economic difficulties encountered by systems covering less-populated regions. However, this move created controversy related to the dilution of each municipality’s power into the aggregated multimunicipal entity and to the balance of municipalities’ contributions to the entity. This trend is currently in reversal. Consequently, the multimunicipal systems created between 1995 and 2004 have nowadays a different geographical scope and have undergone some juridical evolution too.

### **A Long and Difficult Design Period during which Some Municipalities Withdrew from the Aggregation**

The process leading to the creation of Águas do Ribatejo lasted almost a decade and happened in two phases: from 2001 to 2007, different aggregation models were discussed; and from 2007 to 2009, agreement on aggregation was reached and implemented on the basis of a direct management solution. The design of the aggregation took quite some time for a set of different reasons. With the aggregation, each municipality was to renounce its own services, which implied the end of traditional direct management, as well as the loss of control over services and of direct availability of revenues. Municipal councils were also concerned about the loss of proximity to consumers and any potential related political effects. Other difficulties stemmed from the fact that, in most municipalities, the aggregation would imply a rise in tariffs to reach a harmonized tariff for all consumers and to accommodate investment needs and adequate operational standards. As a result, the agreement on a management model was not immediate.

In 2001, there were talks with Águas de Portugal, the state-owned holding company, to create a multi-municipal system. However, municipalities decided instead to proceed with an integrated solution between bulk and retail activities. The first economic study supporting that purpose dates back to July 2003. As a second option, they tried to create a common utility, keeping 51 percent of shares and allocating the remaining 49 percent to a private investor. To do so, they prepared and developed a call for tenders.

When the aggregation process began, it covered nine municipalities. After a change of political majority and mayor, Santarém—the capital and most populated city of the region—decided to withdraw from the process, considering that the municipality would be subject to an excessive contribution to the common investment and operational costs, and that it was not prepared to indirectly subsidize other municipal systems incorporated into Águas do Ribatejo. The municipality of Cartaxo also decided to leave. At the time, this decision was very contentious. It strongly changed the premises of the tender and determined its annulment, generating the need for a new consensus and new economic studies to support the feasibility of a common utility. The institution of Águas do Ribatejo, with municipalities as sole shareholders, was then decided on. The municipalities hold to the principle of allocating funds and investment where most needed, even though it meant that larger municipalities would be subsidizing smaller ones. They considered the common ground for aggregation was to reach a similar quality throughout services, thus promoting a principle of solidarity.

New cost-benefit studies on the utility’s implementation were prepared, and in 2007, Águas do Ribatejo was established as a public company by six municipalities. It began operation in May 2009. Its capital consists of the infrastructure of the utility, and shares are allocated to municipalities according to the value of the assets they transferred:

