

# Water Supply & Sanitation Working Notes

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## CONSUMER COOPERATIVES: AN ALTERNATIVE INSTITUTIONAL MODEL FOR DELIVERY OF URBAN WATER SUPPLY AND SANITATION SERVICES?

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# SUMMARY

This paper describes the essential characteristics of consumer cooperatives engaged in the provision of basic services and discusses their applicability as a model for water supply and sanitation service provision in urban areas. A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. The paper focuses on system-wide urban water supply cooperatives and it is thus not concerned with urban or peri-urban cooperatives that depend on either boreholes or bulk purchases of water from a utility for distribution, nor does it refer to rural water supply cooperatives that are generally small. After a general overview of cooperatives and a discussion of the main characteristics of utility cooperatives, the paper reviews the case of SAGUAPAC, a successful urban WSS cooperative in Bolivia, from which it draws some conclusions in the form of a preliminary assessment of cooperatives as a model for delivery of urban water supply and sanitation (WSS) services.

## 1 INTRODUCTION

### 1.1 The Challenge of Urban Water Supply and Sanitation

Rapid urbanization is leading to increased urban poverty and greater demand for water supply and sanitation services in many developing countries. Such processes place pressure on public water utilities, which, to a great extent, have not been able to provide services of good quality to all. Greater efficiency, along with the adoption of cost recovering tariff policies, is considered essential for utilities to achieve financial autonomy and attract the investment needed for improving the coverage and quality of services. Governments, as well as various development agencies, are seeking ways to bring about the organizational and cultural changes within water utilities to increase their efficiency.

### 1.2 The Search for Alternative Models of Provision of Water Supply and Sanitation Services

In the past decade, attracting private sector participation (PSP) has been heralded as one way of increasing efficiency. It is generally argued that private enterprises will have the financial muscle to undertake increased levels of investment while avoiding inefficiencies often found in public water utilities. In line with this view, a number of developing countries have introduced PSP in the WSS sector. PSP in WSS has been limited. Private financing has accounted for less than 10 percent of total investment in the sector. In many cases, these public-private partnerships have been successful. In some cases PSP has not led to the anticipated outcomes.

It is increasingly acknowledged that there is no single model of good WSS sector governance. The experiences with PSP have contributed to an increased awareness that the success or failure of utilities—public and private—in efficiently providing quality WSS services depends on government practices such as regulatory policy and involvement with civil society. To be effective, governance regimes must fit the social, economic, and cultural particularities of each country. The key to success is not only which ownership structure to choose but also how different ownership structures can adopt practices that allow them to overcome challenges. The search for alternative organizational models for service provision has hence started to focus beyond ownership structures and is now also focused on understanding the practices associated with good performance. As part of this effort, SAGUAPAC—a

successful utility cooperative that is owned by its customers—has been identified as a case that can provide valuable lessons.

This paper uses four basic principles to assess to what extent consumer cooperatives can offer an alternative institutional model for delivery of urban WSS services: (a) autonomy; (b) accountability for results; (c) customer orientation; and (d) market orientation. These key principles put the selection of sector reform options on a more rational basis and help create local “customized” solutions, rather than “cookbook” solutions.

### **1.3 Cooperatives as an Alternative to Public and Private (Investor-Owned) Provision**

Over the years, SAGUAPAC has become relatively well-known and is often cited as an example of a successful cooperative utility providing urban water services. SAGUAPAC’s performance indicators place it among the best WSS utilities in Latin America. Its performance is highly regarded by multilateral lending organizations such as the World Bank and the Inter-American Development Bank and by water sector professionals.

In trying to explain the success of SAGUAPAC, its cooperative structure is often cited as the main reason for its high performance. It is argued that this structure shields management from day-to-day political interference, allowing it to adopt decisions with regard to key issues such as tariff setting, awarding of contracts, and personnel matters based solely on technical considerations. The private nature of the cooperative structure also means that SAGUAPAC is in a position to implement investment projects much faster and more efficiently than public water utilities because it does not have to comply with complicated and slow procurement procedures.

The success of SAGUAPAC has been used as a strong argument to propagate the cooperative model as an alternative to privatization.<sup>1</sup> The case of SAGUAPAC certainly deserves attention. However, an effort should be made to avoid endorsing the cooperative option without qualification, because other utility cooperatives have failed to deliver. For instance, some of the small water cooperatives in Santa Cruz as well as the Bolivian telecommunications cooperative COTEL have shown poor performance.

This paper discusses the reasons behind SAGUAPAC’s success and identifies those elements that hold promise for other would-be utility cooperatives. In the end, whether the success of SAGUAPAC is replicable will depend on whether the particular conditions that have made it a well-performing utility are present or can be replicated in other places.

### **1.4 The Structure of the Paper**

The remainder of this paper is organized in three parts. Part 2 starts with a general discussion of cooperatives and moves on to discuss utility cooperatives and their characteristics. Part 3 presents a case study on SAGUAPAC. This section describes SAGUAPAC’s main characteristics—how it is structured and how it operates—and attempts to identify the factors underlying its good performance and eventually its success. A short Part 4 concludes with a preliminary assessment of cooperatives as a model for delivery of urban WSS services.

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<sup>1</sup> See, for instance, “Public Sector Alternatives To Water Supply And Sewerage Privatisation: Case Studies,” Emanuele Lobina and David Hall, *International Journal of Water Resources Development* 16 (1): 35–55, 2000; *Better Water Services in Developing Countries: Public-Private Partnership, the Way Ahead*, Department for International Development, UK, 1997.

## 2 AN OVERVIEW OF COOPERATIVES

### 2.1 Cooperatives

#### 2.1.1 *The Emergence of Cooperatives and the Cooperative Movement*

The cooperative, as it is known today, began during the Industrial Revolution, as farmers, producers, workers, and consumers found that they could accomplish more collectively than they could individually. The cooperative emerged as an alternative way of organizing the provision of goods and services in response to what were viewed as the adverse consequences brought onto workers by the Industrial Revolution.

The cooperative movement has grown steadily since its inception (see box 1). In 1895, about 50 years after the first modern cooperative started operating, the International Cooperative Alliance (ICA) was established. The ICA has been accepted by cooperatives throughout the world as the final authority for defining cooperatives and for determining the underlying principles that give motivation to cooperative enterprise. Today, around 800 million people associated with about 740,000 cooperatives in 93 countries form the cooperative movement worldwide. These cooperatives generally operate using the same principles adopted by the ICA.

#### **Box 1 The Birth of the Modern Cooperative**

The idea and practice of cooperation has been present since the early stages of civilization, because the natural reaction of people is to work together for their mutual benefit to solve their economic problems. What many consider the first successful cooperative was organized in the United States in 1752, when Benjamin Franklin formed the Philadelphia Contributionship for the Insurance of Houses from Loss by Fire. The birthplace of the modern cooperative era, however, is considered to be Rochdale, England. In 1844, the Rochdale Equitable Pioneers Society opened a food cooperative store. While this was not the first cooperative, it was the first one to spell out a set of principles on which to operate. The principles and practices of the Pioneers ensured their success and spread to other cooperatives around the world.

#### 2.1.2 *What is a Cooperative?*

The Statement of Cooperative Identity, adopted by the ICA in 1995, defines a cooperative as an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise. The statement also identifies the cooperative values (self-help, responsibility, democracy, equality, equity, and solidarity) and lists the seven cooperative principles:

1. ***Voluntary and Open Membership*** – Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities that come with their membership.
2. ***Democratic Member Control*** – Cooperatives are democratic organizations controlled by their members who make decisions and actively participate in setting their policies, serve as elected representatives, and have equal voting rights (one member, one vote).
3. ***Member Economic Participation*** – Members contribute equitably to the capital of their cooperative receiving limited compensation, if any, on capital subscribed as a condition of membership. At least part of that capital is typically the common property of the cooperative. Surpluses are usually allocated to the development of the cooperative.
4. ***Autonomy and Independence*** – Cooperatives are autonomous, self-help organizations controlled by their members.
5. ***Education, Training, and Information*** – Cooperatives provide education and training for their members, elected representatives, managers, and their employees so they can contribute effectively to the development of their cooperatives.
6. ***Cooperation between Cooperatives*** – Cooperatives work together through local, national, regional, and international structures.

7. **Concern for Community** – The goal of cooperatives is the sustainable development of their communities.

The first four principles have a structural orientation, defining aspects that relate to ownership and governance, while the last three are concerned with practices.

In many ways cooperative are like any other business but in several important ways they are unique. Like any other business, cooperatives are organizations that operate in the market and are subject to the discipline the market imposes. Cooperatives, however, are different from traditional businesses in two ways. First, they are motivated by the desire to benefit their members by providing them with a good or service in line with a particular set of values. Second, cooperatives are organizations that are owned and controlled by the people who use their products, supplies, or services. These two characteristics cause important differences in the behavior and performance of cooperatives in relation to traditional organizations—public or private.

### **2.1.3 Types of Cooperatives**

Three broad types of cooperatives can be distinguished based on what they do for their members. Cooperatives are generally producer-owned, consumer-owned, or worker-owned. Producer-owned cooperatives help their members produce and market their goods by ensuring supplies and markets. They facilitate access to inputs (credit, equipment, and production supplies), to cost reductions, and to markets through economies of scale and market power they achieve by jointly bargaining, purchasing, processing, and marketing. Consumer-owned cooperatives enable consumers to gain access to a wide array of affordable commodities and at-cost services. Commodities are made affordable by the greater market power that results from joint action, which strengthens the bargaining and purchasing capacity of members. Wider access to services is made possible through self-provision in areas where conditions render operations insufficiently profitable for for-profit companies. Worker-owned cooperatives are businesses owned and controlled by their employees. This type of cooperative has as its main purpose the creation of employment opportunities for its members.

