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DOES PRIVATE MANAGEMENT LEAD TO IMPROVEMENT OF WATER
SERVICES? LESSONS LEARNED FROM THE EXPERIENCES OF BOLIVIA AND
PUERTO RICO

by

Susana María Cortina de Cárdenas

An Abstract

Of a thesis submitted in partial fulfillment
of the requirements for the Doctor of
Philosophy degree in Geography
in the Graduate College of
The University of Iowa

May 2011

Thesis Supervisor: Professor David A. Bennett

ABSTRACT

Access to clean water and wastewater services has been gaining importance as a global issue as we have become increasingly aware of the widespread and growing failures to meet this human need, which many argue is a *basic* human right. These failures have significant, adverse human health consequences including thousands of preventable deaths each day.

Water service privatization has been promoted by international donor organizations such as the World Bank and the International Monetary Fund as one way to address current water issues, particularly in developing nations. They have argued that private entities can improve water management because they can: (1) obtain access to capital needed to improve infrastructure; (2) improve system performance; (3) reduce water rates; and (4) be more responsive to consumer needs. As a result, in the 1980s, water privatization partnerships emerged in various parts of the world, including Latin America. Many of these partnerships have since been rescinded. The reasons given for abandoning privatization include: large increases in water rates, changes in economic conditions, deterioration of water quality, and failure to provide services to less-profitable areas. Currently, water privatization remains one of the most controversial issues in water policy circles.

As the main goal of my dissertation, I researched the similarities and differences in the outcomes of water privatization projects in two Latin American countries: Bolivia and Puerto Rico. These two countries have differing histories, demographics, types of governments, economies, and geographies. They both, however, granted concessions to private European water companies to manage all or parts of their water services. While Bolivia had quality, quantity, and access problems before privatization, Puerto Rico

enjoyed universal access to water but suffered from quality issues. Thus, the objectives of these two nations concerning water privatization were different. The varied settings and experiences of the two countries and the different projects within each country provided opportunities to better understand the public - private debate and the issues and complexities associated with water privatization. In particular, given my legal and policy background, my research focused on the political and legal processes through which privatization took place, as well as the outcomes in each country in terms of improving water services. To do this, I travelled to each country and carried out an in-depth study of each successful or failed privatization venture, thereby obtaining greater insight into the intricacies of each water privatization project. This research enabled me to analyze issues related to accessibility, quality, and operational efficiency of the privatization of the provision of water services. The results of this research have potential implications for the future of water policy, including the evaluation of factors affecting the viability of privatization of water operations through concession contracts, as a means to better manage water services in diverse settings.

Abstract Approved: _____
Thesis Supervisor

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Date

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Graduate College
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CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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To my beloved parents and grandparents for their unconditional and never-ending love
and support, and to my son Pablo: the light of my life and a source of constant joy

Del dicho al hecho hay un gran trecho

Anonymous

Somos todos culpables de la ruina del planeta

Eduardo Galeano

¿Y si en vez de planear tanto voláramos un poco más alto?

Mafalda, a través de Quino

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TABLE OF CONTENTS

LIST OF TABLES	viii
LIST OF FIGURES	x
CHAPTER	
I. INTRODUCTION AND RESEARCH GOALS	1
Overview of Research	1
Research Objective.....	3
Scope of Analysis.....	5
Research Methodology.....	5
II. THE IMPORTANCE OF WATER RESOURCES, RESEARCH AND THE RESEARCH PLAN.....	9
Issues concerning the provision of water services	9
Global Water Resources: Availability, Access and Consumption.....	11
Research Plan	13
Case Studies	16
Step 1: Compilation of case materials.....	16
Step 2: Document-based analysis	23
Step 3: Interviews.....	24
Research Risks and limitations	24
Summary:	26
III. THE DEVELOPMENT OF WATER PRIVATIZATION.....	35
Background and History of Water Privatization	35
Introduction: Definitions.....	35
Typical water service practices in selected areas.....	36
Europe	36
The Americas and elsewhere.....	37
The modern era of privatization (from 1970s to the present)	37
The timing and expansion of privatization around the world	38
Privatization in Latin America	39
Water privatization in particular.....	40
Water privatization since 1991	41
Arguments for and against privatization	43
Arguments for privatization	43
Opposition to privatization	44
Neither governmental nor private provision of water services is a panacea for issues related to adequate provision of water services	45
The International Water Companies (the Water Barons).....	45
Veolia	47
GDF Suez	48
RWE	50