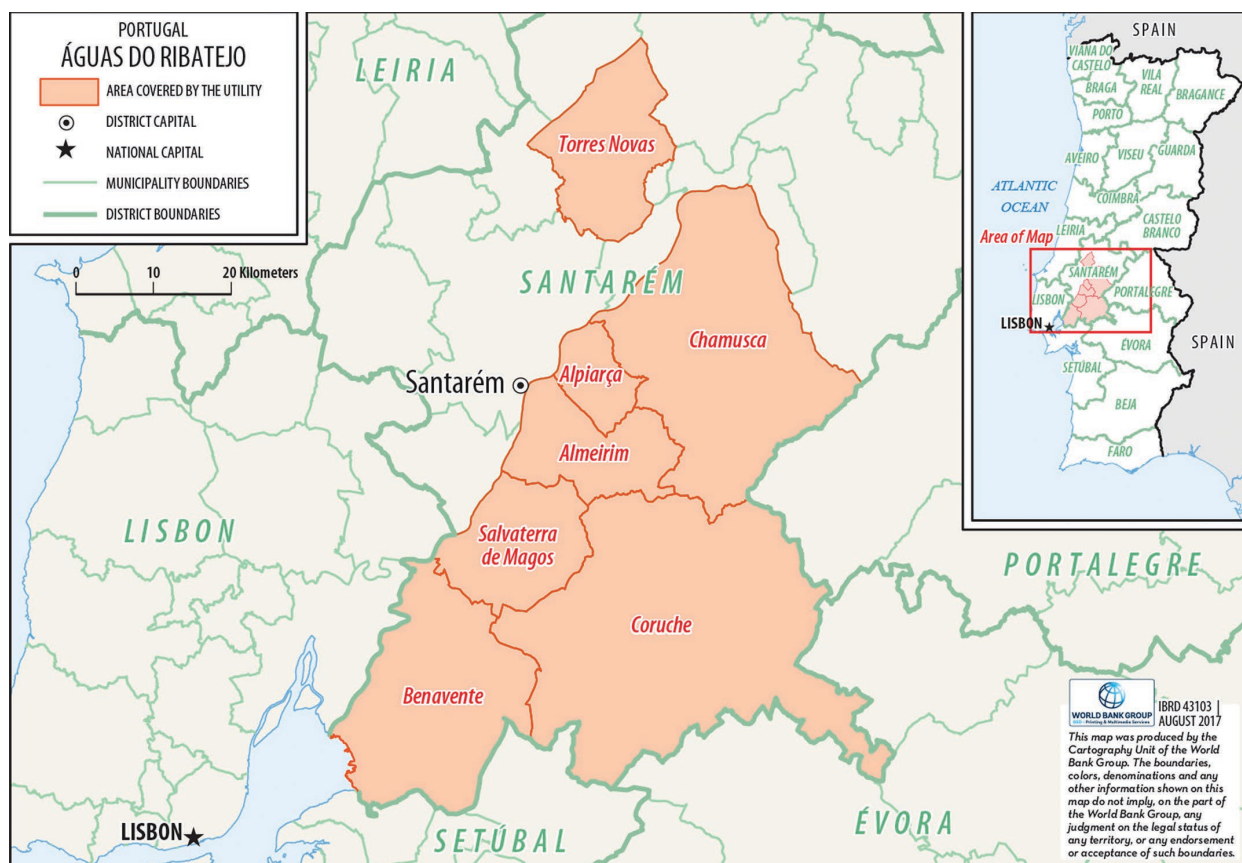
**TABLE 1. Allocation of Águas do Ribatejo’s Shares Among Municipalities**

Municipalities	Shares allocation (%)
Almeirim	15.45
Alpiarça	5.40
Benavente	16.44
Chamusca	8.15
Coruche	15.03
Salvaterra de Magos	14.19
Torres Novas	25.34

The assets transferred, which remain the property of the municipalities, do not entail any rent payment from the utility but do entail an obligation to maintain them. The management agreements of each municipality, delegating to Águas do Ribatejo their water and wastewater services for 40 years, were signed in the second half of 2008. But one of the municipalities—Golegã—never effectively delegated its WSS services to Águas do Ribatejo. As a result, the utility never provided services to this municipality, which formally left the company in 2011. The same year, another municipality, Torres Novas, from a neighboring subregion, decided to join Águas do Ribatejo, and the utility began its operation in Torres Novas in October 2011.

The aggregation has followed administrative boundaries; however, only the original municipalities are contiguous, as Torres Novas does not belong to the same subregion. The area covered by Águas do Ribatejo amounts to 3,215 km<sup>2</sup>, and the population supplied is close to 150,000 inhabitants. Some of the pipes and sewer systems have been physically interconnected. The aggregation comprised both bulk and retail services, covering water production and distribution to consumers and domestic wastewater collection, treatment, and discharge. It covered all operational, administrative, commercial, and finance functions. The aggregation implied full administrative and commercial consolidation, with substitution of the new utility for all previous municipal services. Despite the withdrawal of municipalities during the design phase of the aggregation, there are no clear entry and exit rules,

**MAP 1. Municipalities Served by Águas do Ribatejo**



and the addition of Torres Novas was the result of an ad hoc negotiation. When Águas do Ribatejo began its operation, about two-thirds of the initial staff (83 employees) was transferred from municipal departments and 48 employees were recruited to complete the workforce. The transfers were the object of a negotiation with unions representing municipal employees. As of writing, the transferred staff represent 50 percent of all employees.

