

MANAGEMENT MODELS FOR SMALL TOWNS

Municipal Water Company in San Julián, El Salvador

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Abstract

This case study describes a successful approach to the provision of water supply services in San Julián, El Salvador, using the model of an autonomous municipal company. San Julián is a small municipality with a total population of 22,700, which includes an urban center with 5,200 people. In 1997, by municipal decree, the municipality formed an autonomous company to manage the water system for the urban center. An elected board of directors and a permanent staff of five people manage the company. San Julián is currently the only fully functioning example of a municipal company in El Salvador. It has a new water supply system built with external funds and an old unimproved wastewater collection system.

Since beginning full operation in 1998, the company has been very successful. Most of the population (96%) has access to the municipal water supply system and every household connection is metered. Service is provided 24 hours per day. User fees cover all recurrent costs and depreciation, and generate excess revenues to finance modest system expansion.

The case of San Julián provides an example of a very simple management model that has the potential to bring about a dramatic improvement in services. This model is available to any country that has delegated responsibility for water supply and sanitation (WS&S) services to municipalities. The case study discusses the factors that need to be addressed for the model to be sustained and replicated in other municipalities in El Salvador. In particular, it demonstrates how a small rural municipality can improve WS&S services if it has a reasonable measure of autonomy of operations from the municipality, improved infrastructure, and technical assistance in the early stages.

1. Background and Context

Country Overview

El Salvador is the smallest and most densely populated country in Latin America. It has a population of approximately 5.7 million people in an area 21,000 square kilometers in size. The population is 50% rural and 50% urban. Population growth trends show El Salvador becoming more urbanized, with the highest percentage of the population (25%) living in the metropolitan area of San Salvador, which comprises 14 municipalities. These highly urban municipalities have an average urban/rural population distribution of 80% and 20%.

El Salvador's gross domestic product (GDP) showed positive signs of growth in the post-war period of 1988-1997, increasing at an average annual growth rate of 2.2%¹. The GDP in 1997 was US\$ 7,663 million (in 1990 dollars). Measured in constant 1990 US dollars, the GDP per capita in 1997 was \$1,293, showing only a slight increase over 1988 (\$1,274), due to a slowdown in economic growth (reported in 1996 and 1997). El Salvador's GDP per capita is one of the lowest in Latin America.

El Salvador has a high degree of income inequality, both in urban and rural areas. The incidence of poverty in rural areas is much greater than that of urban areas. The incidence of rural poverty is estimated at 55% of the total population, while in urban areas, it is only 16%.

The Inter-American Development Bank (IDB) attributes the slowdown in economic growth, as well as the widening gap in income distribution and access to basic public services, to institutional rigidities and inadequate public structures, which the Government of El Salvador (GOES) is endeavoring to correct.

Sector Situation and Organization

The primary source of water for El Salvador is the Lempa River. It is estimated that 63% of the country's available water resources come from the Lempa River basin, with the balance drawn from other surface and underground water resources. Water is used to generate electric power, irrigate farmland, and supply drinking water. The principal user of water resources, although not the main consumer, is the electricity sector since over 60% of the country's electric power comes from hydroelectric plants. Irrigation accounts for the largest proportion of water consumption, distributing the resource over some 46,000 hectares of farmland. Human water consumption is relatively low, averaging 120 liters/person/day in San Salvador and less in the smaller municipalities owing to reduced production capacity².

The discharging of untreated wastewater into receiving water bodies has seriously compromised water quality. Only 2% of all municipal and industrial discharges receive some kind of treatment before reaching a receiving body of water. Various studies indicate that about 90% of the country's surface waters are contaminated and unsafe for human consumption. Water shortages are widespread, yet El Salvador does not have an agency responsible for overall management of water resources. What exists instead is the disjointed and unsustainable use of the resource within each sector. "Water belongs to everyone, and to no one" is a popular expression with sector professionals in El Salvador.