IV.	PUERTO RICO'S WATER PRIVATIZATION EFFORTS	66
	Water Privatization in Puerto Rico.....	66
	Brief Introduction	66
	Brief History of Puerto Rico.....	67
	The beginning of privatization	68
	Water in Puerto Rico	70
	Water Management, quality, use and quantity issues.....	70
	Water management	70
	Water quality	72
	Water use and quantity	73
	Privatization Trends in Puerto Rico	76
	Introduction	76
	The road to water privatization	78
	The water privatization contracts	82
	Professional Services Group ("PSG").....	82
	Ondeo	88
	After PSG and Ondeo.....	93
	Views on Privatization in Puerto Rico: then and now	95
	Views on Water Privatization in particular	97
	Concession-type Water Privatization in Puerto Rico: a failure.....	98
	Why were the objectives of Privatization Contracts not met in Puerto Rico	100
	After privatization	107
	Conclusion.....	107
V.	BOLIVIA: WATER PRIVATIZATION IN TWO CITIES	120
	Brief Introduction	120
	History of Bolivia.....	120
	The Early Times: the Aymaras and the Quechuas	120
	1807-1825: The Road to Independence.....	121
	1825-to present: Government in Bolivia after independence from Spain	121
	Bolivia's losing war with its neighbors	122
	After the wars	122
	Present day Bolivia: an indigenous president.....	123
	The Geography of Bolivia.....	123
	Geographic zones	123
	Hydrography of Bolivia.....	123
	Water quality in Bolivia	124
	Population.....	124
	Resources.....	125
	Bolivia's poor	126
	Public and Private Investment	126
	Water access in Bolivia before Privatization	127
	Economic, administrative and legal conditions prior to Privatization	128
	Structural adjustment programs.....	128
	Municipalities and water services prior to Privatization	130
	Legalizing Privatization.....	131
	Phases of Privatization	133
	Water Privatization in La Paz and El Alto ("the highlands")	134
	Characteristics of La Paz and El Alto.....	134
	Water management in La Paz and El Alto before Privatization.....	135
	How did Privatization become a reality in La Paz and El Alto?	136

The Privatization Contract.....	137
What happened after Privatization?	138
The view that it was a success	138
The view that the contract failed	140
The end of the concession	144
Water Privatization in Cochabamba.....	145
Characteristics of Cochabamba	145
Water management before Privatization	146
The Privatization Contract.....	146
After Privatization: Cochabamba's "Water War"	148
Who bears responsibility for the concession's failure?.....	151
Was Aguas del Tunari the responsible party?	151
The World Bank?	154
The local and national government?.....	157
Were the objectives of the Privatization contract met in Bolivia?.....	159
After Privatization	165
Conclusion.....	166
 VI. WATER MANAGEMENT IS COMPLEX, AND CONCESSIONS ARE NOT NECESSARILY THE ANSWER	 187
Summary, conclusions and contributions.....	187
Overview of the study	187
Statement of the problem.....	187
Theoretical framework and research questions	189
Summary of the findings	191
Conclusion and Contributions	198
 BIBLIOGRAPHY	 203

LIST OF TABLES

Table

Table 1-1	Premises underlying my hypotheses	8
Table 2-1	Water Related Diseases.....	28
Table 2-2	Characteristics of privatization in Puerto Rico and Bolivia.....	29
Table 3-1	Types of privatization	62
Table 3-2	Investment in projects by region and year of investment (US millions)	63
Table 3-3	Number of Projects by region and year of financial closure	64
Table 3-4	List of selected countries and the outcome of privatization in 2006 ...	65
Table 4-1	Elected governors of Puerto Rico	117
Table 4-2	Production, consumption, and unaccounted for water for each region	118
Table 4-3	Water use in 2008	118
Table 4-4	PRASA and the road to privatization	119
Table 5-1	Bolivian presidents from 1997 to present	173
Table 5-2	Major Bolivian Basins	173
Table 5-3	Percentage of Poor People in Latin America and in Bolivia in urban and rural areas	174
Table 5-4	Public and Private Investment from 1976 to 1989	175
Table 5-5	Foreign Investment in the Environmental Field in Bolivia, according to economic activity from 2000-2007 (In U.S. dollars)	176
Table 5-6	Residential Access to water in Urban and Rural Areas	177
Table 5-7	Important laws and decrees paving the way for Privatization	178
Table 5-8	Privatization Phases	179
Table 5-9	Private Participation in Infrastructure Database	180
Table 5-10	Total Investment in Projects by Primary Sector	181
Table 5-11	AISA members from 1997 to 2001	182
Table 5-12	High and low consumption rates in the AISA concession.....	183

Table 5-13	AISA's investments in La Paz and El Alto.....	184
Table 5-14	Increase in water bills in Cochabamba	185
Table 5-15	Different versions of the Misicuni Project	186
Table 6-1	Failed Concession and BOT Contracts 2000-2010.....	202

