Standing the Test of Time
The Experience of Four Peruvian Small Towns in Managing their Water Supply and Sanitation Services

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Table of Contents

I. Introduction ........................................................................................................... 5
II. Background ........................................................................................................ 6
III. Results obtained by the Operators ................................................................. 11
IV. Management model sustainability risks ....................................................... 13
V. Lessons learned .............................................................................................. 14
VI. Conclusions .................................................................................................... 16
VII. Recommendations ........................................................................................ 17
This report analyzes the experience of four small towns in Peru, in which the municipal government opted to delegate the potable water and sanitation services to specialized operators.

It includes the analysis of two key moments for each of the four towns: before the arrival of the specialized operators, when the municipal government was in charge of the water and sanitation management, and five years after the specialized operators took over those functions.

The report is aimed at water and sanitation sector authorities and specialists involved in initiatives that seek to enhance the management efficiency of such services.

In Peruvian Small Towns, the water supply service is marked by low coverage, restricted continuity, and no sewage treatment (World Bank - WSP, 2008).

1 Towns with a population of 2,001 to 15,000 inhabitants.
2 Approximate timeframe (please consult the chapter Case Analyses).
II. Background

In most small towns in Peru, the municipal government directly offers potable water and sanitation services and makes all decisions regarding the service characteristics and what to charge. Likewise, it is greatly limited when it comes to the management of such services:

- Low coverage
- Charges that do not cover costs
- Subsidized service limited by municipality budget restrictions
- Inadequate operation and maintenance
- Deficient management
- Political influences
- High turnover of service personnel
- Delays in quota payments
- The townspeople’s reluctance to pay, due to the poor quality of the service rendered
- The municipal authority’s reluctance to collect

Through a contract, the legal corporate entities (specialized operators) were subject to the mandate of the municipal authority.

Out of the 24 municipalities that took part in the pilot projects, 15 were able to build an autonomous organization in charge of the operation and maintenance of the services.

Small Towns Pilot Project
Full Name: Proyecto Piloto para mejorar los servicios de agua y saneamiento en pequeñas localidades - PPPL5 (Pilot Project for Improving Water and Sanitation Services in Small Towns)

This project was also aimed at exploring new forms of management and organization applicable to water and sanitation service administration, operation, and maintenance.

Out of the nine municipalities that participated in the project, six were able to concrete a transfer to specialized operators through delegation of duties contracts.

Tumbes
Full name: Mejoramiento de la gestión en localidades urbanas de la región Tumbes (Improved management in urban localities in the Tumbes region)

In this case, the three provincial municipalities in the Tumbes region agreed to award the potable water and sewage system sanitation service administration to a private entity.

The initiative was concreted through a 30 year term concession contract, to be extended if both parties so agree.

To date, Tumbes represents the only case of total concession of water and sanitation services in Peru.

Experiences applying new management models in small towns

In Peru, from 2001 to 2010, important initiatives were carried out in small towns in order to explore new water and sanitation service management models, some of which we mention below.

PRONASAR
Full name: Programa Nacional de Agua y Saneamiento Rural - PRONASAR4 (National Rural Water and Sanitation Program)

The program carried out a series of pilot projects for increasing management indicators in small towns. Through the pilot projects, the management of such services was delegated to different legal corporate entities that were not a part of the municipal organization.

4 This initiative booms The World Bank financial and technical support and is executed by the Ministry of Housing, Construction, and Sanitation (MVCS is the Peruvian acronym).
5 Carried out by The World Bank’s Water and Sanitation program from 2004 to 2007.
Based on the above experiences, four (4) illustrative cases were selected, using the following criteria:

- The specialized operators had to have been operating for minimum five years.
- Each town had to have a different number of users.
- The specialized operators had to have different legal frameworks.

The four towns chosen for this study were:

<table>
<thead>
<tr>
<th>Town</th>
<th>Source of the initiative</th>
<th>Number of users</th>
<th>Type of contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Lorenzo</td>
<td>PRONASAR</td>
<td>500</td>
<td>Management contract</td>
</tr>
<tr>
<td>Sechura</td>
<td>PPPL</td>
<td>6,600</td>
<td>Management contract</td>
</tr>
<tr>
<td>Tumbes</td>
<td>Provincial Municipalities</td>
<td>37,200</td>
<td>Co-financed concession contract</td>
</tr>
<tr>
<td>Vice</td>
<td>PRONASAR</td>
<td>1,500</td>
<td>Agreement to cede use</td>
</tr>
</tbody>
</table>