¹ All macroeconomic statistics and socioeconomic data are taken from Inter-American Development Bank's Loan Proposal document: "Reform Program for the Water Sector and the Potable Water and Sanitation Subsector in El Salvador," May 1998.

² Ibid.

There is no mechanism for allocating water rights, and the communities, municipalities, farmers, land developers, and national agencies all compete for the utilization and ownership of the country's water, to the point where this competition has led to social conflict in many places. The current situation is critical with respect to quality, quantity, distribution, and conservation of water resources. El Salvador does not have a clean water act, and its environmental law falls short of providing adequate coverage on the above issues. The country has a series of uncoordinated and sometimes contradictory legal instruments that touch upon management and conservation of water resources.

It is estimated that only 57% of El Salvador's population has access to clean water: 78% of the population in urban areas and only 25% in rural areas (other sources indicate 16%). This is the lowest figure for overall water coverage in Central America. Indicators of quality of service for those who have access to piped water show a great deal of fluctuation. It is safe to say that no city in the entire country has water service 24 hours a day. Higher income families, other institutions, and private enterprises solve this problem by using water storage tanks with automatic pumping systems. In the area of sanitation, some 60% of those living in urban areas nationwide have access to sewerage systems while in rural areas, sewage systems are practically nonexistent; however, 52% of the population use latrines. These factors have a direct impact on the serious public health and environmental sanitation problems that confront the country.

The problems of the WS&S sector can be traced primarily to its management structure. Under the Organic Act of 1961, the National Water and Sewage Administration (ANDA), created as an autonomous public service agency reporting to the Ministry of Public Works, is responsible for providing services throughout the country. The act stipulates that ANDA is the only institution authorized to regulate, standardize, plan, set tariff rates, and operate water and sewage services. As a result, the structure for provision of water and sewage services can be described as a centralized public monopoly, paralleled by a growing number of private, informal operators not subject to regulation of any kind, as well as various independent water systems in urban and rural communities supported by external donations and lending programs. The Ministry of Health (MOH) is responsible for sanitation services; for example, latrine construction programs would fall under the ministry's responsibility.

In rural communities, neighborhood associations (*Juntas Vecinales de Agua*) serve as community water boards and manage their own systems, which are generally built with external funding without ANDA's participation.

ANDA operates 150 water and sewage systems in 181 of El Salvador's 262 municipalities, ranging from the country's largest—the Greater Metropolitan Area of San Salvador, with 300,000 connections—to some of its smallest, with less than 200 connections. There are 78 municipalities that operate their own (urban area) systems without ANDA participation. Of these, 72 are managed, de facto, by the municipal government itself, and 6 are managed by other mechanisms, such as a nongovernmental organization (NGO), private concessions, and mixed economy models. San Julián is among the latter and is the first and only case in El Salvador where a municipal government created a decentralized, and autonomous,

municipal company for the purpose of managing its own urban water and sanitation system. San Julián, as well as all the above-mentioned systems—urban and rural, operates unregulated by the national government. ANDA does not intervene. The policy is implicitly *laissez-faire*. San Julián is unique at present in the degree of autonomy that it has. ANDA has the power to grant concessions and has done so in a few cases.

Two particular and important characteristics of the country, which have implications for the study of the management model of San Julián, are the following:

- El Salvador has a highly fragmented municipal administrative structure (a small country with 262 municipalities, each having an average area of 80 square kilometers). Each municipality is like a county, with an urban center and rural communities.
- El Salvador has a large number of small towns with populations under 10,000 people — 89% of total urban areas. In fact, no municipality other than San Salvador would be considered medium-sized by most definitions.

Public Sector Reform

The GOES has made significant strides in modernizing and reforming the country's public sector. The reform programs the government has introduced have redefined the concept of public service and are bringing about changes in areas previously operated as centralized state monopolies. Positive and profound changes have already occurred in areas such as energy, telecommunications, transport, ports, and financial services, limiting the state primarily to the role of regulator, policymaker, and promoter.