### **2.1.4 Extensive Experience of Cooperatives throughout the World**

There is relatively little awareness of both the substantial economic and social weight of cooperatives throughout the world and the degree of their success in adjusting to different and often hostile

#### **Box 2 The Significance of Cooperatives in Market Economies**

Cooperatives are an essential component in almost all market economies. In Sweden, 99 percent of dairy production is marketed by cooperatives owned by independent farmers. In Norway, 75 percent of forest products are processed and marketed by cooperatives. In Italy, 60 percent of wine is produced by marketing cooperatives. In the United States, about 30 percent of farmers' products are marketed through cooperatives. In many developing countries rural cooperatives play an equally significant role. Savings and credit cooperatives (credit unions) are significant in the financial sectors of many developed and developing countries. Similarly, cooperative insurance enterprises are of major significance in many developed countries. In Sweden, for example, about one-half of the adult population has at least one policy with the Folksam group. Japan's farmers' insurance cooperative is the largest agricultural insurance enterprise in the world. In many countries, cooperative banks are dominant in the economy: for example, the largest European Bank, the French Crédit Agricole, and the third largest bank in the Netherlands, Rabobank, are cooperatives, that is, they are owned by their members who are also account holders.

environments. Cooperatives have contributed to the achievement of personal objectives of millions of individuals, their families, and their communities as well as national economic and social progress.

Cooperatives are a significant component of advanced market economies. They operate in almost every area of economic and social activity and provide a broad range of services in sectors such as agriculture, education, finance, health, housing, insurance, utilities, and many more. It is not easy to calculate the contribution of cooperatives to gross national product, because no country distinguishes between cooperatively organized and other types of private business enterprise in its system of national accounts. The cooperative share of GNP in most developed market economies is estimated to be between 5 percent and 20 percent (see box 2).

Cooperatives range in size from very small to extremely large companies. In the United States, more than 20 cooperatives have annual sales in excess of US\$1 billion. Fourteen agricultural

supply and marketing cooperatives were at some point included in the “Fortune 500” list of the largest corporations. In Canada in 1992, of the top 10 agricultural firms, 8 were cooperative enterprises.

It is estimated that the total number of members, and hence owners, of cooperatives is about 800 million worldwide. In many countries, the membership in all cooperatives is equivalent to a high proportion of the adult population. Although there are no precise measures of the number of individuals who are members of at least one cooperative, for some countries estimates top 70 percent of the population (see box 3).

### Box 3 Countries with Highest Cooperative Membership

70–79 percent: Austria, Canada, Cyprus, Finland, Israel, Uruguay

50–69 percent: France, Belgium, Norway

40–49 percent: Denmark, India, Japan, Malaysia, Portugal, Sri Lanka, the United States

Source: 1999 ICA figures on individual membership in cooperatives that are members of the ICA.

## 2.2 Utility Cooperatives

Utility cooperatives were initially created to provide utility services, mainly in rural areas, where investor-owned utilities would not expand due to insufficient profitability. Their services are usually provided at at-cost prices.

### 2.2.1 Types of Utility Cooperatives

There are three primary types of utility cooperatives: electric cooperatives, telecommunications cooperatives, and WSS cooperatives. Electric cooperatives furnish electric power and deliver it to their members. Electric cooperatives are of two types: consumer-owned distribution cooperatives that deliver electricity directly to consumers; and generation and transmission cooperatives that produce and transmit electricity to distribution cooperatives. Telecommunications cooperatives offer services such as local exchange services, interconnection to long distance carriers, and other telecommunications services including internet access. WSS cooperatives provide (piped or unpiped) water supply or sewerage services, or both. In some countries it is not uncommon to find cooperatives that provide not just one but two or more of these utility services, especially where there are significant economies of scale in one organization providing various services to a relatively small population. For instance, rural cooperatives in Argentina provide a range of services often including not only public services such as electricity and water but also financial services, housing, and other services.

WSS cooperatives are predominantly found in rural areas and provide their members with services on an at-cost basis. While it is difficult to quantify the role of utility cooperatives, it is clear that they

### Box 4 Utility Cooperatives in Developed Countries

In the United States, there are close to 900 electricity distribution cooperatives serving 36 million consumer-members in 47 states, or 12 percent of the U.S. population, and 65 generation and transmission cooperatives. They own and maintain some 2.3 million miles of electricity distribution lines—or 43 percent of the nation’s lines—and cover 75 percent of U.S. land mass. Similarly, more than 1,000 rural telephone cooperatives serve millions of members in 46 states in the United States. Though not as common as electric or telecommunications cooperatives in the United States, water cooperatives—frequently known as rural water associations—serve their members in rural communities, particularly in the West.

- provide significant proportions of services not only in developing but also in developed countries (see box 4);
- often provide services in rural areas where neither private for-profit companies nor public enterprises are present; and
- in some cases, effectively provide services in large urban areas.

As in other sectors, utility cooperatives are often organized in layers with groups of cooperatives constituting other cooperatives or associations whose function is to provide support to their members. Such associations normally offer a variety of training programs; technical assistance programs in areas such as operation, maintenance, finance, and governance; as well as other services and benefits to their members. Often, such second-tier cooperatives form federations and, at higher levels of aggregation, confederations that can be national or international. For example, in the United States, water cooperatives usually join

their State Rural Water Associations, which are also members of the National Rural Water Association, a nonprofit federation.

### 2.2.2 Distinguishing Characteristics of Utility Cooperatives

Utility cooperatives have distinctive features originating from their particular ownership and governance structure that distinguish them from traditional private (investor-owned) or public utilities (see figure 1). Of course, differences are also due to different practices introduced in cooperatives versus the ones used in public or private utilities.

Even though cooperatives are privately owned, they have important differences compared with private (investor-owned) utilities. In investor-owned utilities, investors share proportional ownership rights to the organization. Few investors, if any, have a commercial relationship with the organization beyond their equity investment. The organization’s objective is to maximize profits and distribute them based on equity rights. Equity rights are fully transferable, allowing investors to adjust their participation to meet their investment objectives and capture fully the capitalized value of their investment. In contrast, in the case of a cooperative, ownership of the organization takes a very different meaning. Profits are not pursued and if obtained, are generally reinvested in the cooperative. Because members cannot withdraw and reallocate their investments, the only way they can capture the value of the cooperative’s activities is through the use of the service. Thus, in their dual role of owners and users, it is in the members’ interest to have the utility deliver good service at low cost.

An obvious difference between cooperatives and public utilities is that of ownership rights. At the same time, cooperatives and public utilities share a mission: to provide good service rather than realize profits. It should be noted, however, that in practice, public utilities often deviate from the objective of providing good service due to political interference or lack of accountability. In consumer cooperatives, the fact that owners and customers are one and the same helps align objectives.

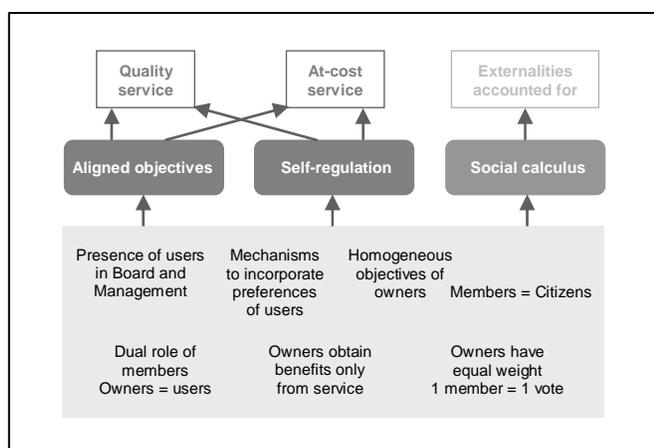
The role of owners (members) in cooperative utilities is different than that role in public or private utilities. A cooperative is governed by the Administration Board and the Oversight Board, which are composed of people selected from within the cooperative’s membership. Cooperative utilities exercise a one member–one vote system without taking into account status (individual or institution) or consumption levels. In contrast, in private investor-owned utilities, investors’ weight is proportional to the shares investors hold, whereas in public utilities, the sole owner is the state.

The equal weight of vote that cooperative members have provides an incentive for a potentially wider participation in the affairs of the utility. In addition, the Administration Board becomes a mechanism for close monitoring of the utility by its users. Members of the Administration Board have a specific mandate for the provision of a specific service and will thus be elected on their track record in the sector. In public utilities, corporate oversight is often through an elected municipal council, but council members will generally have a broader mandate and will campaign on nonsector topics.

It is common, although not universal, for the management team to be selected from within the membership of the cooperative. This practice implies that managers and staff of the cooperative are generally users of its service. Smaller cooperatives might face difficulties in finding professional board members and managers with water sector know-how among their membership.

WSS service provision is a natural monopoly and has significant social and environmental externalities. Governments seek to ensure that utilities’ decisions take social consequences into account through sector policies and regulation. Regulation also seeks to ensure that service standards are

**Figure 1 Characteristics and Potential Implications of the Cooperative Structure**



maintained and tariffs are kept at reasonable levels. In the case of public utilities, regulation might not be explicitly in place because it is often assumed that such considerations are implicitly incorporated in the decision-making process given the broader “public perspective” that a public utility is expected to have. The dual role of owners and users in cooperative utilities introduces an element of self-regulation that is not present in other types of organizational structures. The members on the one hand—as users—are interested in keeping tariffs low, while on the other hand—as owners—are interested in protecting their assets through cost recovery. Because users are involved in the governance of the organization, the incentive to withhold information is lower. Consequently, there is less information asymmetry and, potentially, a greater level of trust. The cooperative model also provides incentives for internalizing externalities within the service areas. However, other externalities—such as downstream environmental impacts—will need to be regulated.