### **An Aggregation Process Incentivized by EU Funds...**

The process of aggregation was highly incentivized both by the growing requirements and enforceability of EU standards for water quality, wastewater treatment, and environmental protection, and by the

availability of EU funds to be allocated preferentially to regional entities as stipulated by the article 12 of the Decree no. 191/2000. Águas do Ribatejo has had access to the EU Cohesion Fund which covered 60 percent of its investment projects until 2015. The aim of these projects was to upgrade infrastructure in order to increase water and wastewater treatment quality standards to meet EU requirements. The investment needed was huge and a real driving force, as €113 million was to be spent on WSS infrastructure. There was also another important driver for the aggregation: the national rules approved to shape the allocations of the EU Cohesion Fund specified eligibility conditions directed toward regional or, at least, supramunicipal entities, implying a continuing trend toward aggregation. Municipalities also needed to enhance their technical capacity to

carry out investments and improvement projects. They considered that it would be easier to improve technical structure and human resources capacity within a single consolidated utility rather than several local services.

### ... Which Successfully Improved Performance and Service Quality, as well as Cost Recovery

The key indicators for assessing the aggregation outcomes are related to its main purposes, that is, performance and quality enhancement, professionalization and technical capacity improvement, equity, and environmental benefits. As a result of the

**TABLE 2. WSS Tariffs Before Aggregation**

WSS tariffs for 120 m <sup>3</sup> consumption before aggregation	
Almeirim	€78.12
Alpiarça	€158.88
Benavente	€59.92
Chamusca	€24

aggregation, drinking-water quality and sanitation levels improved significantly. From 1993 to 2015, the safe drinking-water indicator improved from 50 percent to 98.78 percent for the country, on average, while in Águas do Ribatejo the indicator reached 99.57 percent. The decrease of sewer blockages is also very impressive, although the data seem unstable

**TABLE 3. Evolution of Key Performance Indicators Before and After Aggregation**

	Assessment indicators associated with targeted purpose	Before aggregation (2009)	After aggregation (average value for 2014 and 2015)
<b>Service quality enhancement</b>	Continuity (hours/day)	n.a.	23.5
	Non-revenue water (m <sup>3</sup> /km/day)	10.9	5.8
	Water network per municipality (km)	1,769	2,051
	Sewerage network (km)	759	1,035
	Sewerage blockages (no./km/year)	4.1	0.2
<b>Technical capacity</b>	<b>Staff productivity</b>		
	Per water produced (m <sup>3</sup> /employee)	n.a.	75,286 m <sup>3</sup> /employee
	Per water connection (connections/employee)	n.a.	443 connections/employee
	Long-term and medium-term investment plan	No	Yes
	Assets inventory	No	Yes
	Staff training expenditure (hours/year)	n.a.	894 training hours (from 2011 to 2013, staff training hours tripled)
	Private sector participation	Yes	Yes
<b>Environmental benefits</b>	Existence of IWRM	Yes	Yes
	Drinking-water quality (%)	98.79	99.57
	Connection to wastewater treatment plants (no. of connections)	39,781	55,035
	Wastewater treatment quality (%)	57	90.50
<b>Equity</b>		Different tariff for each municipality	Harmonized tariff for all municipalities

Note: n.a. = not applicable.

over time. The compliance indicator for wastewater discharge parameters has grown from 57 percent in 2009 to 91.5 percent in 2015. According to information provided by the utility, the contribution of newly built wastewater treatment plants, covering about 90 percent of the population served, was key to achieving those results. Non-revenue water was reduced by 47 percent between 2008 and 2014, while the length of the network expanded by 16 percent. The professional organization of services and their operational practices have dramatically changed. Regarding technical capacity, the utility has developed a long-term investment plan and has an asset inventory. The staff coordinated the €113 million investment which helped services taken over by Aguas do Ribatejo to get out of the low-level equilibrium trap, thus breaking the vicious cycle of low price-low quality. An identical price per cubic meter is charged in all municipalities. As a result, every consumer pays €170.52 for an annual consumption of 120 m<sup>3</sup>.