LIST OF FIGURES

Figure

Figure 2-1	World Population Growth 1750 – 2050.....	30
Figure 2-2	Global freshwater use in 2010	31
Figure 2-3	People without access to an improved water source or Sanitation	32
Figure 2-4	Water Supply and Sanitation Coverage in Latin America and the Caribbean, 2000.....	33
Figure 2-5	Water supply and sanitation coverage in urban and rural areas in Latin America and the Caribbean	34
Figure 3-1	Number of implemented projects with private participation in low and middle-income countries	53
Figure 3-2	Investment commitments to infrastructure projects with private participation in Latin America and the Caribbean, by subsector, 1990–2008	54
Figure 3-3	Private investment commitments to infrastructure projects from 1990 to 2008	55
Figure 3-4	New water projects started from 1990 to 2000 and from 2000 to 2008	56
Figure 3-5	Access to Improved drinking-water sources.....	57
Figure 3-6	Access to Improved Sanitation	58
Figure 3-7	Disparity between urban and rural areas with regard to improved drinking water and sanitation services from 1990 to 2008	59
Figure 3-8	Increase in access to water following privatization – percentage increase in population	60
Figure 3-9	Women’s burden with regard to drinking water.....	61
Figure 4-1	The Commonwealth of Puerto Rico	110
Figure 4-2	Puerto Rico and its strategic location in the Caribbean	111
Figure 4-3	Puerto Rico Mean Annual Precipitation 1971-2000.....	112
Figure 4-4	Communities with deficient access to safe drinking water	113
Figure 4-5	Consumptive use of water in the U.S. and Puerto Rico.....	114
Figure 4-6	Water regions in Puerto Rico.....	115
Figure 4-7	Seven Fundamental Phases for Successful Privatization.....	117

Figure 5-1	Plurinational State of Bolivia.....	168
Figure 5-2	Bolivia's boundaries, rivers and political divisions.....	169
Figure 5-3	Lake Titicaca: the Bolivian side	170
Figure 5-4	View of La Paz (valley) and El Alto (the altiplano).....	171
Figure 5-5	Cochabamba	172

CHAPTER I – INTRODUCTION AND RESEARCH GOALS

We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care.

Kofi Annan, United Nations
Secretary-General, 2001

Overview of Research

The goal of my dissertation was to examine the development of water privatization and the implementation of concession-type contracts with private parties in Latin America. I sought to gain a better understanding of the reasons for successes and failures of water privatization projects in Latin America by examining several examples where the concessions were to address prevalent problems in the delivery of water, such as deteriorating infrastructures, as well as water quality, quantity, and access issues. This understanding would, in turn, allow for an assessment of whether water privatization indeed leads to improvement in the management, and hence delivery, of water services, as many purport that it does (NRC 2004). I chose privatization projects in each of two countries for case studies. In the case of Bolivia the improvement would lead to better access to water, while in the case of Puerto Rico, improved water quality was the goal. Two projects were selected from each country for analysis.

I chose Puerto Rico and Bolivia because they represent two ends of the spectrum regarding several components or characteristics of privatization. At the time that I began researching the issue of privatization, some of the characteristics that distinguished each nation from the other included that:

- 1) Both nations had entered into at least two different water privatization contracts, each with a different water company;
- 2) Although Puerto Rico had ended both privatization contracts at the time I began my research on the subject of water privatization, Bolivia had only ended one, while the other water privatization project was in place and considered very successful by many.

In addition, the objectives and characteristics of the contracts in both nations were very different. While the Puerto Rico contracts addressed issues concerning management and lack of expertise in addressing problems concerning universal access to water services, the Bolivian contracts mostly addressed providing access to the poorest and most marginalized sectors of society, in a nation where many did not (and do not still) have access to water services,

Puerto Rico entered into the water privatization contracts of its own accord, and at the behest of its own political leaders, whereas Bolivia entered into the contracts in response to pressure from the World Bank, who indicated that before it would grant the nation any further monies to address its increasing water access issues, Bolivia had to privatize its existing water services in several cities.

In Puerto Rico, there was virtually no opposition to water privatization from the general public, or for that matter, from any source. In contrast, there was widespread opposition in the privatization contract entered into in the Bolivian city of Cochabamba whereas there was virtually no opposition for some years to the privatization project that took place in La Paz/El Alto, Bolivia.

For this research, I have concentrated on a legal perspective, particularly but not exclusively looking at whether or not the privatization of the provision of water services, in

the form of concession-type contracts, is a feasible and adequate way to improve water services, particularly for Latin American nations. For example, are there some privatization arrangements that are more likely to be successful than others, as in the cases of Cochabamba versus El Alto/La Paz? Is it feasible, advisable or prudent for a government to relinquish all control over water services to a foreign and private company on the basis of the company's vast expertise in the field of water management, and the nation's own inadequacies in managing water?

Research Objective

In this research I investigate the assumption, commonly promoted by such international organizations as the World Bank and others, that privatization of water services leads to improvement of water services (Bayliss and Fine 1998, ILO 1999). The following premises about private companies are the “conventional wisdom” on which this assumption is based. Testing of their validity constitutes my research questions:

1. That a private company will be more efficient than a governmental entity in managing water services; ¹
2. That a private company will have access to monies and resources that a public entity may not have, which in turn will lead to investments that will improve water services;
3. That a private company will not be affected or influenced by local political considerations;

¹ These research questions are repeated in Table 1-1 for ease of access for the reader.

