

Case Study— Copanor, Brazil

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Key Characteristics of Aggregation Case Study

COPANOR, BRAZIL	
Context	<ul style="list-style-type: none"> • Upper-middle-income country • Aggregation covering rural areas • Low level of WSS performance
Purpose	Professionalization, performance, economic efficiency
Scope	WSS functions and services
Scale	<ul style="list-style-type: none"> • Watershed limits • Localities covered: 239 for water and 74 for sanitation • Population covered: 304,000 inhabitants for water and 138,000 for sanitation • Connections: 101,280 for water and 45,900 for sanitation • Network length: 2,113 km for water and 1,416 km for sanitation
Process	Bottom-up with financial incentives
Governance	<ul style="list-style-type: none"> • Merger • Public company • Decision making: The state government of Minas Gerais is the sole stakeholder of the company. • Asset transfer: No assets were officially transferred from municipalities to the state; assets were financed by state funds. • Liability: No liabilities were taken. • Staff transfer: No staff transfer • Clear entry and exit rules
Outcome	<ul style="list-style-type: none"> • Positive but financial sustainability for operation yet
Findings	<ul style="list-style-type: none"> • "Itinerant" staff contribute to higher cost as not suited for the scale and dispersion of rural settlements, cooperation agreements with local associations strengthen customer relationships

In 2006, the government of Minas Gerais decided to implement a bold investment program to make water and sanitation universally accessible in the rural and poorest region of the state. These areas had been left aside by the state water supply and sanitation (WSS) company, COPASA (Companhia de Saneamento), which had predominantly focused on urban access to WSS services. To do so, the government conducted a study entitled Project Vida no Vale (VNV, or Life in the Valley) that surveyed 1,852 rural localities. Based on the Project VNV recommendations, the government of Minas Gerais created COPANOR (Copasa Serviços de Saneamento Integrado do Norte e Nordeste de Minas Gerais), a public company, a subsidiary of COPASA, which would be specifically in charge of WSS operations in rural communities. However, despite the achievements of COPANOR, it has not yet reached financial sustainability, which puts the aggregation model at risk.

National Policy for Urban WSS Aggregation Leaving Aside Rural Areas

In the early 1970s, Brazil implemented a major service aggregation reform through PLANASA—the National Sanitation Plan. Municipal governments—which, until then, had been playing the role of service providers—began to delegate these services to state governments, encouraged by the criterion to access federal investment funds predominantly through these companies. Between 1970 and 1983, investments in the sector reached an average of 0.46 percent¹ of gross domestic product (GDP). But the implementation of PLANASA was affected by the global financial crisis starting in 1983. Between 1980 and 1990, investments in the sector dropped to 0.24 percent of GDP, and then to 0.16 percent during the 1990s; in 2012, they reached 0.11 percent—the lowest level yet. In Brazil, for the purpose of WSS service provision, communities located outside city borders are considered rural. This represents a significant portion of the population that remains unserved by state companies, which focused on urban

areas, serving municipalities' headquarters and their surrounding areas. This institutional vacuum of water and sewerage services in rural areas made room for specific aggregation solutions and models to provide these locations with access to WSS services.

A Large Investment Program Supported Financially to Improve WSS Access in Rural Areas

Minas Gerais is a Brazilian state spanning 586,528 km². It is the second most populated state in the country, with an estimated 20.98 million inhabitants in 2016. COPASA is a state-controlled company that provides water services to 585 municipalities and sanitation services to 243 municipalities. Services are regulated by ARSAE, the state regulatory agency in charge of water and sanitation services.

The process that gave birth to COPANOR aggregation was a political initiative to set up an investment program funded by the state. As such, it was not conceived as a reform for the sector at the state or federal level. The state government was prompted to create COPANOR for two main reasons. First, the state company COPASA resisted serving small localities, as doing so could affect its overall sustainability and potentially affect its capacity to deliver good-quality services to its existing customers. Second, several previous experiences of service delivery in rural areas had failed. In 1988, the region received investments—through the National Rural Water and Sanitation Pilot Program, or PPNSR—that were used to deploy 106 water and sewerage systems in small municipalities and rural areas; these systems were then handed over for operation to local associations with support from local governments. However, the 2006 diagnosis found that many of the WSS systems funded by PPNSR had been poorly maintained and were dysfunctional. Hence, it became clear to the state government that the PPNSR model should not be repeated and that an alternative model to deliver WSS service in rural areas should be implemented.