### **2.2.3 The Cooperative Model and the Four Principles of Good Governance**

The consumer cooperative model is distinct from public and private models on all four basic principles of good governance:

1. *Autonomy* – A utility cooperative is more autonomous than a traditional public utility because (a) its legal authority is likely to be more clearly defined; (b) its labor policies are not restricted by public sector procedures or subject to political considerations; and (c) it has the possibility of accessing sources of finance that may not be available to public utilities. Autonomy of a utility cooperative is potentially similar to that of a private utility. However, the possibility of actually exercising greater autonomy depends to a great extent on ensuring that political influence is kept at bay.
2. *Accountability for results* – A cooperative is likely to have a lower degree of accountability to government (unless government funds are received) and, at the same time, a higher degree of accountability to its customers than a traditional public utility. Also, it is likely to have the same degree of accountability to government, regulatory, and financial institutions as a private utility while having a higher degree of accountability to its customers.
3. *Customer orientation* – Utility cooperatives have a higher degree of customer orientation than either a public utility or a private utility. Customers have various mechanisms to have a say in the affairs of the utility. Also, the fact that cooperative utilities generally charge their customers to finance their operations gives them a greater degree of customer orientation than public utilities.
4. *Market orientation* – Cooperative utilities have strong incentives for cost reduction. This makes market orientation (making use of outsourcing and out-contracting, benchmarking, and other mechanisms of quasi-competition) attractive. At the same time, however, a cooperative utility is more likely to exercise more direct control over all tasks associated with service provision. Outsourcing and out-contracting are not part of the cooperative culture. These two factors balance each other out. As a result, a cooperative utility will be less market oriented than a private utility, but probably slightly more market oriented than a public utility.

The cooperative model has certain characteristics that can potentially provide a number of advantages over public and investor-owned private utilities. Whether in practice the cooperative is an alternative model for WSS provision can only be determined empirically by looking at the performance of cooperative utilities compared to private and public utilities.

The performance of utility cooperatives varies widely. This suggests that there is more to a successful cooperative utility than just the ownership structure. The next chapter looks at the case of SAGUAPAC to define which factors were critical in its success.

## 3 A CASE STUDY ON SAGUAPAC

### 3.1 General Description

#### 3.1.1 SAGUAPAC in its Institutional Environment

##### Origin

SAGUAPAC (*Cooperativa de Servicios Públicos Santa Cruz Limitada*) is a cooperative that provides water and sewerage services to the city of Santa Cruz, Bolivia. It started operating under its current legal structure in 1979 when the national government approved the request of the autonomous water board to transform into a cooperative. In the same year, SAGUAPAC was recognized as a cooperative by INALCO, the National Institute of Cooperatives. The transformation into a cooperative was the second major reform in a decade: in 1973, the Public Works Committee (*Comité de Obras Públicas*) of the central government had handed over responsibility for WSS service provision to the autonomous water board in Santa Cruz.

The decision to turn SAGUAPAC into a cooperative was based on the recognition that a different model was needed to provide the service efficiently. Rapid population growth—Santa Cruz had tripled in size to approximately 150,000 inhabitants in a decade—heightened the urgency to look for alternative models. Santa Cruz was essentially isolated from the rest of the country, resulting in a high degree of self-reliance. Central government neglect resulted in a strong sense of regional identity, giving rise to a civic movement. The decision to adopt the cooperative model as the organizational arrangement for SAGUAPAC was helped by the civic movement's opposition to state ownership and the recognition that community participation was required to obtain service improvements. Cooperatives were viewed as a viable alternative in Santa Cruz because two utility cooperatives providing electricity and telephone services were already operating. The alternative of private sector provision was not considered because, at the time, the private sector in Santa Cruz was underdeveloped.

##### Current situation and description of the market

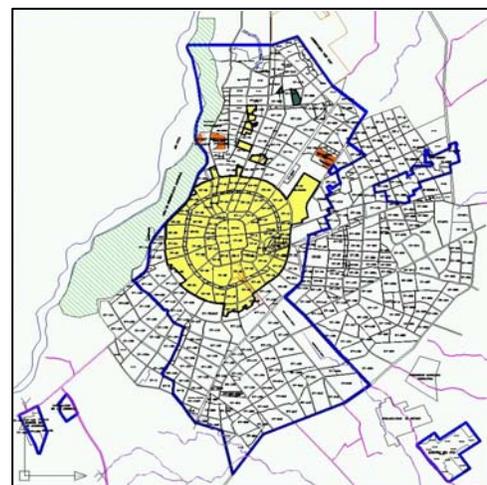
Santa Cruz is a very widespread city of approximately 1.2 million inhabitants that extends over 36,300 hectares of tropical flatland. SAGUAPAC's service area covers about 63 percent of the city's area (about 22,700 hectares) in which approximately 66 percent of its population lives. The area that SAGUAPAC serves contains the central part of the city and expands to the north and the south (see figure 2, marked by blue line). By 2002, SAGUAPAC was providing water to approximately 95 percent and sewerage services to about 50 percent of the population in its service area. While it is by far the biggest, SAGUAPAC is not the only provider of water and sewerage services in Santa Cruz. Seven other smaller cooperatives are present in the city.

Santa Cruz is well-endowed with groundwater due to the proximity of the Pirai River. Water is obtained from some forty-five deep wells distributed in two major fields. The sewerage system is divided into two subsystems following the city's topography. The eastern subsystem discharges into open fields near the Rio Grande and the western subsystem discharges into the Pirai River. A key difficulty faced by SAGUAPAC is the high cost of pumping due to the flatness of the land and the low population density.

##### The evolution of service provision

In the last four decades, Santa Cruz has had a dramatic population growth that has led it to the top of the list of Bolivia's largest cities. Since 1960, the population of the city has multiplied eightfold. This accelerated growth rate, coupled with low population density, has placed an enormous strain on public services and represents one of the major challenges SAGUAPAC has had to face over

Figure 2 SAGUAPAC's Concession Area



Source: SAGUAPAC

the years.

To a great extent, SAGUAPAC has accommodated this growth. The cooperative has become the largest urban water cooperative in the world, serving approximately three-quarters of a million people and billing close to US\$19 million per year. (See table 1 for other indicators of SAGUAPAC's size.)

Over the years SAGUAPAC's performance has been considered very good according to international standards. It has operated in an efficient manner, provided continuous service with water of good quality from house connections to its members, and has maintained satisfactory financial performance. Water is available 99.92 percent of the time. Unaccounted for water is 17 percent. SAGUAPAC employs 3.1 staff per 1,000 connections. The working ratio is 0.55. Some 97 percent of connections are metered and collection efficiency is 95 percent. More detailed performance figures are given in the annex.

**Table 1 Indicators of SAGUAPAC's size**

Indicator	Quantity
<b>Water</b>	
Water production	45,000,000 m <sup>3</sup>
Network length	2,160 km
No. of connections	120,483
Population served	752,000
<b>Sewerage</b>	
Water collected and treated	24,936,554 m <sup>3</sup>
Network length	868 km
No. of connections	63,810
Population served	398,000

Source: SAGUAPAC 2002.

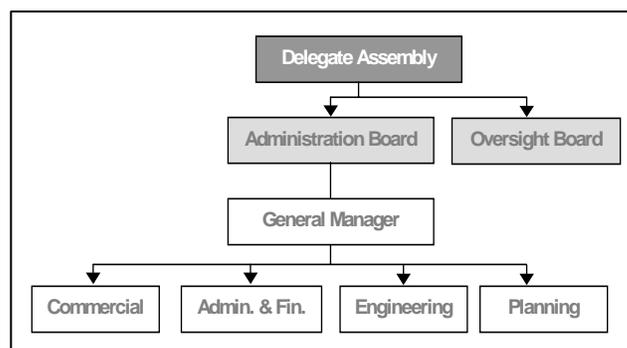
### 3.1.2 SAGUAPAC: Internal Functioning and Corporate Culture

#### Organizational structure

The organizational structure of SAGUAPAC is based on a classical cooperative model with a delegate assembly - the highest instance in the cooperative that elects both the Administration Board and the Oversight Board. In the case of SAGUAPAC, the Delegate Assembly is composed of 27 members, 3 from each of the 9 districts. This is a distinctive feature, since in some utility cooperatives in Bolivia, the assembly is constituted by all those members who choose to attend when the General Assembly is convened.

The General Manager (GM) is appointed by the Administration Board. The GM's appointment is for an open term. Since 1979 SAGUAPAC has had only four GMs. The previous GM served for close to 18 years until he passed away. The GM is responsible for appointing managers in four areas: commercial, administration and finance, engineering, and planning matters. These managers report to the GM, who is the main administrative officer and the link between the Administration Board and SAGUAPAC's personnel. The Commercial Manager is in charge of installations, metering, invoicing and collection, and customer relations including complaints and enquiries. The Administrative and Financial Manager is responsible for accounting and finance, human resources, and procurement. The Engineering Manager is in charge of service provision, overseeing the areas of production, quality control, and works (investments) and maintenance. Finally, the Planning Manager, responsible for the long-term development of the service, is also responsible for medium- and short-term planning, overseeing the areas of analysis, projects, and information systems. The organizational structure also contains three levels below the four Area Managers— Unit, Department, and Section—for a total of five levels.

**Figure 3 SAGUAPAC's Organizational Structure**



Source: SAGUAPAC

#### Mission and vision

SAGUAPAC's mission states its commitment to contributing, under the cooperative philosophy, to the improvement of the quality of life of its members through the provision of water and sewerage services in its concession area. It seeks to fulfill its mission by making good use of technical, human capital, and financial resources while preserving the environment. As part of its vision, SAGUAPAC sees itself as an enterprise based on honesty, discipline, efficiency, and efficacy; in which its members have confidence; and that tries to contribute to building a better-informed society that values and

safeguards water as a resource (see box 5). The spirit of both mission and vision is at the center of SAGUAPAC's institutional culture. Its personnel have internalized the view that SAGUAPAC should provide its members with the best possible service while combining technology and management with the cooperative values of equity and solidarity.