4. That a private company has developed expertise that will allow it to better manage and successfully improve water services, even if unfamiliar with local characteristics and practices;

5. That a private company will be able to generate greater profits, while improving the delivery of water services;

6. That a private company will be able to adequately regulate itself and, as a result, there is no need for a strong governmental regulatory presence;

7. That governmental entities will be able to adequately supervise private water companies and resume management of the services if need be;

8. That a government will be able to negotiate and enter into concession-type contracts with private parties for the delivery of water services at “arms length”, that is, on an equal footing.² (Shiva 2002, Kessler 2004, NRC 2004, UTCPM 2004).

The degree to which these statements hold true is assumed to be a predictor of the success of privatization projects. Conversely, project failure can be explained by a failure to meet one or more of these conditions. The following sections describe how the research was carried out, including relevant problems encountered and any identified limitations.

Success is defined as whether:

1. more people were served after privatization than before;
2. there was better water quality after privatization than before;
3. the cost of water was lower after privatization than before;
4. the delivery of water services improved after privatization.

² These questions have been synthesized from the author’s extensive research on water privatization.

In the case of Puerto Rico, where the key objective with both privatization contracts was to improve water quality, if such improvement did not come to pass, the privatization project could be considered a failure. In the case of Bolivia, where the objective in both instances of water privatization was to increase people's access to water, the success of the project would be contingent on whether more people gained access to water or not.³

Scope of Analysis

This analysis started at the global scale, by including the financial and other roles of the World Bank and other international financial institutions, as well as those of private water companies, and then worked down to more local scales by examining other important entities and parties, such as the role of national and city governments, trade unions, political parties, and state and local water organizations. It was hoped that such an in-depth understanding of the privatization process in specific but differing contexts would enable me to evaluate and compare the performance (i.e., success, failure, or shades in-between) of privatization in the two countries selected for detailed field research (i.e., Bolivia and Puerto Rico, see below). This, in turn, should shed light on the viability of water privatization efforts elsewhere, particularly in Latin American or developing-world contexts (Orwin 1998).

Research methodology

The research methodology used here, which is described more fully in Chapter 2, is that of comparative case studies. This methodology is deemed to be appropriate,

³ In the case of El Alto and La Paz, for example, the fact that there was an increase in the number of people who received water connections in the city of El Alto, reflects at least some measure of success at a particular point in time. This measure, however, has to be considered with regard to all the agreed-upon objectives of the contract. As will be shown in chapter 5, there is conflict in terms of whether or not the expansion on the number of connections complied with what was required under the terms of the concession contract.

considering the social and political nature of the projects being examined and the research questions being asked. For this approach to be successful, it is essential to compile a comprehensive description of each case (e.g., see research questions, above), and to employ, as much as possible, triangulation of source material to reinforce and validate facts, events, and perceptions of the participants and stakeholders. For this reason, it was deemed essential to spend time “in country” for each project, conducting interviews and gathering documentary material that was not otherwise readily available. In several cases these on-location experiences led to insights that might otherwise have been overlooked.

Besides assembling the documentation and interviews related to each case study, one of the key contributions of this research has been to identify common elements as well as differences among the case studies, and to draw conclusions, at least as far as these cases are concerned. It is the author’s belief that many of the insights gained have wider applicability, or at the very least should inform other studies or, indeed, contemplated privatization projects.

One issue that needs addressing at the start is how the case study examples were chosen. It was clear that limits would have to be placed on the research project’s geographic scope if it was to be accomplished in a timely fashion and with available resources. Based on the author’s fluency in Spanish and experience practicing Latin American law, the focus was narrowed to legal issues in Spanish-speaking Latin America. A survey of the literature highlighted several large water privatization projects in various countries. Puerto Rico was chosen because it had two good candidate projects, it is the author’s native land (i.e., I am familiar with its culture, politics, economy, and laws), it has universal access to water, and privatization was freely chosen and pursued by the government without any outside influence. Bolivia was chosen because it had recently

experienced high-profile, controversial, water privatization projects, one of which had failed immediately, and one which was considered quite successful for a number of years; many of its residents do not have access to water; and privatization was imposed by the World Bank, not pursued by its government on its own accord. The characteristic of water privatization projects in both nations provided a good way to conduct a comparison as they could be considered representative of the breadth of projects in existence at the time.