The water sector is not immune to this process. Its reorganization carries particular economic and social importance for the country. In fact, efforts to reform this sector can be traced back 20 years. During this period, several drafts of a water law, or water code, to reform the water sector and create a regulatory agency for the WS&S subsector were considered and rejected by the GOES.

Current efforts to reform both the water resources sector and the WS&S subsector began early in 1995 with the creation by executive decree of the Coordinating Committee for Restructuring of the Water Resource Sector (COSERHI). COSERHI's purpose is to coordinate studies and activities to initiate the modernization process in the sector.

COSERHI, through its technical arm, the Coordinating Unit on Modernization (UCM), and with special support from the Office of the Chairman of ANDA, worked closely with the IDB during 1997 and 1998 to prepare a US\$60 million loan proposal. This included a reform program for the water sector and the WS&S subsector. In mid-1998, the IDB approved this sectoral reform loan (the total amount of \$60 million includes a loan of \$43.7 million for water supply and sanitation).

Disbursement of funds, however, is contingent upon the presentation of two laws to the Salvadoran Legislative Assembly. The first is a general Water Law that would provide a framework for managing water resources, and the second is a law to provide the regulatory

framework for the WS&S subsector. The GOES, through ANDA and with the technical support of the President's Technical Secretariat (STP), is currently preparing these two laws.

Current Status of Reform

After taking office in mid-1999, President Flores moved quickly to sign concession contracts for three WS&S systems under the mixed economy company model: Tetralogia, Plan de la Laguna (under private concession), and San Jose de Villanueva (under the San Julián model). Others being considered for decentralized management are the cities of Caluco and Suchitoto. ANDA's plan was to have 12 to 14 pilot projects ready by the time the laws are submitted to Congress, but the lack of resources for infrastructure investments, institutional strengthening, and technical assistance has slowed down the decentralization process. No new contracts have been signed since January 2000.

As of December 2000, drafts of the Water Law and WS&S Regulatory Law have been prepared. Discussions on specific content have generally not been open (outside of government circles) to the public or stakeholder groups. The draft Water Law provides for the establishment of a water authority that will regulate the use of water resources and the allocation of water rights, using a private market-oriented approach. The draft WS&S Regulatory Law would establish centralized regulatory authority that would have the sole power to grant concessions using a variety of models of private, semi-private, and community-based administration of WS&S systems. These models are based on present day experiences, including autonomous municipal companies (like the San Julián operation), mixed economy companies (like Tetralogia), community-based associations, NGOs, and concession contracts to private companies (like ASEVILLA in Plan de La Laguna, on the outskirts of San Salvador). These laws are expected to be presented to Congress in early 2001.

San Julián

The municipality of San Julián is a typical Salvadoran municipality in terms of size (82 square kilometers), level of development, and population. The municipality has a total population of 22,700 people and an urban population of 5,200. One characteristic that sets San Julián apart from other municipalities is its abundance of surface and underground water resources, due to its location in a fertile valley in the foothills of the *Cordillera del Bálsamo* (Balsam Mountain Range) to the east and the Izalco and Santa Ana volcanoes to the northwest. The economic base of San Julián is agriculture, mostly coffee, sugar cane, balsam resin, subsistence farming (corn and beans), cattle ranching, and dairy products.

San Julián's administrative capacity is similar to that found in most small towns in El Salvador. The municipality has 21 full-time employees and provides the following public services: street lighting, solid waste collection and disposal, and street repairs and paving. The municipality also collects fees and taxes from commercial and industrial activities and for services provided related to civil matters such as birth and death certificates, marriages, and identity cards.

Annual municipal revenues are about 3.3 million colones (US\$380,000). These come from two sources: central government transfers, which amount to 2.5 million colones (US\$286,000), and current local income, which accounts for the remainder of 0.80 million colones (roughly US\$94,000). National and international donors, like USAID and the Social Investment Fund for Local Development (FISDL), have funded local development projects, such as the extension of the electricity network and the construction of public schools, sports fields, roads, and bridges.