This represents a 7 percent to 8 percent increase compared with the price paid in 2008 in the two municipalities where the tariffs were the highest. It represents a 600 percent increase for the municipality that had the lowest tariffs. But this increase is a positive management improvement, as the price before aggregation was heavily subsidized by municipal budgets. Hence, water tariffs currently implemented by Águas do Ribatejo are more cost-reflective, making the service more sustainable financially.

## Aggregation Case Study at a Glance

### Key Lessons Learned from Aggregation Case Study

*Financial Support and/or Incentives (a "Big Push") Are Important to Help Services Get Out of the Low-Level Equilibrium Trap*

To boost the success of aggregation reforms, external stakeholders can provide financial support to aggregating utilities to help them achieve the

aggregation purpose. In most cases, these subsidies are used to fund investment programs, thus acting as the Big Push, which helps WSS services get out of the low-level equilibrium trap. In Portugal, to be eligible for the EU Cohesion Fund, utilities had to operate with a regional or at least supramunicipal scope, thus implying a trend toward aggregation (Decreto-Lei 191/2000, article 12). The utility Águas do Ribatejo received EU funds that covered 60 percent of its investment program for the same period.

### *Aggregation Forces More Explicit Decision-Making Processes, Leading to Better Corporate Governance*

Aggregation involves the creation of a new, separate organizational entity that is accountable to more than one stakeholder. Therefore, aggregations present an opportunity to adopt sound corporate governance principles related to autonomy and accountability. Águas do Ribatejo, a public limited company created to provide bulk and retail water services, was able to increase the water tariff and set up a uniform tariff in the seven municipalities from its service area. This new tariff represented a 7-8 percent increase in the two municipalities where tariffs were the highest prior to aggregation and a 600 percent tariff increase in the municipality that had the lowest tariffs. This tariff policy was viewed as a positive management improvement toward sustainability, as the price before aggregation was heavily subsidized by municipal budgets and was not cost-reflective. Corporatization also brings managerial independence to utilities that can make their own decisions regarding staff recruitment or wage policy, thus lowering or preventing political interference and patronage. When Águas do Ribatejo was created, about two-thirds of its initial personnel were transferred municipal staff. One-third were recruited directly by the newly aggregated utility.

### *Defining Principles but Allowing Flexibility in Implementation Ensures Local Ownership*

National reforms are more likely to be successful when they follow the principle of subsidiarity and

allow flexibility for local stakeholders to own the aggregation process and adapt it to their local context. In Portugal, the central government created in 1993 a “multimunicipal management” model to improve WSS “bulk” systems through regional entities, owned by Águas de Portugal, a state-owned holding, as a majority shareholder. However, several municipalities resisted the implementation of this model for fear of losing their WSS responsibilities. In 2009, the central government introduced a new management model for bulk and retail services, called a state-municipality partnership, to facilitate further the potential for aggregation in the WSS sector.

*When Political Leadership Changes over Time, Aggregation Can Be Jeopardized*

The flip side of having a champion as a success factor is that relying on the leadership of a single champion can sometimes be hazardous. Policy makers and aggregation promoters would do well to not design the aggregation around specific people and circumstances. Due to political cycles, local representatives may not be reelected. As a result, leadership stemming from a single local stakeholder may

disappear over time, thus potentially jeopardizing the aggregation design and implementation. The creation of Águas do Ribatejo took quite some time, as agreement on a management model was not immediate. In 2001, there were talks with Águas de Portugal to create a multimunicipal system, but this solution was dismissed. A second option consisted in creating a common utility and allocating 49 percent of the shares to a private investor. A call for tender was developed. At that time, the scale of the aggregation reached nine municipalities. But after a change of political majority and mayor, Santarém—the capital and most populated city of the region—decided to withdraw from the process, considering that it would be subject to an excessive contribution to the common investment and operational costs and that it was not prepared to indirectly subsidize other municipal systems incorporated in Águas do Ribatejo. The municipality of Cartaxo also decided to leave. At the time, this decision was very contentious and strongly changed the premises of the aggregation. The tender was annulled, generating the need for a new consensus and new economic studies to support the feasibility of a common utility.