The remainder of this document is organized as follows:

Chapter 2 – Providing Water Services and the Research Plan

Chapter 3 – Background and History of Water Privatization

Chapter 4 – Water Privatization in Puerto Rico

Chapter 5 – Plurinational State of Bolivia: Water Privatization in two cities

Chapter 6 – Summary, Conclusion and Contributions

Table 1 – 1 Premises underlying my hypothesis

1. That a private company will be more efficient than a governmental entity in managing water services
2. That a private company will have access to monies and resources that a public entity may not have, which in turn will lead to investments that will improve water services
3. That a private company will not be affected or influenced by local political considerations
4. That a private company has developed expertise that will allow it to better manage and successfully improve water services, even if unfamiliar with local characteristics and practices
5. That a private company will be able to generate greater profits, while improving the delivery of water services
6. That a private company will be able to adequately regulate itself and, as a result, there is no need for a strong governmental regulatory presence
7. That governmental entities will be able to adequately supervise private water companies and resume management of the services if need be
8. That a government will be able to negotiate and enter into concession-type contracts with private parties for the delivery of water services at “arms length”, that is, on an equal footing

CHAPTER II –THE IMPORTANCE OF WATER RESOURCES, RESEARCH AND THE RESEARCH PLAN

Issues concerning the provision of water services

Water is essential to life (De Villiers 2001). As water resources continue to dwindle and deteriorate in terms of quality and quantity, the world is confronting “a crisis of enormous proportions” (Bartram et al. 2005). About 20% of the world’s population of over six billion does not have access to safe drinking water, while 50% do not have access to sanitary facilities (UNEP Vital Water Graphics 2009). Attending to these needs has become a challenge, particularly when global water use increased from 1360 km³ in 1950 to 4130 km³ in 1990, and is expected to further increase in the future (Kumar and Häder 1999, Wackernegel et al. 1996). As the UN has indicated:

By 2025, it is believed that about three billion people will suffer from water shortages. It is estimated that two out of every three people will live in water-stressed areas by the year 2025. In Africa alone, it is estimated that 25 countries will be experiencing water stress (below 1,700 m³ per capita per year) by 2025. Today, 450 million people in 29 countries suffer from water shortages. (UNEP Vital Water Graphics 2010)

Water resource professionals have become cognizant of the fact that there is no single approach that can adequately address all issues related to water quantity, quality, access, distribution, and equity issues. These issues are interrelated and any technological tools, economic methods, and legal and governance procedures must take into account such interrelationships in the process of implementing solutions to these problems (NRC 1999). Finding ways to provide access to clean water and sanitation services for an ever-increasing world population has become a major objective of many nations. It has also become a goal for organizations involved with issues of health, such as the World Health

Organization (WHO), the United Nations (UN), and the Pan American Health Organization (PAHO).

In recent years, privatizing drinking water supplies to varying degrees has received much attention as a way to address the interrelated issues associated with health and clean water, including governance, legal, economic, and scientific issues. Although privatizing is a complex process, and involves economic, legal, and social implications at various scales, it is sometimes championed as a tool to effectively manage water. Major international organizations such as the World Bank and the International Monetary Fund (IMF) have strongly promoted privatizing, especially in developing nations (Bayliss and Fine 1998, ILO 1999). Although not necessarily agreeing with its claimed benefits, the National Research Council has recognized that privatization is an important option to consider in the development of water policy (NRC 2001). Others have considered private enterprise involvement a contributor to the problem (Shiva 2002, Barlow 2002). Even within nations, the view on whether water services should be under private or public control has varied widely, as has debate concerning the extent and type of privatization arrangements. This has been particularly the case in the last few decades.

In many parts of the world contaminated water is a major cause of disease (see Table 2-1). As a result, about 6,000 children die every day from unsafe drinking water, inadequate sanitation and poor hygiene (Water Supply and Sanitation Collaborative Council 2003). Inadequate sanitation and poor hygiene are linked to not having access to sufficient amounts of clean water (Gleick et al. 2002).

In response to this concern, the UN proclaimed the 1980s to be the decade for “providing safe drinking water for all” and the period from 2005 to 2015 as the International Decade for Action (Id.). In fact, for more than thirty years, the UN has been

proclaiming the universal right to water, to sufficient clean drinking water, and to sanitation services (Bär 2005).

Global Water Resources: Availability, Access, and

Consumption

Human actions bring about water scarcity in three ways: through population growth, misuse and inequitable access

T.F. Homer-Dixon, J.H. Boutwell and G.W. Rathjens

A large proportion of people in the developing world lack even rudimentary access to water supplies and sanitation services. To address such issues under its Millennium Development Goals, the UN has proclaimed the need to “halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation” (UN Millennium Project 2006).

The population size and wealth of a nation are two important factors that govern the rate of water consumption, its distribution among users, and the prevalence of unhealthy conditions leading to disease. In terms of population size, Figure 2-1 shows the disproportionate increase in water usage in developing countries compared to developed countries over the last 50 years. Such disparities are projected to continue and further widen over the next 50 years. Research has also shown that “[w]ater use increased six-fold during the 20th Century, more than twice the rate of population growth (Statistisches Bundesamt 2000, UN 2003). The Agriculture and Industrial sectors have always been major users of water and continue to be so at the present time. In 2010, as shown in Figure 2-2, 92% of available global freshwater use was for irrigation and industry, leaving only the remaining 8% for domestic use (UN water statistics 2010). Consequently, there is an increasingly inadequate supply of water available for domestic use.