San Julián is the first example of a municipal WS&S company in El Salvador. Its current legal and regulatory framework is entirely local and is based primarily on municipal ordinances. It runs independently and without guidance (or obstruction) from central government rules and regulations. A municipal company was established by the municipality and is publicly owned. It is completely separate from the municipality, including financial management, and is autonomous in operational and financial matters. The main advantage of this model is the separation of the administration of services from the regular functions of the municipality. This model may be especially attractive to small municipalities that are unlikely to be of interest to the private sector. The main disadvantages of this model are potential interference from the municipality and the fact that it does bring immediate access to capital.

USAID played a key role in the creation of the water company. In 1996, with the help of technical assistance, the municipality launched a participatory consultation process. The process identified “an improved water delivery system” as the priority. A broad-based and representative local water committee was created to obtain the financial and technical support needed for the construction of a new water system and for the creation of a municipal water company. The Municipal Water and Sewerage Company of San Julián (WS&S-SJ) was created and a new potable water system built with funding from FISDL in 1997. In 1999, a local Salvadoran NGO contributed technical assistance and funding to set up a new and independent computer-based accounting (billing and collection) system.

San Julián’s original WS&S system was built by ANDA over 50 years ago. ANDA operated the system, but it was deficient in service, quality, and quantity of water supplied. During the civil war, in 1986, ANDA abandoned the system. At the time, there were 380 connections, and water was available about two hours every other day.

By default, between 1986 and 1996, the municipality managed the services, and experienced the same deficiencies as ANDA. The fixed tariff was US\$ 1.85 per month and income from system operations was approximately US\$700 to \$900 per month. The municipality used these revenues to pay for other municipal services such as street cleaning, lighting, and repairs. During this period, the system did not have enough pressure to reach the interior of dwellings. Home owners built water sinks (small concrete reservoirs) right on the curb or walkway to store water. The Health Unit of San Julián reported a high incidence of gastrointestinal diseases among the population as a result.

The WS&S-SJ (also referred to as “the Water Company”) was created by municipal decree, duly published in the Official Journal of the State (*Diario Oficial*) of November 25,

1997. The decree contains the WS&S-SJ bylaws, which state, among other things, that the Municipal Company (or *Empresa Municipal*) "...is created as an autonomous entity, responsible for management of water supply and sewage services and aquifer protection in San Julián."

2. Scope of Services Provided

The WS&S-SJ manages a new water supply system that serves the needs of the urban population of the city of San Julián. The water supply system was built in 1996-1997, replacing the obsolete system built by ANDA. WS&S-SJ also manages the sewer system.

San Julián's new water system was built with a contribution of 3 million colones (approximately US\$ 343,000) from FISDL and provided metered water to 776 users (now expanded to 812 connections). These 36 new connections have been added using the company's own resources. The population served in San Julián is estimated at 5,000 people (96% of the population in the urban area).

The water system consists of 9,330 meters of pipes, two wells, a pumping station with two 7.5 h.p. pumps, and three storage tanks (100 m³ capacity each). The system is fed by two springs and one well which provide more than double the amount of water needed/consumed by the current population. Excess water is dumped into the river due to the limited capacity of the storage tanks, which overflow regularly. The water storage tanks are about 2 miles away from the water sources; there are no telecommunications between the sources and the storage tanks. Total production is 14 liters per second. The main technical problem with the system has to do with the absence of a power plant (or electrical generator), and this makes the system subject to frequent (electrical service related) interruptions. Operation and maintenance of the potable water system consists of an automatic daily chlorination process and bimonthly clean up and disinfection of wells and storage tanks. Pipes, valves, and distribution boxes are cleaned every three months.

The WS&S-SJ is currently expanding its services to the Agua Shuca district, where 110 new connections will be installed. San Julián is investing its own resources for this project. In addition, technical and feasibility studies are underway to provide services to 400 families in two rural communities (at distances of 3 and 1 kilometers from San Julián).