#### **Box 5 SAGUAPAC's Vision**

*"To be a sustainable enterprise, leader in its field in Latin America, providing water and sewerage services with the use of modern technologies, highly qualified human resources and embracing the values of solidarity and service that are part of the cooperativist philosophy."*

*Source: SAGUAPAC*

#### **Values and practices**

SAGUAPAC's corporate culture embodies the cooperative values of self-help, responsibility, democracy, equality, equity, and solidarity. Such values have been instituted over time through example and through the adoption of practices conducive to reinforcing them. While the institution provides its employees with competitive salaries, work stability, and the possibility of promotions, and makes every effort to treat everyone equally irrespective of rank, it demands commitment, discipline, and honesty at the individual level. Cases of honest behavior have been openly recognized and held as examples, while, as part of a policy of zero tolerance for corruption, the occasional dismissal of an employee based on unethical behavior has been widely publicized. To minimize the opportunities for foul play, a policy of not paying for overtime has been instituted. Instead, the extra time worked by operational personnel is recognized and traded for free time during normal working hours. In the case of professionals, extra working time is not compensated.

The values SAGUAPAC embraces have contributed to the development of a good working environment. Absenteeism is low. Staff turnover is low; employees currently working for the cooperative are estimated to have an average of around 15 years service. The open and accessible attitude is reflected in the structure of its recently completed building. Management communicates with the departments and information is shared between departments in an informal manner. Recently, structured efforts have been made to further improve knowledge sharing. A Managerial Commission, composed of the GM, the Area Managers, and the General Secretary now meets regularly to discuss progress and coordinate activities in different areas. The program "Lets Know SAGUAPAC" consists of lectures by personnel on how SAGUAPAC operates and the challenges it faces. The program aims to develop among its employees a fuller understanding of SAGUAPAC's business. This type of effort complements SAGUAPAC's history of investing in the training of its staff.

Salary adjustments are based on performance and years of services. Last year, the salary scale was adjusted to correct some distortions in salaries. Close to 50 employees were fired and rehired with a different salary. Salaries are, in general, in line with the market. Promotions are indirectly based on performance. Every year, the Human Resources Department coordinates a performance review. The results contribute to management assessment of the performance of employees. This in turn contributes to promotions. Over the years, SAGUAPAC has developed a practice of promoting from within, which has stimulated good performance and has enabled SAGUAPAC to take full advantage of personnel with years of training and experience. For instance, a couple of years ago, the Commercial Manager was appointed GM and a Department Head took over as Commercial Manager. The position of Department Head was, in turn, filled by a person that headed a section under that department. Finally, someone who worked in that section was promoted to be the new Head of Section.

## **3.2 Assessment of the Institutional Environment**

### **3.2.1 External Autonomy**

#### **Policy formulation and regulation**

In Bolivia, the parliament establishes the general WSS sector framework by law. The executive branch defines more specific aspects via *Reglamentos* enacted as Supreme Decrees.

A Water Law, mainly oriented at regulating the use of water resources, has been in place since 1906. In October 1999, a new WSS sector law (Law 2029) was enacted that established a new regulatory framework. In March 2000, Law 2066 was enacted, introducing modifications to Law 2029, in response

to the widespread protests that led to the termination of the private concession of WSS services in Cochabamba.

Over time, responsibilities for setting quality as well as service standards for WSS services have been shifting between the Ministry of Housing and Urban Affairs (MHUA) and the Ministry of Health (MH). In 1985, quality standards recommended by the World Health Organization (WHO) were adopted and in 1992, new National Norms for the Provision of Water and Sewerage Services (*Reglamento Nacional de Servicios de Agua Potable y Alcantarillado*) came into force. However, because no effective mechanisms were in place for the central government to ensure compliance, in practice each service provider defined its own standards. SAGUAPAC voluntarily complied with the WHO standards.

Up to 1999, SAGUAPAC operated under a license provided by the executive branch,<sup>2</sup> which did not have the resources or capabilities to rigorously enforce standards. SAGUAPAC operated de facto as a self-regulated utility. SAGUAPAC moved to cost recovery at the initiative of its owners rather than at the request of an external regulator.

Since 1998, the *Superintendencia de Saneamiento Básico* (SISAB) has regulated SAGUAPAC through a license contract.<sup>3</sup> The license contract (*contrato de concesión*) is an agreement between SAGUAPAC and the regulator, in which SAGUAPAC is granted the right to operate as the only WSS service provider in a well-defined service area for a period of 40 years.<sup>4</sup> The contract specifies treatment standards, continuity of service, disconnection criteria, minimum water pressure, handling of user complaints, and water quality standards. The specified limits can be adjusted by the regulator within the regulatory framework. In addition, the contract incorporates the sources of water that SAGUAPAC is authorized to use. SISAB monitors performance with respect to service and quality standards. Since 1999, SAGUAPAC has had to have its tariffs approved by SISAB, the same as any other regulated water utility in the country.<sup>5</sup> Tariffs were set for a five-year period at the time the license contract was signed. By law, the utility or the regulator can initiate the procedure for a tariff revision after the first three years have elapsed if either deems that significant changes have taken place, justifying a change in the tariff. According to the guidelines specified by the regulator, the procedure for adjusting tariffs calls for the utility to propose and justify a change in tariff. Tariffs are adjusted only after the regulator approves the changes.

### **The legal authority of the utility**

SAGUAPAC is owned and, ultimately, controlled by its customers in its service area. Membership in the cooperative is open to both individuals and organizations. New members purchase a Certificate of Contribution (*Certificado de Aportación*). This certificate is transferred when the property served by the utility is sold.

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<sup>2</sup> Ministerial Resolution No. 206, issued in July 1981 by MHUA, gave SAGUAPAC the right to provide the service and to make use of water resources.

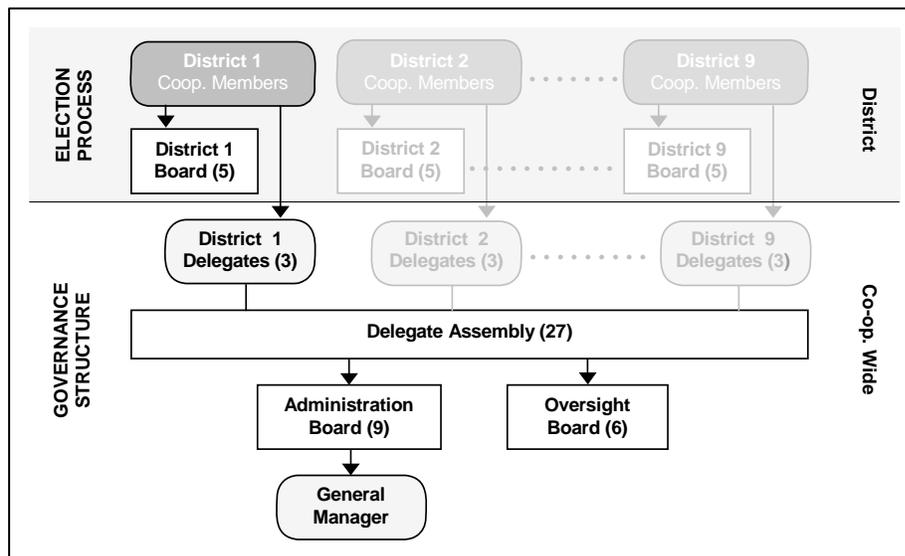
<sup>3</sup> SISAB (initially called Superintendence of Water) was part of the newly created regulatory system SIRESE composed of five sector Superintendencies and a General Superintendence. The SISAB, as well as the other sector superintendencies, was assigned, among other tasks, to grant concessions, monitor the correct delivery of services by the companies and entities under its regulating jurisdiction, and approve and publish prices and fees in adherence to the sectorial legal standards. While the regulator has existed since 1997, SAGUAPAC became a regulated utility only in 1999 after “regularizing” (renewing under the new system) its right to provide water and sewerage services with the signing of the license contract for a period of 40 years.

<sup>4</sup> While the rights to operate are given to SAGUAPAC through what in Bolivia has been named a *contrato de concesión*, the contract should be understood as a license because all the assets are owned by SAGUAPAC. Rather than granting new rights, SAGUAPAC’s concession amounts to extending old rights granted by a different regime, under the new rules. Because SAGUAPAC was operating under rights granted by a pre-existing scheme, the contract has been the result of a process of negotiation and it can be understood as SAGUAPAC updating its right to operate in return for entering the new regulatory scheme (which involves certain obligations related to quality and coverage).

<sup>5</sup> In addition, the National Institute of Cooperatives (INALCO), dependent on the National Council of Cooperatives (CONALCO) under the Ministry of Labor, ensures that the cooperative’s administration complies with the General Law of Cooperatives (Law 5035).

SAGUAPAC's governance structure consists of four layers that reflect territorial aspects as well as a functional division of responsibilities (figure 4). Members are elected to serve in different capacities in a way that ensures a relatively well-balanced representation of the nine districts within the service area. Every two years, members in each of these districts elect their representatives to two different bodies, the District Board and the Delegate Assembly. Five members are elected to a District Board (president, vice-president, secretary, and two vocals) and three different representatives are elected as delegates (the president of the District Board and two other members) to the Delegate Assembly.<sup>6</sup> The Delegate Assembly, composed of 27 members, selects from among its members the nine members of the Administration Board and the six members of the Oversight Board. A member of the Administration Board is elected President of the cooperative. Members of both the Administrative and the Oversight Boards are elected for six-year periods, with one-third of the board members being elected every two years. Members of both boards cannot be reelected, but can be elected again after two years from the time their last appointment ended.<sup>7</sup> The nine members of the Administration Board need not come from the nine different districts. It is possible for more than one member to come from the one district and for a district not to have a member on this board.

Figure 4 SAGUAPAC's Governance Structure and Election Process



The District Board represents the district by promoting member participation and conveying the needs and interests of its members to the Administration Board. As such, it is a body that represents the members in their capacity as users of the service. District Board members receive no compensation and their participation is viewed as service to the cooperative.

The Delegate Assembly is the body that represents the members in their capacity as owners. The Delegate Assembly performs a role similar to that of a shareholder meeting in a company. The assembly meets on average once a year. Its mandate includes approval of financial statements, plans, and the reports of the Administration and Oversight Boards,<sup>8</sup> changes to the statutes, and

<sup>6</sup> It is worth noting that members are elected from the pool of members present at meetings called for this purpose. Election campaigns put together by members wishing to be elected are not common because being elected is generally viewed as being selected to serve rather than obtaining a post. SAGUAPAC often promotes the participation of members it has identified as having the appropriate profile (for example, willingness to be involved, leadership skills, the respect of the community) and who can be potential contributors. Also, the modality of voting is not predefined and is chosen by the members present prior to voting. Each of the nine water districts has between 8,000 and 12,000 members who are potential voters. However, the average voter turnout in recent elections has been below 500 per district. As could be expected, turnout is lower in those districts that already have universal WSS connections.