Figure 2-3 from the 2000 Report of WHO/UNICEF clearly shows the disparity in the availability of clean water and sanitation services amongst the nations of the world. In general, Africa and Asia are in need of better services, developed nations are endowed with more than adequate services, and Latin America and the Middle East fall somewhere in-between. As the late Dr. Lee Jong-Wook of the WHO stated in 2004, access to clean water and sanitation services is essential to win the war against disease:

Water and Sanitation is one of the primary drivers of public health. I often refer to it as ‘Health 101’, which means that once we can secure access to clean water and to adequate sanitation facilities for all people, irrespective of the difference in their living conditions, a huge battle against all kinds of diseases will be won. (Jong-Wook 2006).

There are, as would be expected, disparities in services between nations. Around the world, poor women spend many hours a day in search of water and domestic fuel. This curtails their productive potential, including their ability to care for their families, as well as their capacity to attend to their healthcare needs. The poor quality of the available water also frequently puts their families’ health at risk (Bartram et al. 2005).

There are also disparities within nations, in terms of sanitation and water supply access. These disparities are particularly evident in Latin America and the Caribbean (Figure 2-4). Figure 2-5 also reveals that access is different between rural and urban populations in Latin America.

The notion that water is essential for life and the concept that “access to water” should be considered a human right has been put forth by scientists since the 19th century. Ellen Swallow Richards, considered by many to be the first female water scientist, argued a century ago that water should be a basic human right (Breton 1998). In fact, for almost 30 years, the UN has been proclaiming the universal right to safe drinking water (Bär

2005). Others are also now calling for an international water convention under the sponsorship of the UN to secure binding rights to water, to protect water as a public good, and to press governments into taking appropriate actions (Id., Gleick et al. 2002).

Research plan

Privatizing water services has been proclaimed by some as an effective way to address issues related to adequate water management, in light of increasing concern about the shortage of water around the world. Conversely, some believe that privatization will only exacerbate the problem, magnifying the disparities between the rich and the poor, and between urban and rural populations, in terms of access to adequate water services. Given these divergent views, and the magnitude and importance of the water supply problem, it is important to empirically analyze the impact of water privatization projects.

To conduct such an analysis I:

1. Reviewed and assessed the terms of the privatization contracts entered into in Cochabamba and La Paz/El Alto in Bolivia, as well as in Puerto Rico, , including all of associated modifications and amendments.-Most of the four contracts comprised more than six hundred pages, and had to be read and then reexamined when reviewing the amendments and modifications, as well as auditing reports of the same;
2. Reviewed and assessed the Transition Agreement, Settlement Agreement and Comprehensive Settlement Agreements entered into after termination of

the privatization projects in Puerto Rico. The Resolution and Settlement Agreement alone consisted of more than twelve hundred pages;⁴

3. Reviewed and assessed the terms of the privatization contracts entered into in Puerto Rico after privatization ended, which contemplated a different system or water management and other forms of privatization;
4. Researched and reviewed the laws and regulations that led to the privatizing of water services. In the case of Puerto Rico, this included reviewing state legislation, while in the case of Bolivia it included state-wide as well as regional laws and regulations. This endeavor also included reviewing the laws and regulations approved after privatization ended, which in the case of Bolivia resulted in the constitutional prohibition of water privatization, and in the case of Puerto Rico, a much more limited form of privatization;
5. In the case of Puerto Rico, I reviewed federal and state cases regarding the approval of water privatization laws, as well as numerous civil and criminal complaints filed against Puerto Rico Aqueduct and Sewer Authority (“PRASA” and/or the private operators in federal as well as state courts, consent decrees, administrative orders, all relating to water management and water quality before, during, and after privatization. In the case of Bolivia I reviewed Supreme Court and constitutional cases concerning water privatization;

⁴ Unfortunately, I was unable to obtain access to termination or rescission agreements in Bolivia.

6. In both nations, I reviewed and assessed numerous accounting, statistical and governmental reports concerning water issues before and after privatization, the privatization projects themselves and governance in general during and after privatization. In the case of Puerto Rico I reviewed numerous accounting reports from the Office of the Comptroller (extremely thorough and helpful), reports from local and federal agencies regarding water quality, and reports from financial agencies that played a role in the privatization process and afterwards. In the case of Bolivia, I reviewed both SEMAPA (“Servicio Municipal de Distribución de Agua”, the water agency in Cochabamba) and SAMAPA’s ⁵ (“Servicio Autónomo Municipal de Agua Potable y Alcantarillado”, water agency in La Paz and El Alto) own reports of water management before, during, and after privatization, statistical reports prepared by various state agencies, and accounting and water quality reports that were available at the time I conducted the research, including some by independent accounting firms hired by the Bolivian government after both privatization ventures ended;
7. I met with a number of officials who played a key role in the privatization process or in its opposition, as well as with a number of individuals in each country doing research on the topic. In Puerto Rico, this included the Comptroller of Puerto Rico (Manuel Díaz Saldaña), as well as the ex-Secretary of the Treasury Department and the head of PRASA’s Board of

⁵ As shall be explained in more detail later, these are the two agencies that managed water services in Cochabamba, as well as La Paz and El Alto.