San Julián's sewage system, built over 50 years ago, has not been renovated. Coverage is estimated at 90% of urban dwellings. Since the WS&S-SJ began its operations, 150 meters of pipe have been laid as an expansion to a city neighborhood and 60 meters have been replaced due to obsolescence. Both of these projects were carried out using the company's own resources. The current system dumps raw sewage into a nearby river, which carries it approximately 35 kilometers to the Pacific Ocean.

Even though WS&S-SJ bylaws state that, "five percent of monthly income should be set aside for aquifer protection," very little has been done in this respect. The main problem

has been the lack of effective negotiations with landowners where San Julián's aquifers are located. The lack of political will on the part of the mayor, Municipal Council, and WS&S-SJ Board has been the primary obstacle to fulfilling this responsibility.

3. Management and Organization

The WS&S-SJ has five full-time employees:

- Administrator responsible for operations, management, and planning, who also acts as secretary to the board of directors and handles consumer complaints
- Administrative assistant responsible for accounting
- Plumber and plumber's assistant, who are responsible for meter reading and repairs
- Pump operator/caretaker at the well site

The board of directors of the Water Company consists of five directors and three deputy directors (or substitutes). The deputies vote only when they are representing an absent director. The board is popularly elected in a general assembly to which all citizens are invited. In practice, one of the board members submits a proposal of candidates for approval, which is accepted without objection. The secretary of the board (WS&S-SJ administrator) has a voice in the discussions but no vote. Three of the five directors and two deputy directors are water user representatives. Two directors and one deputy director are members of the Municipal Council, elected to the WS&S-SJ board by its members. Board members elect a president by majority vote. During the past administration, the mayor of San Julián was president of the WS&S-SJ board. The current mayor decided not to be on the board.

The WS&S-SJ is an autonomous entity in terms of its administrative, financial, and operational aspects. This autonomy has been the key to success. However, the mayor's role as WS&S-SJ board president created conflicts of interest with the municipality. Political agendas have crept into decision-making, payments were held back, and taxes were levied on the WS&S-SJ to support municipal services operating at a deficit, such as solid waste collection and street repairs. Another point of contention between the municipality and the company is the use of a single collection receipt, where municipal taxes are collected together with water consumption fees. This creates problems because although residents are willing to pay water use fees, they object to payment of municipal taxes for services that are not provided efficiently.

Ownership of infrastructure is based on Municipal Council Agreement No. 1, dated August 20, 1998, whereby all potable water system assets were transferred to the WS&S-SJ, except for privately owned land in which wells are located. Those parcels are under long-term lease to the municipality. Ownership of infrastructure is legally recognized by the National Property Registry, where it is registered, including all components and accessories, under the name of the Water Company of San Julián.

4. Financing and Cost Recovery

To date financing for infrastructure improvements have come from FISDL through a grant of \$343,000, the exception being 36 connections paid with excess revenues generated by the company. The municipality could not have financed the initial investment with its own revenues. The availability of financing in the future is dependent on the current sector reform efforts. The company has no debt.

San Julián's Municipal Council Decree (*Ordenanza*) published in the Official Journal of the State on February 16, 1998, provides the legal framework for water tariffs for the WS&S-SJ. This decree defines (with "power of law") the amounts users are to pay for connections, consumption tariffs, and the fixed charge. All of these charges and fees are currently in use in San Julián. Rate increases require approval of the board and the Municipal Council. The administrator has the authority to cut off service for non-payment.

The connection charges are as follows: (All figures are in U.S. dollars.)

- For potable water system connection \$114.29
- For reconnection rights \$ 2.29
- For connection to main pipe \$ 57.14

The consumption charge is based on meter readings and includes a progressive tariff structure as follows:

- From 1 to 20 m³ \$0.08/m³
- From 20.01 to 30 m³ \$0.14/m³
- From 30.01 to 40 m³ \$0.23/m³
- 40.01 m³ and above \$0.28/m³

Public water fountains, schools, and health clinics pay \$0.11/m³. Tariffs for the municipality have not changed since 1998.