<sup>7</sup> Members, however, tend to serve more than once. For example, in the current Administration Board, two-thirds of the members have served on a prior occasion.

<sup>8</sup> The Ordinary Assembly meets every two years while the Extraordinary Assembly has the responsibility of approving the audited financial statements and the reports of the Administration and Oversight Boards. Extraordinary Assemblies are normally called by the Administration Board, but can also be called by the Oversight Board or by 51 percent of the districts. While this does not happen often, it is a mechanism that allows members at the district level to be able to prevent the Administration Board from having control over when the General Assembly meets. In a similar way, an Extraordinary District Assembly can be called by 51 percent of the district members.

adoption of any other significant decisions. The resolutions of the assembly are adopted by simple majority and are binding. Delegates must be present to vote and are not allowed to abstain or cast a blank vote.

The Administration Board performs a role similar to that of a traditional board of directors. It is responsible for defining policy, approving the budget, appointing the GM, setting salary scales, overseeing bidding processes, and informing the Delegate Assembly. The Administration Board signs checks for amounts over US\$10,000. This procedure, rather than having the function of exercising control, is a mechanism for the board to stay informed. No one at SAGUAPAC recalls a case in which the Administration Board refused to sign a check requested by management.

The Oversight Board is a body that has a function akin to that of a controller. It is in charge of supervising the administration, with an emphasis on accounting and financial control ensuring the administration complies with legal norms. This board hires the external auditors. The Oversight Board can veto the resolutions of the Administration Board if they are considered contrary to what the law, the statutes, or the resolutions of the Delegate Assembly dictate. A veto does not invalidate the resolutions of the Administration Board but it makes it necessary to call an Extraordinary Assembly where the matter has to be settled. The Administration Board must meet at least once every 15 days, while the Oversight Board must meet at least once every 30 days. Both boards decide by majority vote. Decisions are not published but are available to members on request. Since 1997, members have been receiving around US\$400 per month compensation.

### **Working relationship with the political environment**

As a private entity, SAGUAPAC does not depend on political commitment. As a financially viable entity it does not depend on public investment to operate and maintain its present system. However, public financing is key for investments in service expansion. Nonetheless, as any utility cooperative, SAGUAPAC is potentially vulnerable to political interference. In fact, over time there have been attempts by politicians who saw SAGUAPAC as a potential political bounty to penetrate its structure. SAGUAPAC has been able to resist such attempts.

SAGUAPAC's governance structure, in conjunction with the strong sense of ownership of its members, has effectively shielded it from political interference. SAGUAPAC's statutes specify that members cannot be elected to the Administration Board if they have an active role in a political party or have participated in elections as candidates of a political party within the last five years. The process of selecting board members as well as the GM not only ensures that political affiliation is not a consideration but also provides for the stability needed for management to act based on a long-term orientation.

The level of effective autonomy of SAGUAPAC can be tested by looking at the level of interference in three politically sensitive areas: human resources, service termination, and investments.

Management does not face any constraints or obligations on the recruitment of staff. Each area establishes its personnel requirements and specifies the profiles of needed employees. In the case of operational personnel, the decision to hire is adopted by the Area Manager. In the case of managerial positions, a search is conducted with the support of the Human Resource Department with the decision being made by the corresponding Area Manager, with the approval of the GM. The Administration Board is generally advised of changes in management staff. SAGUAPAC has been able to attract and retain qualified personnel through good personnel management practices including transparent promotions and competitive pay scales.

Decisions on termination of service are also made without external interference. The statutes specify the following causes that can lead to service termination: failure to pay the Certificate of Contribution; clandestine consumption of water or use of sewerage; resistance to comply with membership obligations; damage caused to the cooperative; and lack of payment for services. Procedures seek to accommodate poor customers by providing some flexibility within pre-specified parameters: a 20 percent upfront payment and a period of repayment spread over a maximum of 24 months.

SAGUAPAC has not sought to access credit markets and hence has not obtained a credit rating. In addition to internal cash stemming from service fees, financing has been obtained via loans from multilateral agencies channeled through government programs. Traditionally, service fees have been sufficient to cover operating costs and loans have been used to finance investments. Access to loans from multilateral agencies requires that the central government consider the sector a priority as

SAGUAPAC is one of the beneficiaries. Hence, access to this type of financing does not depend exclusively on SAGUAPAC’s merits, and it is not necessarily available when SAGUAPAC needs it the most. The use of financial sources channeled through the government remains the only leverage that the government has on SAGUAPAC. Moving to independent financial channels would increase its autonomy.

### 3.2.2 External Accountability

The primary accountability of SAGUAPAC is to its members. In addition, the utility is also accountable to the regulator and to financing institutions when investments are being funded with external financing.

#### Accountability to owners and to customers

The dual role that members have as owners and customers has implications for management’s accountability. Management does not account to two different groups with different objectives but to one group of members with a sole objective. In principle, distinct channels are in place for management to account to members in their roles of owners and customers. In practice, however, accountability to both groups tends to center on the same issues and takes place much through the same channels (see figure 5).

Accountability to members is achieved through both the Administration Board and the Oversight Board. The GM meets with each board twice a month and reports on the state of affairs. Both the President and the Treasurer of the Administration Board are present at SAGUAPAC’s offices, and have contact with the GM on a daily basis. This type of close contact allows both boards to be abreast of what is going on in the utility. Both boards report to the Delegate Assembly, which in turn reports to the nine District Boards. In addition, direct accountability to individual members is ensured through information campaigns and client service procedures.

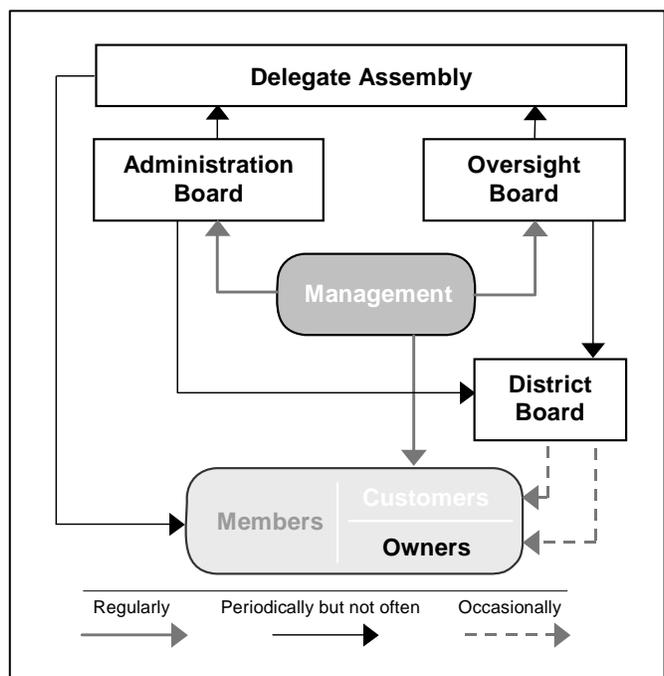
The strong and well-structured accountability structure of SAGUAPAC has kept the focus on its original purpose of providing a good service. SAGUAPAC has developed a customer-oriented culture that recognizes not only the need to pay for the delivery of good services but also that payment gives customers the right to expect good service. This recognition contrasts with that found in less successful service cooperatives where the interest of users is exclusively in having the lowest possible tariff. Over time, the management of SAGUAPAC has effectively conveyed, through public information campaigns, that good service and reasonable tariffs go hand-in-hand. The fact that SAGUAPAC is owned by its customers has provided credibility to this message.

#### Accountability to regulator

Since 1997, SAGUAPAC has had stronger accountability to its regulator, SISAB. SAGUAPAC has had to demonstrate to SISAB both the fulfillment of the obligations set forth in the license contract and its compliance with quality and service standards. SAGUAPAC maintains relatively close contact with SISAB, meeting at least once a month and presenting information periodically. SISAB conducts inspections regularly to check on factors relevant to service provision and quality.

SAGUAPAC already had financially sustainable tariff levels before the adoption of the present regulatory system. Since then it has managed to make necessary adjustments in tariffs to keep pace with inflation and changes in other costs. In this respect SAGUAPAC’s behavior has been significantly

Figure 5 Accountability to Owners and Customers



different from what at the time were public WSS utilities providing services in the other two major cities in Bolivia (La Paz and Cochabamba). While SAGUAPAC was able to isolate itself from political interference pushing for tariff adjustments on technical grounds, the two public utilities avoided necessary tariff increases for political reasons.

In 1999, SAGUAPAC had its tariffs approved by SISAB for a five-year period. A tariff revision is currently underway to set tariffs for another five-year period starting in mid-2004. In this review, SISAB has required SAGUAPAC to apply the same formula that is applied by private utilities. The formula allows for the tariff to incorporate a 13 percent return on assets to account for the cost of capital. SAGUAPAC has found ways to reduce the assets taken into account for purposes of tariff calculation, to keep tariff increases to a minimum.

For the moment, the regulatory reform and the creation of SISAB have not had a significant effect on the performance of SAGUAPAC. Service and quality standards as well as tariff levels have not changed significantly. Regulation has served to make some of the internal monitoring more transparent to outsiders. It has also introduced some costs in the form of the regulatory fee (1.5 percent of revenues) and the resources required to tend to the regulator's requirements.