Directors during the second privatization project (Juan Agosto Alicea), academics, and other researchers. In Bolivia it included Bolivian and foreign researchers, such as Jim Shultz from the Democracy Center in Cochabamba and Julián Pérez, an active participant and researcher in both Bolivian ventures;

8. Finally, I reviewed the constitutional framework modified in each country to allow water privatization, and examined the legality of the constitutional modifications, as well as of the ensuing processes where bidding and negotiations took place with many alleged irregularities.

Case studies

Step 1: Compilation of case materials

Very similar compilations were developed for each privatization venture in each of the two countries. These include the following: (1) a chronology of strategic events related to privatization, as well as changes in regulations, laws, and when appropriate, constitutions; (2) an analysis and compilation of documentation prepared by supporters and detractors of privatization, including academics, planners, industry and labor representatives, and managers; (3) an analysis and compilation of newspaper articles, internal documentation prepared by water companies, regulatory agencies, government agencies, and newspapers and local reports concerning privatization; (4) an analysis and compilation of legal documentation, such as briefs filed, memoranda concerning actions taken, legal summaries of actions taken, privatization contracts and amendments, etc.; and, (5) interviews with key players in the privatization process, including academics, representatives from different organizations, managers, etc.

This approach follows the suggestions proposed by Robert K. Yin (Yin 2003). Yin recognizes that the case study method, along with other qualitative research methodologies, can be criticized, among other things, on the basis of a lack of “scientific” rigor and of selectivity or bias in the gathering or reporting of information. He recommends the triangulation of a broad-scope of source material and the deliberate search for contrasting cases as two potential defenses against these criticisms. By reviewing a wide variety of sources, I have attempted to follow Yin’s first suggestion. By deliberately choosing water privatization projects (cases) that have widely differing circumstances, I have attempted to follow his second suggestion. Also, there is no intent by the author to demonstrate the failure of water service privatizations *per se*, since they have been successful in other global settings. The fact that the projects that I researched all eventually failed was due to a variety of reasons, and it is these reasons that I have sought to uncover.

Yin lists five essential components of research design (Id.). These are: the study’s question; propositions; units of analysis; logic used to link the data to the propositions; and the criteria used in the interpretation of the study’s findings. I address each of these components in my case study as follows:

The study’s question

My research question is simple and straightforward: whether water privatization leads to the improvement of water services. I rely on a number of premises to address this question. Each of these premises directs the research towards what I concluded should be the main focus of my research. See Table 1-1, which lists the premises.

The premises

I consider seven premises identified in the literature and often used to support the privatization of waters services to analysis the four privatization case studies. These

premises suggest privatization should result in improved services because of: greater efficiency, access to more money, absence of local political influence, expertise, ability to generate greater profits, self-regulation, adequate governmental supervision, ability of both parties to enter into a fair contract.

The units of analysis

As in much of the research and literature on water privatization, I rely on case studies of water privatization projects. I examine four water privatization projects, in two very different nations, that began and ended for very different reasons. Both quantitative (e.g., number of households served, cost of service, and number of water quality violations) and qualitative evidence (e.g, interviews, news paper report, legal statements) are used to evaluate these cases.

Logic linking data to the premises

Questioning and analyzing the seven premises used throughout my research revealed whether or not these premises held true. For instance, the premise that a private company will be able to regulate itself and, as a result, there will not be a need for a strong governmental regulatory presence, was shown to be false.

Criteria for interpreting the study's findings

The data obtained revealed what Yin suggests one should be able to accomplish in a case study: that the data did not match the premises relied upon when promoting water privatization. This is what Yin refers to when he points to examples of good case studies where data matched better one proposition than another (Id.).

In addition, I address Yin's concerns regarding external and internal validity as well as reliability. Regarding internal validity, evidence will be presented that suggests that the failure of privatization in the cases studied can be logically traced back to the fact that one

or more of the seven underlying premises on which water privatization rests (Table 1-1) did not hold true. The author acknowledges, however, that other factors not studied as part of this research could also have contributed to the failure of privatization in these case studies. Concerning external reliability, the concluding chapter illustrates why the research findings are generalizable. The findings are the result of an analysis of the premises in four different cases, all with the same results. Finally, in terms of reliability, this research analyzed a finite number of premises which were repeatedly tested for each of the four privatization projects. Such an analysis could be repeated at any point in time in future research, and it would likely lead to the same results. This is what Yin suggests should be the objective when considering whether one's research is indeed reliable (Id.).