The fixed charge is the base amount and includes depreciation, maintenance, and sewage services. It is calculated as follows:

- System depreciation \$1.10
- Maintenance \$1.44
- Sewage system \$0.57

Total Fixed Charge \$3.11

The fixed fee recovers the investment in a 25-year period. The fixed charge represents 2.3% of minimum wage (\$137 per month). San Julián's Water Company administrator reports that the average monthly water bill is about US\$ 4.57 (40.00 colones), equivalent to 3.3% of minimum wage.

The overall financial health of the Water Company is excellent. It began operations in April 1998, and the results for the nine-month period from April to December 1998 and 1999 are shown below.

Financial Data for April to December 1998 (9 months)

- Revenues were on the order of US\$ 33,257, averaging US\$ 3,700 per month.
- Operational expenses were US\$ 23,200, with an average of US\$ 2,571 per month.
- Excess revenue for the period was US\$ 10,000; the Water Company invested it in operational improvements and expansion of services.

Revenues	US\$ 33,257
Expenses (O&M)	<u>US\$ 23,200</u>
Excess revenues	US\$ 10,000

Financial Data for January to December 1999 (12 months)

- Revenues were US\$ 50,424, an average of US\$ 4,200 per month.
- Operational expenses were US\$ 38,574, or US\$ 3,215 per month.
- Excess revenue for the year was US\$ 11,850. The Water Company invested all excess revenues in operational improvements, resource conservation, and expansion of services.

Revenues	US\$ 50,424
Expenses	<u>US\$ 38,574</u>
Excess revenues	US\$ 11,850

As shown above, the WS&S-SJ is generating revenues in excess of its expenses. All operations and maintenance costs and depreciation costs are covered from user fees. The required 5% savings from excess revenues is available for natural resource and aquifer protection, but has not yet been used.

5. Legal and Regulatory Framework

The country currently has no national legal and regulatory framework for decentralized WS&S management. As previously discussed, laws are under preparation, but currently there are no central government regulations for management of the San Julián system or the Water Company other than its own bylaws. The legal owner of the company is the board of directors. By statute, the board is the legal body representing the company in all financial, administrative, and legal matters.

The Municipal Code and the Tributary Law for Municipal Services are the legal instruments that San Julián has used to create its municipal water company and collect user fees. WS&S-SJ operates unregulated by ANDA or any other institution. ANDA is not a regulatory entity and does not intervene in systems that do not belong to it; however, San

Julián is operating well without external regulation other than those mandated by its Municipal Council. When the local authorities in San Julián were asked their opinion about the creation of a national regulatory entity, their concern was, “what if they require us to change things that we are doing well?” It is not clear how the proposed regulatory law for WS&S would affect San Julián’s Water Company.

6. Environment and Health

Environmental protection is a matter of concern for local authorities and WS&S-SJ management; however, not much has been done in this area. Watershed management and aquifer protection are still lacking, even though statutes require that revenues be set aside to that end. The obstacle has been the lack of negotiation skills and creativity to implement incentives, such as incentives that would motivate landowners (in critical watershed areas) to work with the municipality in reforestation and soil conservation activities to protect aquifers that are the source of potable water for San Julián.

The Ministry of Environment and Natural Resources does not have regulations to this end (watershed management and aquifer protection), and there is no enforcement of the “general guidance” provided by the Environment Law. Deforestation, erosion, and pollution of the Amayo River with raw sewage are the primary concerns. The municipality and the WS&S-SJ management hope to build a wastewater treatment plant with international donor resources. They have requested assistance from donors, but have not yet received an encouraging response. Despite the fact that polluting rivers, or any body of water, with any kind of organic or chemical contaminants is forbidden and penalized by several Salvadoran laws, including “Decreto 50” (Commission for Protection of Water Resources - CEPRHI) and Irrigation Law (Ministry of Agriculture), there is no enforcement. In El Salvador, 98% of all municipal and industrial discharges do not receive treatment.