### **Investment requirements**

Prior to 1997, SAGUAPAC was not required to meet investment targets. During that time, the investments that were made followed SAGUAPAC's own development plan and depended on its ability to secure funding. Since 1997, SAGUAPAC has been subject to expansion targets to be achieved within the first five years of the license contract. SISAB monitors expansion targets using SAGUAPAC's yearly operating plan. SAGUAPAC has performed relatively well with respect to meeting its expansion targets. While targets have not necessarily been met every year, targets for sewerage connections have been met over the five-year period while those for new water connections have been almost 90 percent achieved. SISAB did exercise its legal authority to sanction SAGUAPAC since progress was acceptable and a notification was sufficient.

**Table 2 SAGUAPAC's Expansion Targets**

	1998	1999	2000	2001	2002
<b>Water connections per year</b>					
Target	6,778	7,000	4,730	4,730	4,730
Achieved	6,778	6,606	5,109	3,753	2,474
<b>Sewerage connections per year</b>					
Target	4,632	1,200	5,541	5,035	7,629
Achieved	4,632	1,155	1,034	8,034	9,337

*Source:* Superintendencia de Servicios Básicos.

### **Accountability to financial institutions**

In those cases in which SAGUAPAC has obtained external financing to undertake work, it has adhered to strict reporting requirements. The financing sources that SAGUAPAC has accessed on different occasions are multilateral financial institutions such as the World Bank and the Inter-American Development Bank. Loans were granted to the state, which on-lent to different institutions within the framework of sector development programs. SAGUAPAC did not have difficulties complying with any of the reporting requirements.

## **3.3 Assessment of the Internal Functioning of the Utility**

### **3.3.1 Internal Autonomy: Decentralization of Authority within the Utility**

Traditionally, SAGUAPAC has been highly centralized. Only in the last year has SAGUAPAC gradually started decentralizing decision making internally.

Decentralization of decision making on financial management matters has been limited to billing and collection. Because service is not automatically terminated for lack of payment, the Commercial Manager can decide on a payment plan to be agreed on with the customer. Other financial decisions such as determining the tariff structure, setting connection fees, entering loan agreements, or appointing an external auditor are adopted at the board level.

Major decisions on operations and maintenance have also been traditionally centralized. The Administration Board sets work processes and standards and approves any significant decisions related to procurement or to the expansion, rehabilitation, or maintenance of the existing network

and facilities. The approval takes place at the time the Annual Operating Plan is approved. For unforeseen circumstances, the GM can approve proposals of the Area Managers. Day-to-day operational decisions such as maintenance and meter replacement are made by the Area Managers, within pre-specified procedures.

Key decisions on human resources, such as the hiring and firing of the General Manager Director, and the determination of salary structure, are made by the Administration Board. The hiring and firing of individual staff members as well as their promotion or demotion are proposed by Area Managers and approved by the GM.

Procedures for customer management, such as service termination, complaint handling, modalities of payments, or educational and public relations campaigns, are approved by the Administration Board. The Commercial Manager can make smaller decisions within this procedural framework.

SAGUAPAC has recently started to decentralize decision making by involving a much wider group of people in the programming of tasks and goals. Indications are that this will be pursued in earnest in the near future to increase efficiency and customer responsiveness. The Managerial Commission empowers Department Heads through biweekly coordination meetings that inform decisions by the GM. Targets and budgeted activities for the Annual Operating Program are now proposed by Section Heads, rather than Department Heads. The plans of Section Heads are discussed with the corresponding Department and Unit Heads and with the Area Managers. The involvement of lower levels in the planning process is creating a greater degree of commitment and responsibility. While operational decisions have not yet been decentralized, a new practice is being instituted whereby any time a problem arises and a decision is needed, a course of action has to be proposed at the section level.

### **3.3.2 Internal Accountability for Results**

#### **Accountability to the boards**

The performance of the utility is measured in relation to the accomplishment of the goals set in the Annual Operating Program. These goals reflect the targets defined in the five-year plan, which are in line with the ones agreed on with SISAB in the license contract.

The close contact between the management team and both the Administration and the Oversight Boards ensures that both boards are well-informed about the affairs of the cooperative. The Administration Board has never rewarded or penalized the GM based on his performance although that possibility exists.

#### **Managerial accountability**

SAGUAPAC uses a value-based approach whereby poor performance is dealt with through a combination of support and motivation. The GM routinely evaluates the achievement of targets. Performance of Department Heads—and recently Section Heads—is monitored. However, formal rewards or penalties are not applied in relation to performance. In case of poor performance, the causes are identified, training or other support is given to staff, and staff is encouraged to solve the problems. In case of good performance, immediate feedback and public recognition is provided. Indirectly, and in the longer term, good performance is rewarded with promotions.

### **3.3.3 Customer Orientation**

Customer orientation is at the heart of SAGUAPAC's mission. The rights and obligations of members (as customers and owners) are spelled out in SAGUAPAC's statutes. Customers can make their voices heard through strong, cooperative-specific channels.

The dependence of SAGUAPAC on its customers for financing further contributes to customer orientation.

The cooperative model and ensuing practices provide customers with a sense of closeness to the utility. The threshold for customers to request a meeting with a manager or to send a letter to the GM is low. If need be, SAGUAPAC organizes customer meetings in districts or areas where problems exist. For instance, recently, six customers representing over 10,000 members in areas affected by foul odors

from a sewerage treatment plant requested a meeting and were received and heard by management.

In addition, SAGUAPAC uses more traditional channels to facilitate individual consumer complaints, such as phone or in-person access to a specialized Department of Consumer Service. User satisfaction measurements and, more recently, an Image Audit study seek to establish the external perception of the utility.

The strong customer orientation is also evident in (a) the flexible disconnection policies, (b) the training provided to those employees that deal directly with customers, (c) a special evaluation that emphasizes human relations being given to those employees, and (d) the use of different media (newspaper, radio, letters, and bulletins) to inform customers of any changes in service provision.

In addition, certain initiatives have been taken that go beyond service provision. Relatively recently, recognizing that some members' ability to pay their bills was affected by the economic crisis in Bolivia, SAGUAPAC organized courses for housewives and young people to help them acquire a trade and generate some additional income. This mission creep has not yet distracted SAGUAPAC from its main mission.

While SAGUAPAC shows a very strong customer orientation, it also shows a clear understanding that good service is a two-way street: it can be delivered only when the beneficiary pays. To ensure customers' awareness of the value of water, and to avoid waste and lack of control, only house connections are offered. However, some households agree to make their connection accessible to other people. In the view of SAGUAPAC, the fact that the owner is responsible for paying the bill ensures that the proper care and control is exercised in the use of water.

### **3.3.4 Market Orientation**

Market orientation is the explicit and systematic search and use of market references (costs and prices of services) through out-contracting, benchmarking, or market testing to improve performance. The market orientation of SAGUAPAC has always been very limited. SAGUAPAC does not contract out any of its operational and maintenance activities. Only major construction activities are contracted out. For this, SAGUAPAC uses the World Bank procurement guidelines. In the early 1990s, the termination of service to nonpaying customers was contracted out to the private sector on an experimental basis. However, this initiative did not last long—it was decided to return to in-house billing because the cut-off policy applied by the private contractor proved too inflexible. In general, only non-strategic services have been considered for outsourcing. Cleaning services are outsourced. Only recently have other services, such as hardware technical support, security services, and maintenance of wastewater treatment plants, been considered for outsourcing.

Neither management nor the Administration Board has engaged in benchmarking or market testing in a systematic manner. The comparison of either its performance or its costs with external references has been occasional. However, management has traditionally been well-informed with respect to international performance standards and has used them implicitly as references.

## **3.4 Conclusion**

SAGUAPAC's results in its service area make it one of the better-performing water utilities in Latin America (see annex). However, when studying SAGUAPAC as a model for service provision, it is useful to go beyond performance indicators to adopt a broader perspective.

### **3.4.1 Assessment of SAGUAPAC's Governance Regime**

SAGUAPAC's success is partly attributable to those characteristics that derive directly from its cooperative structure. Its organizational structure has enabled it to isolate decisions from political interference, adopt decisions unrestricted by cumbersome procedures, and maintain a strong consumer-oriented focus. These characteristics represent a possible advantage over the public model. The largest advantage over the private investor-owned model is the strong customer orientation.

The degree of external *autonomy* SAGUAPAC enjoys is high in light of its private nature, the composition of its two Boards (Administration and Oversight), its regulatory environment, and the way

it has kept political influence at bay. The autonomy of the utility is restricted by its limited access to external financing. In contrast, the degree of internal *autonomy* has been relatively low because the institution has been operating for most of its existence under a highly hierarchical scheme with little room for decisions to be made at different levels. Only recently have important steps toward increased decentralization been taken.

SAGUAPAC's external *accountability* to owner-customers has traditionally been high, while accountability to the regulator has increased significantly during the last few years. In contrast, *accountability* within the organization has been low, as the decentralization of responsibilities has been generally limited.

SAGUAPAC's *customer orientation* is excellent. A high degree of sensitivity to customers' situations and needs has been ensured by the strong presence of members in the affairs of the utility combined with the fact that consumer fees constitute a very significant part of SAGUAPAC's financing. Furthermore, the cooperative's governance structure provides different channels for customers to voice their opinions. In addition, more traditional complaint mechanisms are also used.

For most of its existence as a cooperative, SAGUAPAC has not undertaken systematic efforts to benchmark, market test, or outsource. However, some degree of *market orientation* has always been present in the form of informal benchmarking.

### **3.4.2 Other Critical Success Factors**

The success of SAGUAPAC is not solely attributable to the cooperative model. Three additional factors have been identified as critical for SAGUAPAC's success: (a) its governance regime; (b) the continuity of its management; and (c) the environment in which it operates.

**The governance regime** – The particular electoral system of SAGUAPAC is key to its success. The layered way in which District Board, Delegate Assembly, Administration Board, and Oversight Board members are chosen ensures a higher degree of representation of elected members. It also contributes to elections being closely scrutinized by voting members and to closer monitoring by members at large. A great number of cooperatives, however, opt for an election process featuring direct voting in a general assembly. Such a process makes the choice of board members akin to a political election with "candidates" seeking votes and voting members having less information on prospective board members.