TABLE 1. Evolution of Number of Communities Served by COPANOR

Year	Number of communities
2007	7
2012	198
2016	239

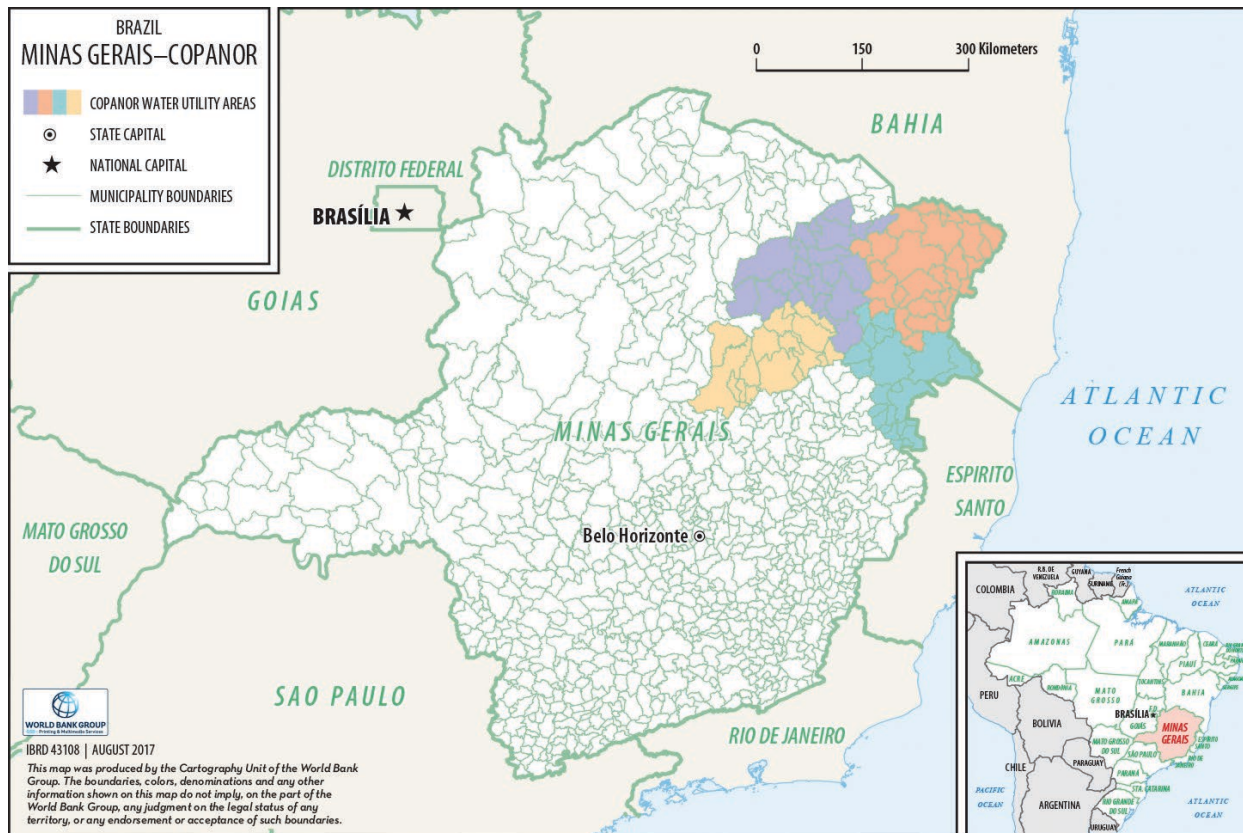
In this context, COPANOR was set up in 2007, providing services to 7 localities. It then expanded quite rapidly, and in 2016, it covered 239 locations, serving 304,000 inhabitants with water, representing 101,280 connections. Any community wanting to receive services from COPANOR needs to get the state government’s approval.

COPANOR sanitation services cover 74 communities, representing 45,900 connections and 138,000 inhabitants. The COPANOR program handles sanitation

in two ways. A collection system with a sewerage network and treatment is available for municipalities’ headquarters and larger locations, and individual systems with septic tank and leaching fields are set up for small rural localities. In the first case, the company takes over the operations, maintenance, and the charging scheme of services, whereas in the second case, the solution is up to each family.

COPANOR is a public company under the state government and a subsidiary of COPASA. Its structure consists of a board in which only the position of chairperson is exclusive to COPANOR and paid for by the company. The other four directors are from COPASA and are not remunerated by COPANOR. COPANOR also has audit and management boards. The operating area of COPANOR is bounded by river basins in the north and northeast of Minas Gerais. Given the size of the

MAP 1. Service Area of COPANOR



localities served by COPANOR, water supply is usually already in place, often with a distribution network or a fountain. There were no reported cases of conflict over asset ownership with municipalities, as assets usually originate from funds donated by state and federal governments.