The MOH is responsible for enforcement of potable water standards, and MOH personnel visit San Julián on a monthly basis to check potable water quality. In checking the water supply, the MOH uses internationally accepted standards set by the World Health Organization/Pan American Health Organization. To date all water quality reports have met quality standards.

The Health Unit of San Julián (which is managed in a decentralized fashion by an NGO, FUSAL) reports one of the lowest incidences of gastrointestinal disease in the country. The director of the Health Unit believes that the majority of the 655 gastrointestinal disease cases reported (in all age groups) in a one-year period were mostly related to poor hygiene habits among the low-income population of San Julián. Occasionally, the Health Unit will launch a hygiene education program, given available resources, under the guidance of FUSAL and/or MOH programs.

7. Performance

The analysis of performance provided in Table 1 is based on available data. The records prior to April 1998 when the company began operations are incomplete, although some limited data are available to draw comparisons.

**Table 1:
Performance Indicators,
Municipal Water Company Of San Julián**

Performance Indicators	Prior to 1997	Current (2000)
Daily water consumption	Unknown	625 cubic meters.
Daily water production	Unknown	1,200 cubic meters.
Water supply system coverage	Less than 50% of total population	96% of total population
Average daily consumption per connection	0.25 cubic meters	0.77 cubic meters
Number of metered connections	380 (meters not functioning)	812 (100% of meters functioning)
Number (%) of connections billed on monthly basis	150 (40%)	812 (100%)
Frequency of service	2 hours, every 2 days	24 hours a day, every day of the week
Consumer complaints	Related to shortages, poor quality, and lack of pressure.	Related to increases in monthly water bill

The information shows clear improvement in both technical and commercial performance. As previously mentioned, excess water production (of approximately 600 m³) is dumped into the river on a daily basis, due to lack of storage capacity. San Julián has purchased land to construct a fourth water storage tank and is saving funds to pay for it.

With respect to consumer complaints, most complaints are related to increases in monthly water bills. Experience shows that these increases are related to two factors: excessive consumption due to internal leaks in dwelling (bad plumbing) or meter malfunction. Defective meters are replaced immediately.

A consumer satisfaction survey conducted by the WS&S-SJ last year revealed that 100% of those surveyed expressed satisfaction with the water service, and only 2 out of 10 said the water tariff was too high and should be reduced. Despite the fact that managerial-level salaries are not high enough to attract capital city professionals, San Julián's system has been managed well with local talent.

8. Success Factors

The WS&S-SJ is a success story. The main factors contributing to its success are the following:

- *Autonomy.* The Water Company’s autonomy over operational and financial matters and separation from the municipality are the primary reasons for its success. The authority to have separate accounting from the municipality, hire and fire staff, and make its own operating decisions are key. The freedom to operate without ANDA control has allowed the company to flourish.
- *Local political will.* The local authorities who launched the Water Company in 1997 had the vision to see the benefit of creating an autonomous company and made it happen.
- *Popular support.* The popular support that was generated in favor of the creation of the Water Company, through a participatory and transparent consultation process assisted by USAID, helped the company succeed. This created the support to pay higher tariffs for better service.
- *Technical assistance.* The technical assistance was undoubtedly “the trigger that sparked the process,” and without it, perhaps nothing would have happened in San Julián. The local authorities were able to seize the opportunity offered by this technical assistance program and carry it through with the preparation of a funding proposal to FISDL.
- *Financing for capital investment.* Funding from FISDL was instrumental in providing a new water supply system to work with. It is highly unlikely the project would have been a success without it. However, it should be recognized that the motivation and organization of the city improved its chances of obtaining funds from FISDL.
- *Abundance of water resources.* The abundance of water resources allows more leeway in managing the system and takes away the urgency of managing the resource. This factor also sets some limits for replicability to those cities and cases where water scarcity is a problem. Given widely publicized water shortages in many places, national level entities and policymakers are just beginning to become aware of the need to introduce water resource management at the national level. The upcoming creation of a water authority may be an opportunity to strengthen this area.