The strong member participation in SAGUAPAC helps maintain a strong customer orientation and encourages a high degree of integrity among elected officers. The relatively long term (six years) and the staggered replacement of board members (one-third of members every two years) ensure continuity and steady rotation. Finally, the requirement that members of District, Administrative, and Oversight Boards may not be directly re-elected, but rather must wait two years after the end of their term of office before running again limits corruption.

**Continuity of management** – A second characteristic particular to SAGUAPAC is its corporate culture. SAGUAPAC's employees show a strong service orientation with values that serve any organization well. The development of this corporate culture can be traced to the personality of the GM who headed SAGUAPAC for close to 18 years. The effect that good managers have on shaping organizations and defining their culture is something that goes beyond the particular model or organization. Low staff turnover and promotion policies have further strengthened this corporate culture.

**The environment in which SAGUAPAC operates** – A third critical success factor for SAGUAPAC is external to the organization. As mentioned earlier, Santa Cruz grew in isolation and under relative neglect from the central government. This resulted in a population with a high degree of self-reliance and a strong sense of regional identity. A well-organized and powerful civic movement existed. This particular environment is very favorable to cooperatives.

Thus, in addition to the cooperative structure, which has some particular characteristics, three other ingredients, more difficult to replicate, have been present in the case of SAGUAPAC and seem to be partly responsible for its success.

### 3.4.3 The Limitations of SAGUAPAC

Sewerage coverage in SAGUAPAC's service area is considerably lower than water supply coverage. The consequent use of septic tanks causes groundwater quality problems. The main reason cited by SAGUAPAC's personnel for the low coverage in sewerage services is the extremely high investment costs associated with sewerage. SAGUAPAC considers that the required level of investment needed to achieve greater coverage would increase tariffs beyond users' ability to pay.

SAGUAPAC's service area encompasses only about 66 percent of the population living in the five inner rings of the city of Santa Cruz. The question of whether SAGUAPAC's performance would be any different if it served the poorer outer rings of the city is relevant for assessing the cooperative model.

Based on the cooperative's performance so far, it is reasonable to assume that SAGUAPAC could provide service to all of Santa Cruz without considerably hurting its performance. However, for a variety of reasons, SAGUAPAC has not expanded its service area.

The lack of coverage by SAGUAPAC in the outer rings has given birth to a range of smaller water cooperatives since the 1970s. These cooperatives, joined together in the *Asociación de Cooperativas de Agua y Alcantarillado de Santa Cruz*, now provide water supply to approximately 350,000 people. In the outer rings sewerage is almost nonexistent. Over the years, SAGUAPAC has made significant attempts to absorb two of the smaller cooperatives, but progress has been slow. Different reasons are cited for this. The differentiated treatment that the regulator gives to the smaller cooperatives by not obliging them to comply with the same standards as the ones set for SAGUAPAC hinders aggregation. SAGUAPAC cites the presence of vested interests on the part of some members in the smaller cooperatives. However, other sources state that the leadership of SAGUAPAC has deliberately slowed down the expansion of its services beyond the fifth ring.<sup>9</sup> The current situation does reflect a limitation of the cooperative model. The members of a cooperative inherently will be more interested in maintaining good services for a low price within the existing service area than in expanding to new areas if this implies higher costs.

Expansion of water supply and sewerage services requires capital investment. Despite its recognized good performance, SAGUAPAC has had limited access to financing. In the past, SAGUAPAC has accessed concessional multilateral financing through on-lending from the government. However, concessional multilateral financing depends on government priority setting, over which SAGUAPAC has no direct influence. In principle, the cooperative model weakens access to concessional multilateral financing for the sector. In practice, there are two ways in which this can be ameliorated: (a) with the adoption of a sector financing policy that assigns concessional financing obtained by the country for the water and sanitation sector based on the impact it can have rather than the ownership type of the utility; and (b) through lobbying and regional political pressure—an ad hoc alternative.

While SAGUAPAC's statutes allow for borrowing from other sources, the cooperative has not tapped financial markets yet, hoping to obtain additional cheaper financing from multilateral institutions. It can be argued that the ability of SAGUAPAC to access capital markets to finance an expansion of the area it serves would be the true test for its success.

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<sup>9</sup> See, for instance, "Organisational Structure and Performance in Urban Water Supply: The Case of the Saguapac Co-operative in Santa Cruz, Bolivia," Andrew Nickson, School of Public Policy, University of Birmingham, UK, not dated.

## 4 CONCLUSIONS: A PRELIMINARY ASSESSMENT

The lessons learned from the SAGUAPAC case study are reinforced by literature on both poorly performing and well-functioning utilities. A number of conclusions can be drawn.

### 4.1 Consumer Cooperatives Can Offer an Alternative Institutional Model for Delivery of Urban Water Supply and Sanitation Services

The cooperative model has a number of potential advantages over private and public utility models. All utility cooperatives are characterized by the facts that owners and customers are the same and that cooperatives do not have a profit objective. All utility cooperatives have two boards (Administration and Oversight), and the one member–one vote election system. The ownership model and governance structure can result in a clear objective for the utility: provide sustainable service at affordable cost. The fact that any cost reductions are translated into lower tariffs constitutes a strong incentive to pursue efficiency. Other advantages are the flexibility associated with the absence of cumbersome procedures, and a strong customer orientation derived from the alignment of objectives.

### 4.2 Critical Success Factors for Well-Performing Consumer Cooperatives

Performance of utility cooperatives varies widely. The practices an organization adopts are a determining factor in the results it achieves. Poorly performing utility cooperatives are often associated with ineffective management, a weak financial position, incompetent directors, employee dishonesty, nepotism, and even corruption. Well-functioning utility cooperatives provide dependable services to all members, do not discriminate, and are governed by a fair and uncorrupted management.

The cooperative structure by itself does not necessarily constitute a better option for the delivery of urban WSS services (figure 6). Indeed, no ownership structure—public, private, or cooperative—is a sufficient condition for success if it functions in the wrong external conditions or without proper design and practices.

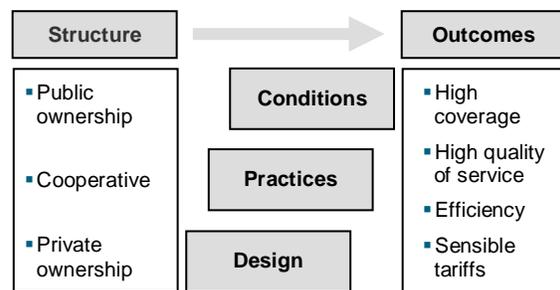
#### 4.2.1 Design

Successful cooperatives are normally those able to attract capable and committed board members, achieve a high degree of participation, isolate their decisions from political influence, and maintain an environment in which cooperative values thrive.

The particular form in which the cooperative principles are put to practice is specified in the statutes of a cooperative. One important design factor is the election procedures for the board. Successful cooperatives have election procedures that favor the selection of technically capable members and ensure that all members feel well represented, thus fostering wide member participation. Over time, election procedures should also motivate elected members to serve for a sufficiently long period to guarantee a reasonable degree of continuity, but also force rotation to ensure that new ideas are brought in and that particular members do not become entrenched.

Open and transparent procedures that minimize the possibility of manipulation or opportunistic behavior are conducive to electing the type of directors needed. Capable board members normally select and develop quality management teams and can help a cooperative maintain its focus, providing only the goods and services members use. In contrast, poor selection of directors who fail to take responsibility is normally associated with lack of effective oversight, which often results in unsuccessful cooperatives.

Figure 6 The Link between Structure and Outcomes



Source: Authors

Another important design factor is the human resources policy of a cooperative. Appointment procedures should be clear and transparent. The Administration Board should have the authority to hire and fire the General Manager. A fixed term can strengthen continuity. Hiring from within and performance-based promotions and salaries strengthen the bond between the cooperative and its staff. Poorly performing utility cooperatives often have high staff ratios, because board members and managers use the utility to provide jobs to allies.

The degree of participation depends on the internal structure of the cooperative, including the way in which board members and managers are elected and the effectiveness of the institutional mechanisms by which feedback from members is obtained. Participation can also be influenced by size—a larger membership can translate into a weaker identification with the cooperative and introduce disincentives to participate. Members tend to be more willing to participate to the extent that they feel represented by the elected board members and believe their input is taken into account. Maintaining an environment conducive to member participation not only allows individual members to provide feedback but also helps strengthen their role as the “watchful eye” of the cooperative. Lack of participation from members who never ask questions often translates into few individuals making policy and forming cliques and special interest groups within the cooperative.

Finally, the design of a cooperative should provide effective barriers to political interference. Political influence introduces criteria other than technical considerations in decision making and can quickly interfere with a cooperative’s performance. A cooperative utility captured by politicians normally adopts multiple objectives beyond that of good service provision. While the procedure for electing board members is critical in shielding a cooperative from political influence, external support on the part of local institutions also seems to play an important role. Excluding active politicians from being elected, rotating elected members often, and incorporating other checks and balances are often found to be practices associated with cooperatives that manage to keep political influence at bay. Also, an alert membership that recognizes the potentially harmful effects of political influence is essential for shielding the cooperative. Members can often act through other local institutions to provide support to the cooperative in an effort to resist the presence of political interests.

With respect to design, SAGUAPAC’s experience presents some useful lessons. The dual tier election system, with the district-based election process for Assembly Delegates, ensures balanced member participation. The District Boards ensure closeness of representatives with the members they represent. They also ensure that qualified candidates are put forward for other boards that tend to be well-known in their community. Also, the fact that representatives are not paid guarantees that only those members with a true desire to serve get involved. Fixed and staggered terms ensure a sensible degree of continuity. At the same time, term limits stifle corruption.

#### **4.2.2 Practices**

Appropriate design of a cooperative can promote practices that contribute to autonomy, external accountability, and customer orientation. SAGUAPAC scores high in adopting these practices. SAGUAPAC does not demonstrate high levels of internal decentralization and market orientation. SAGUAPAC’s case shows that not all these attributes are necessary to achieve good performance. Further decentralization, internal accountability, and market orientation would probably improve performance even more. It also reflects the fact that effective and longstanding leadership can improve performance. However, an organization that is person-dependent may prove vulnerable when changes occur. SAGUAPAC has managed to institutionalize certain practices, thus making the organization less dependent on particular persons.