**Towns chosen for this study**

**SECHURA**

<table>
<thead>
<tr>
<th>Region</th>
<th>Piura</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
<td>Sechura</td>
</tr>
<tr>
<td>Location</td>
<td>Northern coast of Peru</td>
</tr>
<tr>
<td>Surface</td>
<td>5,710 km²</td>
</tr>
<tr>
<td>Population</td>
<td>32,000 Inhabitants</td>
</tr>
<tr>
<td>Main Economic Activities</td>
<td>Farming, fishing, mining (on its initial phase)</td>
</tr>
</tbody>
</table>
Region | Piura
--- | ---
Province | Sechura
Location | Northern coast of Peru
Surface | 324.62 km²
Population | 15,000 Inhabitants
Main Economic Activities | Fishing, farming, tourism

**SECHURA: Colonial House**

**VICE: Municipality**
SAN LORENZO

<table>
<thead>
<tr>
<th>Region</th>
<th>Junin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
<td>Jauja</td>
</tr>
<tr>
<td>Location</td>
<td>Central Mountain Zone</td>
</tr>
<tr>
<td>Surface</td>
<td>22 km²</td>
</tr>
<tr>
<td>Population</td>
<td>2,400 Inhabitants</td>
</tr>
<tr>
<td>Main Economic Activities</td>
<td>Farming and cattle raising</td>
</tr>
</tbody>
</table>

SAN LORENZO: Aerial View
TUMBES

**Region Tumbes**

<table>
<thead>
<tr>
<th>Region</th>
<th>Tumbes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
<td>Tumbes, Zarumilla, and Contralmirante Villar</td>
</tr>
<tr>
<td>Location</td>
<td>Northern coast of Peru</td>
</tr>
<tr>
<td>Surface</td>
<td>4,669 km²</td>
</tr>
<tr>
<td>Population</td>
<td>210,798 inhabitants</td>
</tr>
<tr>
<td>Main Economic Activities</td>
<td>Farming, fishing, forest exploitation</td>
</tr>
</tbody>
</table>

*TUMBES: City View*
The potable water and sanitation services in the towns included in this study were awarded to the specialized operators listed below, for them to manage the services.

Table 1 presents information on certain indicators that qualify the potable water and sanitation service management, at the time before the specialized operators took over the administration, corresponding to the year 2004 or 2005 and at a time when said operators had been in charge of such administration for more than five years, corresponding to the year 2010 or 2011.

<table>
<thead>
<tr>
<th>Town</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sechura and surrounding areas</td>
<td>PROGESTIÓN</td>
</tr>
<tr>
<td>Vice and surrounding areas</td>
<td>AGUAS DE VICE</td>
</tr>
<tr>
<td>San Lorenzo</td>
<td>SERVIDASAL S.A.C.</td>
</tr>
<tr>
<td>Urban localities of Tumbes</td>
<td>AGUAS DE TUMBES S.A.</td>
</tr>
</tbody>
</table>

**TABLE 1: COMPARATIVE CHART OF MANAGEMENT INDICATORS FOR THE YEARS 2004 AND 2011**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>PROGESTIÓN (Sechura)</th>
<th>AGUA DE VICE</th>
<th>SERVIDASAL / (San Lorenzo)</th>
<th>AGUAS DE TUMBES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable water connections (#)</td>
<td>5,092 6,638</td>
<td>795 1,472</td>
<td>363 556</td>
<td>34,287 37,793</td>
</tr>
<tr>
<td>Sewer connections (#)</td>
<td>1,391 2,124</td>
<td>295 510</td>
<td>68 180</td>
<td>23,063 23,686</td>
</tr>
<tr>
<td>Potable water coverage (%)</td>
<td>89 97</td>
<td>63 97</td>
<td>90 100</td>
<td>70 67</td>
</tr>
<tr>
<td>Sewer coverage (%)</td>
<td>27 32</td>
<td>23 34</td>
<td>17 33</td>
<td>45 44</td>
</tr>
<tr>
<td>Waste water treatment coverage (%)</td>
<td>73 100</td>
<td>NIA 100</td>
<td>0 0</td>
<td>13 33</td>
</tr>
<tr>
<td>Active connections (%)</td>
<td>90 84</td>
<td>97 92</td>
<td>NIA 98</td>
<td>57 76</td>
</tr>
<tr>
<td>Daily service continuity (hours)</td>
<td>5 6</td>
<td>3 5</td>
<td>1-24 24</td>
<td>7 16</td>
</tr>
<tr>
<td>Service pressure (mWc)</td>
<td>NIA</td>
<td>NIA 0-20</td>
<td>1-4 NIA</td>
<td>2.4 10</td>
</tr>
<tr>
<td>Micro-measuring (%)</td>
<td>6.7 6</td>
<td>0 75</td>
<td>0 0</td>
<td>1 29</td>
</tr>
<tr>
<td>Unbilled water (%)</td>
<td>45 25</td>
<td>42 22</td>
<td>NIA 60</td>
<td>68 68</td>
</tr>
<tr>
<td>Average rate (S/. /m3)</td>
<td>0.91 0.93</td>
<td>NIA NIA</td>
<td>NIA NIA</td>
<td>1.40 1.53</td>
</tr>
<tr>
<td>Payments in arrears (months billed)</td>
<td>123 2.5</td>
<td>16 4</td>
<td>NIA NIA</td>
<td>1.5 3.4</td>
</tr>
<tr>
<td>Required subsidy for operation and maintenance (%)</td>
<td>0 0 55 0</td>
<td>NIA 68</td>
<td>0 0</td>
<td></td>
</tr>
</tbody>
</table>
From the indicators above, we may appreciate the following generalities:

i) Service quality aspects
   • A significant increase in potable water service coverage, approaching a level of total coverage (except in Tumbes).
   • In some of the cases analyzed, the potable water provision time has slightly increased but it is still far from reaching an acceptable level.
   • The distribution network service pressure levels require specific studies, to enable determining if the minimum and maximum levels set forth in applicable laws and regulations are being met.
   • Micro-measuring levels are still quite low (except in Vice), which restricts proper knowledge of loss levels or of unbilled water in the systems.

ii) Financial aspects
   • Collections have improved, thus diminishing payments in arrears (except in Tumbes), so the specialized operators can at least cover all operation and maintenance costs, without having to be subsidized by their corresponding municipalities. This is not the case of San Lorenzo; indeed, the effective rates there are not sufficient to do so.
   • In some cases, the average rate level has slightly increased, thus contributing to consolidating the financial situation of the services.

iii) Environmental aspects
   • A moderate increase in the sewer service coverage has been seen, but it is not yet sufficient.
   • Likewise, the projected goals for adequate waste water treatment service have not been met.
IV. Management model risks

A number of risks to the success of the specialized operators had to be confronted during the implementation of these management models. Some of the more challenging risks included:

- Incoming municipal authorities can change the municipality’s political position and that may represent a risk to the specialized operators as far as contract security is concerned.
- Not improving the service quality as soon as possible, above all, the daily number of hours of supply where there are heavy supply restrictions leads to user discontent.
- A lack of decisive participation by the municipal governments in obtaining resources and in making the investment required to improve and broaden the potable water and sanitation services within a reasonable term leads to the population not perceiving the needed improvements, which damages the sustainability of the management model.
- The municipal governments not giving the due priority to the civil works for broadening the coverage of the sewer system and waste water treatment services leaving them aside is a risk that can lead to significant levels of environmental contamination, affecting the specialized operators’ management and, therefore, the sustainability of the models.
- The municipal governments and/or the specialized operators not giving the due priority to increasing micro-measuring and complementary actions leads to unbilled water levels remaining high, which means a lack of efficient use of the water produced, thus hindering the application of the management model that delegates the services to specialized operators.
V. Lessons learned

The lessons learned from the analyzed cases are listed below.

**Political aspects**
- To enable the sustainability of the management model using specialized operators, successive municipal authorities must ensure continuity in the policies. If possible, there should be an agreement among the different political and social forces in the area in which the town is located.
- The mayor himself or herself should be the champion for the model in a sustained fashion during the different phases of the process.
- The full participation of the population should be encouraged, before and after the specialized operator is incorporated.
- When the market does not respond, the organized population can manage the services, by creating a legal corporate entity independent from the municipality, such as a Board of Users (as was done in Vice).

**Institutional / Contractual aspects**
- It is of utmost importance that the contracts entered into by and between the municipal government and the specialized operator set forth clear goals with realistic timeframes and precisely state the obligations to which each is exclusively bound and the ones to which both parties are bound.
- The goals involving investment must be established in a balanced manner, taking into account what the municipality can actually do to obtain resources. Such resources may come from its own budget or may come from other government agencies.
- It is essential for the municipality and the specialized operator to be in line with the objectives traced and to complement their efforts, to the full extent possible, for them to meet the proposed goals. It must be clearly understood that meeting the goals for improving the water and sanitation services depends on the joint efforts of both parties.
- A Technical Unit in the municipality should be created, boasting qualified technical personnel to be in charge of the supervision and follow-up of the specialized operator’s contract.