9. Prospects for Long-term Sustainability and Replicability

Sustainability of the WS&S-SJ

The primary threat to the sustainability of the WS&S-SJ is interference of the mayor of San Julián in the affairs of the company. During the previous administration, the mayor’s participation in the board of directors posed a clear threat to the financial viability of the Water Company. The mayor is constantly tempted to use the water service for political gain, favoring political party constituents with services, responding to pressures to reduce tariffs, and using WS&S-SJ revenues to finance municipal services that operate at a deficit.

Although the mayor has not been able to use the company revenues directly, he has succeeded in levying taxes and fees on the excess revenues that should be used for system expansion and improvement. Fortunately for the WS&S-SJ, others on the board have been able to counterbalance and reduce political manipulation.

Political manipulation presents a continuing threat. During his political campaign, the newly elected mayor of San Julián offered to reduce the water tariff to 10 colones a month. Even though the mayor cannot legally do this, if he implements it, this would effectively lead to WS&S-SJ's bankruptcy. Fortunately, information recently obtained from San Julián shows this is no longer an issue. The new mayor, upon learning more about the financial and legal framework, abandoned the idea. However, this example illustrates the temptation that a successful company holds for local politicians.

The other main concern is the uncertainty of what the new regulatory law for WS&S will mean for San Julián. At the moment, local wisdom in San Julián is that creation of a sectoral regulatory entity for WS&S may not be of help to San Julián. There are well-founded fears among management that the independence San Julián has had from central government bureaucracy—in setting regulations, audits, red tape, tariffs—may disappear with the establishment of a regulatory entity. This opinion may change as soon as San Julián receives information on the degree of autonomy that the regulatory entity itself will have from central government and on any sector reform that does not place responsibilities for WS&S services on municipalities.

Replicability in El Salvador and Elsewhere

The San Julián model has the potential for replication in most of the small cities in El Salvador. Very few cities under 10,000 (or perhaps even those larger than 10,000) will be interested in or attractive to private sector solutions. The San Julián model offers the potential for marked improvement in services in towns of similar size. In fact, recent developments indicate that the municipal councils of two small towns, San José Villanueva and Suchitoto, have already approved the creation of municipal companies similar to San Julián and are in the early stages of development. Four factors are key to replicability:

- The availability of investment funds to improve the WS&S systems is key. Many systems in small towns in El Salvador are in need of improvement. Very few, if any, municipalities will be able to generate the investment needed to improve the system and give a newly formed municipal company a chance to succeed. FISDL and the IDB loan currently before Congress are two potential sources of funding.
- Other municipalities will need technical assistance similar to what San Julián received. This assistance in financial management, training, accounting systems, billing and collections, and public participation will be critical in the first several years of operation.

- A legal and regulatory framework that allows decentralized systems to operate without undue central control is a prerequisite to the replication of this model. Without a regulatory environment that emphasizes municipal control, this model will not be replicable.
- San Julián benefited from having a gravity-fed system and abundant water resources. Not every municipality will have the same natural advantages. The lack of these natural resources may raise the cost of providing services.

San Julián provides a simple, no-frills model that could be replicated in most small towns in El Salvador and abroad. It does not receive any state subsidies and is financially self-sufficient. It has worked well, with relatively modest assistance from international or local donors. The key to the sustainability and replicability of this model is the autonomy over operational and financial matters that the company currently enjoys.

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Acronyms

ANDA	National Water and Sewage Administration
COSERHI	Coordinating Committee for Restructuring of the Water Resource Sector
FISDL	<i>Fondo de Inversión Social para el Desarrollo Local</i> (Social Investment Fund for Local Development)
GDP	gross domestic product
GOES	Government of El Salvador
IDB	Inter-American Development Bank
MOH	Ministry of Health
NGO	nongovernmental organization
STP	<i>Secretaría Técnica de la Presidencia</i> (President's Technical Secretariat)
UCM	Coordinating Unit on Modernization, COSERHI's technical arm
WS&S	water supply and sanitation
WS&S-SJ	Municipal Water and Sewerage Company of San Julián