Good financial management and planning is a critical practice for well-performing utility cooperatives. The dual role of members as owners and as customers facilitates the acceptance on the part of users of the need to adjust tariffs to cover costs because there is recognition that tariffs will be raised only to maintain the service and not to increase profits. The strong accountability in cooperatives leads to sound financial management practices and information systems that focus on cost control and performance parameters. However, access to financing of capital investment for expanding services can be hard to obtain as autonomy from the state increases.

Although the cooperative model inherently includes collective customer participation systems, customer orientation can be further enhanced through improvement of service and information to individual customers. Steps to improve services to individual customers include (a) providing a menu of

levels of service delivery, (b) improving modes of billing and collection, (c) instituting flexible disconnection policies, (d) improving information to individual customers, and (e) establishing a timely and effective complaint process.

The cooperative model gives strong incentives for efficiency because there is strong pressure to keep tariffs low. Efficiency gains can arise from both human resources, technical, and organizational practices. Cooperatives normally have human resources practices that are a mix of traditional public employment (high job security and salaries, and promotions based on longevity) and more incentive-based, private-sector approaches. Well-functioning utility cooperatives achieve low staff turnover through market-based salaries, performance evaluations for staff, and linking promotion and salaries to performance. Cooperatives have a strong focus on developing the technical and managerial capacity within their organizations. Most successful utilities are at the forefront of technical and organizational innovation. Introducing monitoring, standard processes, and business planning are also practices associated with successful utility cooperatives. Lines of accountability and responsibilities are clearly spelled out. Benchmarking information is used—implicitly or explicitly—by management of a utility to assess performance gaps. Outsourcing is normally low in cooperatives, because the incentive to secure employment in house is often stronger than the cost savings of outsourcing. However, because cooperatives are not bound by public procurement procedures, contracting can be done quickly.

### **4.2.3 Conditions**

External conditions are beyond the cooperative's control but play an important role in determining how effective and efficient a cooperative utility is. Some external conditions, such as the availability of water resources, will affect all utilities in a similar way, regardless of their particular structure. Accordingly, when considering cooperative utilities, the focus should be on those external conditions that affect the functioning of cooperatives in particular. Three conditions appear to be particularly important: (a) the size of the population the cooperative serves; (b) the strength of state presence; and (c) the degree to which the population has a culture of civic service.

The size of the population plays an important role in a cooperative's success. In general, smaller cooperatives have performed better than larger ones. The main cause is that the relationship between members and management of the utility is more direct. However, small cooperatives might be at a disadvantage in finding technically qualified members to appoint to their boards. The existing literature suggests that a cooperative's ability to attract capable and committed board members is also influenced by rewards associated with serving and the board member selection procedures.

Cooperatives seem to work better in those places where the state has been unable to provide the services needed, and, as a result, the population has come to realize that it must become organized and take responsibility for providing its own services. In contrast, in places where some sort of paternalism is present, fed by a stronger presence of the state (which may have attempted to provide the service), a community's predisposition to look to itself for a solution might be weak.

Related to this, an essential ingredient for a cooperative to work well is the willingness of its members to serve. If a culture of service is not present, participation may be low, taking away one of the strong points a cooperative arrangement has to offer. In places where attitudes are such that a low degree of participation can be expected, a different structure might be more effective. A strong culture of civic service causes the population to participate actively and take responsibility. If the population does not take an active interest, a cooperative might be readily subject to political interference or capture by a group of people that will impose their personal objectives on it.

## **4.3 How Can the Cooperative Model be Used in Sector Reform Processes?**

Two sequential considerations determine whether the cooperative model is a suitable model to improve WSS sector performance. The first consideration is whether the cooperative structure seems appropriate for the case at hand. The second, if the answer to the first question is positive, concerns the appropriate way of introducing the cooperative structure to increase the likelihood of success.

### 4.3.1 When is the Cooperative Structure Appropriate?

The cooperative model can be introduced in two ways: transformation of an existing public utility or the start up of a greenfield utility cooperative. To establish whether transformation or start up of a utility cooperative is applicable to improve WSS services provision in a city, the situation should be carefully evaluated to determine (a) the prevailing external conditions and (b) the extent and pattern of coverage and the performance of the existing utility.

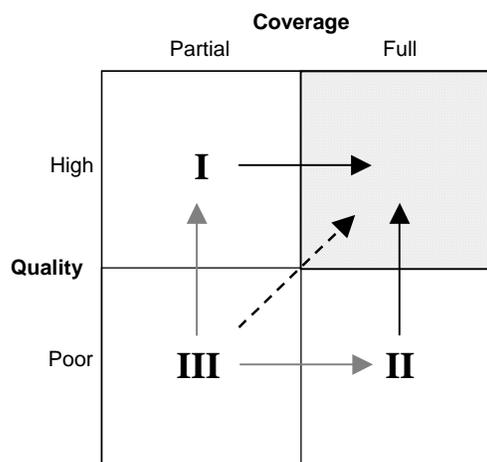
The purpose of the first step is to establish whether the external conditions necessary for a cooperative to fulfill its promise exist. The best indication of good external conditions for cooperatives is the presence of other cooperatives in a country or a city. The presence of other well-functioning utility cooperatives is a predictor that a WSS cooperative will probably perform well. Another indicator for a good enabling environment is the degree to which the population has a culture of civic service. This is normally present in places where the state has not had a strong presence, or has a dismal track record.

The purpose of the second step is to determine whether the cooperative structure can fulfill WSS sector objectives. When considering coverage and performance, three distinct general cases could lead to a desire for change. These cases, illustrated in figure 7, are

- good performance with limited coverage;
- full coverage with poor performance; and
- poor performance with partial coverage.

The transformation of an existing utility into a cooperative is best suited for improving performance and less suited for the purpose of expanding service. Thus, the transformation model is best suited for case II in the figure, in which a utility has full coverage but poor performance. It also has some merit for case III, in which poor performance is coupled with low coverage. The transformation model is least suited for case I, in which the main purpose is to expand coverage. The start up of a greenfield utility cooperative is most suited for cases I and III and not suited for case II, in which the existing utility serves all customers. The decision on the more appropriate alternative will depend on the spatial distribution of coverage (that is, pockets of unserved or areas of unserved) and on the reasons for which coverage has fallen short.

Figure 7 Scenarios of Performance and Coverage



Source: Authors

### 4.3.2 How to Transform a Utility into a Cooperative

Transforming a public utility into a cooperative is similar to directed privatization because the future owners are predefined. A number of issues need to be considered beyond those concerning the transfer of ownership itself.

Probably the most important aspect is that of establishing the appropriate design because it will be a key determinant of the cooperative's performance. Design decisions have to be well thought through and made before the transfer takes place. Once established, it will be hard to change the power structure entrenched in the design of the cooperative. As mentioned, the key issues of design are related to the way members are chosen to both the Administration and the Oversight Boards so as to ensure broad and balanced participation with adequate rotation and to discourage political interference. Moreover, the design should provide the necessary checks and balances in the form of effective mechanisms that guarantee members will be properly represented. Finally, it should provide clear definitions of roles and responsibilities. The design can make or break the adoption of certain practices within the future cooperative, such as rules and mechanisms for personnel selection and promotion that contribute to a stable, performance-oriented work environment.

The history of the utility also needs to be considered. A utility that has been associated with below-cost tariffs for a long period may have conditioned the population to expect that service will be subsidized. If that is the case, the willingness of the population to get involved and to take on the challenge to change expectations while aligning them with the reality of service provision will be needed. Similarly, the transformation of overstaffed utilities can lead to labor conflicts and can harm the credibility of the social objectives of the newly established cooperative.

Choices traditionally encountered in reform processes, that is, choosing between shock and gradualism, are very much a part of a transformation strategy.

#### **4.4 Final Remarks**

The cooperative model presents some attractive attributes that make it a potential alternative for the provision of urban WSS services. However, it is not an appropriate option in all cases. The choice depends on whether the external conditions provide an enabling environment for the cooperative principles to be put effectively into practice. In such an environment, the cooperative model could be introduced either by transformation of an existing utility or by start up of a greenfield utility cooperative. In both cases, the design and practices of the cooperative are critically important.

The cooperative model is not an end in itself and does not guarantee success. The challenge is not so much in trying to determine whether cooperatives are an appropriate alternative for the delivery of urban WSS services, but in the careful consideration of whether and how the cooperative model can be adjusted in its design and practices to suit the particular circumstances of a given city and country. Only after such careful consideration will cooperatives be successful in effectively delivering and expanding sustainable services.

## ANNEX SAGUAPAC: PERFORMANCE INDICATORS

	1999	2000	2001	2002	2003
<b>Effectiveness</b>					
Service coverage (%)					
Water	93	94	95	95	95
Sewerage	39	38	44	51	50
Availability of service (%)					
Water	99.36	99.76	99.86	99.98	99.92
Number of connections					
Water	109,147	114,256	118,009	120,483	123,597
Sewerage	45,405	46,439	54,473	63,810	64,096
<b>Efficiency</b>					
Technical efficiency					
Unaccounted for water - UFW (%)	23	24	23	17	17
Staff per 1,000 connections	3.7	3,6	3.5	3.3	3.1
Metered connections (%)	98	98	97	97	97
Operating cost (US\$/m <sup>3</sup> )	2.6	3.1	3.2	3.3	3.3
Financial efficiency					
Average tariff (US\$/m <sup>3</sup> )					
Water	0.31	0.31	0.31	0.31	0.31
Sewerage	0.29	0.29	0.29	0.29	0.29
Working ratio	0.60	0.68	0.70	0.60	0.55
Collection efficiency (%)	98	97	93	91	95
<b>Customer service</b>					
Complaint index (% solved)	84	96	94	95	95

Source: Saguapac



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