**Technical – Economic aspects**
- An adequate diagnosis showing the actual situation of the services and their level of management must be made, determining a clear baseline as a starting point to accurately set the goals to be met through the intervention of the specialized operator.
- Before incorporating the specialized operator, the real cost of adequate operation and maintenance of the services must be determined as well as the required actions to be taken by the municipality, for the purpose of achieving an increase in rates or quotas, as the case may be, to cover 100% of said costs.
- The specialized operator must take over the administration of the services after having verified that billing revenues and an improved level of collections can feasibly enable it to fully cover operation and maintenance costs.
- The role of the municipality is fundamental in obtaining resources for executing the investment projects and broadening the services, both before and after the specialized operator enters the scene.
- Investment execution before the specialized operator enters and then later after it has taken over the services (especially during the first years) is an essential factor, for the acceptance and consolidation of the established management model.
• A civil works timetable synchronized with promotion activities and with the incorporation of the specialized operator must be designed and executed, in such a manner as to enable perceiving that the improvement in the services is tied to the change in the management model.
• The presence of the specialized operator must lead to achieving a significant increase in billing and collection levels, so that the revenues can at least cover operation and maintenance costs, thus eliminating the need for municipal government subsidies.
• More priority must be given to distribution network sectorization work execution and to significantly augmenting measuring, in order to achieve rational, homogeneous consumption, by diminishing loss and waste, thus enabling more hours of daily service and, in certain cases, an increase in the attended population.
• Due priority must be given to investment execution aimed at a substantial increase in sewer system coverage and waste water treatment coverage, as there are currently problems of environmental contamination. Regarding this aspect, the population must be sensitized to the need for such services.
• Even in relatively small localities, it is possible to install and augment micro-measuring, accompanied by the task of sensitizing the population.

Social aspects
• If the specialized operator hires mostly locals for its work team, that will contribute to obtaining better acceptance of the management model and of the chosen operator.
• It is fundamental to encourage the involvement of the organized population as much as possible in all of the process phases: sensitization to and promotion, selection, and contracting of the specialized operator, and also throughout the chosen operator’s contract term.
• The pro-active functioning of the Citizen Supervision Committee and of other related subcommittees in the area is of utmost importance. They can become allies of the specialized operator and help detect clandestine connections, sensitize the population to the need for installing meters, assist in labors of educating the population on sanitation and on the proper water usage, and transmit the population’s complaints regarding the services, if any.
• Actions to augment sewer system coverage and waste water treatment coverage must not be left aside for a later date as that creates the risk of them not being given the necessary priority to be addressed.
• The actual possibility of the municipal government obtaining financing and executing investments that can ensure the feasibility of meeting the goals set forth in the contract entered into with the specialized operator must be assessed. Not assessing the reality of the situation may lead to a loss of credibility in the specialized operator and a deteriorated image.
VI. Conclusions

In the small towns in Peru, the experiences of delegating water and sanitation services to third parties are few. At present, there are 490 small towns, out of which approximately 21, around 4%, manage water and sanitation services using specialized operators.

From the cases under study, the conclusion may be drawn that, after five years of operation with the operators contracted by the corresponding municipalities to manage the water and sanitation services, generally speaking, decisive progress has been seen and it is tied to the quality of the services and to their business management, to a greater or lesser extent in each case. However, there are still significant goals pending accomplishment; the priority ones are to increase the daily number of hours of service and to significantly augment sewer system coverage and waste water treatment service coverage, in such a manner as to achieve total improvement of the water and sanitation services in place, by consolidating the management models applied in each case.

In the two cases under study (Tumbes and Sechura) where annual goals were defined, the level of compliance achieved for several of the scheduled goals (for example: micro-measuring levels and sewer system coverage and waste water treatment service coverage) was notably far below the expected levels. Therefore, the goals should be reviewed in a realistic fashion, taking into account the actual capacity of possible resources available for investment purposes.

The success of the delegated specialized operator models significantly depends on the resources that the municipal governments can allot or obtain and on them executing the necessary investment projects. That, to a certain extent, is where the weakness lies, as it is a factor beyond the operators’ control.
VII. Recommendations

1. To develop contract models for the delegation of water and sanitation services to specialized operators, in which clear, measurable indicators are defined and used to set the goals to be met, by precisely setting forth who is bound to what obligations (the municipal government, the specialized operator or both parties).

2. To develop the mechanisms and tools with which the municipal governments can follow up on the specialized operators’ performance of the corresponding delegation contracts, so as to verify their degree of compliance with the agreed-upon contractual goals in an ongoing manner.

3. To explain in detail the possible financing alternatives that a municipality may have available, so that, if it does not have sufficient resources in its own budget, it could feasibly resort to other government agencies that could transfer resources for investments in potable water and sanitation, to ensure that the goals contractually set forth with the specialized operator are to a certain extent realistic.

4. Based on the experiences to date, the sector authorities should review the current situation regarding effective rate levels and determine if they are adequate to cover operation and maintenance costs or if it is necessary to readjust the rates, to preserve the sustainability of the services.

5. The sector authorities should design mechanisms aimed at enabling the community to participate with the necessary intensity, and thus effectively carry out its labors of supervision and monitoring concerning the specialized operator’s contract.

6. In the cases where the potable water and sanitation services have been delegated to specialized operators, the sector should do follow-up on said cases for the purpose of assessing their sustainability through time and of learning from their experiences. If they do so, they will be able to design relevant policies for municipal governments to delegate the management of such services.

7. The sector should document the experiences and the outcomes of cases in which other municipalities have delegated water and sanitation services to specialized operators.