COPANOR’s expansion was very quick between 2007 and 2012 as large investments were funded through the state budget for the health sector. The current economic crisis in the country took a toll on the state’s investment capacity so that, since 2012, expansion has occurred at a slower pace. In 2016, the state looked for other ways to secure investments, and a government resolution determined that investments would come from COPASA’s dividends, earned by the state government as the majority shareholder of the company. According to the law that created COPANOR, its tariff must be lower than that of COPASA. As a provider of services in poor rural areas, COPANOR does not have to amortize its investments (that is, there are no capital costs). As a result, the service tariffs are limited to covering operating and maintenance costs only. These legal provisions hamper the development and the sustainability of COPANOR, thus putting the company at risk.

An Aggregation Model Bringing Some Performance Improvement but also High Labor Costs, Hampering Operational Cost Recovery

The purposes of the COPANOR aggregation encompass professionalization and performance enhancement as well as economic efficiency. Service access and quality have increased since 2007, as service quality data from 2016 exhibit a 99.6 percent compliance rate for water. In the 74 localities with collective sanitation services, the treated volume represents approximately half of the total volume collected, as broken down in the table 2.

COPANOR also enabled the use of economies of scale when purchasing treatment products. However, despite those achievements, some progress still needs

TABLE 2. Treatment Level of Wastewater Collected by COPANOR

Ratio of volume treated to total volume collected	Share of total (%)
No treatment	48.9
Primary treatment	5.4
Secondary treatment	32.4
Tertiary treatment	13.3

to be made as water macrometering is not available and there are no indicators for losses or unaccounted-for water. Moreover, operational cost recovery has not been reached yet, and the company’s results for 2016 show a relative financial imbalance, with an operating deficit of 6 percent (US\$6.92 million in revenue and OPEX at US\$7.38 million), while the WSS tariff of US\$0.51 per m³ or US\$3.76 per connection per month, does not cover the full OPEX. The persisting deficit in recent years has been covered by COPASA. According to COPANOR, the deficit is due to a flattening of the water tariff, since the adjustments granted by the regulatory authority have been based on the country’s inflation rates, which are lower than the company’s payroll adjustment. Most COPANOR employees earn the national minimum wage—which, in recent years, has effectively increased at a faster pace than the inflation rate.

For local operations, COPANOR employs full-time workers who perform “itinerant” activities in small localities; that is, they travel from one locality to another, and to regional headquarters and supervision centers where they usually reside. This model generates high costs, due to travel expenses as well as to compensation paid to itinerant workers. COPANOR’s long-term financial sustainability is also threatened by growing labor union pressure to increase wages to levels equivalent to COPASA’s. The tariffs charged by COPANOR are approximately 60² percent of the tariffs charged by COPASA. If COPANOR were to pay its many workers the same wages as its “parent company” (COPASA) and continue to charge the usual

COPANOR tariff (60 percent that of its parent company), the company's financial sustainability would be jeopardized in the long run. Such persisting financial unsustainability sheds light on the fact that COPANOR's operational structure—which replicate the structure of the state-owned company serving urban areas—is not best suited for the scale and level of dispersion seen in rural areas, which contribute to higher costs. However, given the slow progress in providing universal access to water and sanitation services in rural areas, this aggregation model reflects a bold political decision to promote greater access to WSS through a large investment program in a poor part of the state of Minas Gerais.

Aggregation Case Study at a Glance

Key Lessons Learned from Aggregation Case Study

Harmonization of Administrative Practices May Level Costs Up

When the scope of aggregation includes consolidation of functions, a harmonization of administrative practices across aggregating service providers is necessary. In the best-case scenario, this harmonization leads to leveling standards up to those of best practices. However, under less favorable circumstances, harmonization may lead to leveling costs up, thus hampering the success of aggregation. In Brazil, COPANOR is a rural subsidiary of the state company COPASA.

Most COPANOR employees earn the national minimum wage. However, there is significant pressure from the labor union to increase wages to levels equivalent to COPASA's. If COPANOR were to pay its workers the same wages as its "parent company" (COPASA) pays and continue to charge the same water tariff (capped at 60 percent of its parent company's tariffs, in 2015), the company's long-term financial sustainability would be jeopardized.

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, national and 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 a Big Push, which helps WSS services get out of the low-level equilibrium trap. In Minas Gerais, COPANOR benefited from a large investment program funded by the state budget. These investments enabled COPANOR to upgrade water supply systems in the 239 localities served and to set up sanitation services in the 74 rural localities covered.

Notes

1. According to the IPEA, Institute for Applied Economic Research.
2. SNIS, 2015 Indicators, average water rate.



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