When reviewing comparative case study research methods in particular, Yin also refers to the need for the consistent use of common sources of evidence, as well as the cross-checking of facts and opinions through multiple independent sources whenever possible (i.e. source triangulation). These sources primarily include: documentation, interviews, and researcher observations (Id.). My research approach is characterized by an extensive use of multiple sources and, as such, follows Yin's suggestions. Whenever possible, I examined the following for each of the four cases:

- Constitutions and constitutional amendments concerning the legalization of water privatization;
- Water laws legalizing and/or outlawing or modifying privatization;
- Regulations in place before and after privatization;
- Case law concerning constitutionality of privatization;
- Case law concerning approval of laws for privatization;

- Case law concerning water quality, quantity issues, including briefs and complaints filed; memoranda of law concerning the complaints and answers to the complaints; and any settlement agreements;
- Case law concerning modification and/or revocation of privatization contracts;
- Literature review of privatization and particularly of different and usually conflicting views and analysis of each privatization project and its performance;
- Internal documentation prepared by water companies, regulatory agencies (such as the Office of the Comptroller), and private as well as public auditing companies;
- Interviews with researchers, academics, regulators, and whenever possible, people who played a key role in the privatization process, either in favor or against privatization;
- Newspaper articles and local publications concerning the effects of privatization;
- Privatization contracts, amendments and modifications, and termination agreements;
- Publications by the private parties that managed water in all four concession projects.

Ease of access to the above-referenced documentation varied. While gaining access to constitutions and key laws and regulations was relatively easy in both nations, it was much more difficult in Bolivia to trace and review the history of less important but also relevant water laws and regulations. As for case law in general, with the exception of constitutional cases, locating and reviewing these in Bolivia was a monumental task, as cases are not organized in a manner that makes them accessible to the public, nor readily available

Information obtained from regulatory agencies and the water companies themselves was easier with regard to Bolivia than Puerto Rico, in some instances, and from Bolivia in others. As to key players in privatization, it was relatively easy to interview them in Puerto Rico. This was not the case in Bolivia, where some of the key players had either obtained positions in the new government and were virtually inaccessible, had left the country, or were unwilling to meet with researchers. Documentation was also readily available regarding state intervention and regulation of the privatization process, both before and after privatization.

Other key factors that allowed me to complete the research included the fact that I grew up and lived most of my adult life in Puerto Rico. I also attended law school and practiced law there, which greatly facilitated access to both people and documentation (legal and otherwise). Being fully bilingual in Spanish and English was also very helpful, as I was able to adequately review and analyze pleadings and documents in Puerto Rico both in local courts and agencies, as well as federal Courts and federal administrative agencies. In addition, the ability to speak Spanish in Bolivia was essential to this research effort. Although many Bolivians are at least bilingual, the languages they speak are an Indian language (or more than one) and Spanish. English is neither widely spoken nor understood there.

From an academic point of view, research in Bolivia was entirely different from what it had been in Puerto Rico. Academics have written much more about what took place in Bolivia, where a major uprising against privatization in the cities of Cochabamba and later La Paz/El Alto, gained world-wide attention. This research information included how privatization was approved, what laws were modified, and what was the end result. The uprisings in Cochabamba, Bolivia, prompted many opponents of privatization, as well

as researchers, to investigate Bolivia's two water-privatization projects (Olivera and Lewis 2004). For many in the struggle against water privatization, Bolivia's uprisings clearly represented a political and human rights success story and an example of the detrimental effects of water privatization. Thus, Bolivia's privatization projects have been the subject of much more analysis by academics, labor leaders, those opposed to privatization and other groups, than was the case with Puerto Rico's privatization projects.⁶ This abundance of research provided access to better and more diverse analyses of the two privatization projects in Bolivia by academics from many disciplines, researchers from international organizations such as the World Bank, and conclusions by local participants.

This was not the case in Puerto Rico, a place where water privatization never became a major issue for its residents or for academics and researchers elsewhere. There were no demonstration or protest of any magnitude from the general public concerning this issue, nor did academics and opponents of water privatization flock to Puerto Rico when water privatization projects failed. Hence, there is much less academic literature about Puerto Rico's two water privatization projects, and the limited amount that has been written has usually referred to Puerto Rico as part of a general analysis of places around the world where water privatization has failed (Hall and Lobina 2002). Besides the fact that there was never an uprising nor any major political opposition to privatization by any sector of society in Puerto Rico, the failures were never of a nature that attracted enough interest, particularly from the academic world. The one area where there was more and

⁶ At the time of the Cochabamba uprising, the La Paz/El Alto privatization project was a successful one, as by all accounts and purposes, the contract had provided connections to water services for the poorest residents of the El Alto area, one of the main goals of the contract. Only later were these uprisings also to take place in La Paz and El Alto, eventually leading to the rescission of the contract. The uprisings, however, never rose to the level as those that took place in Cochabamba.

better evidence in Puerto Rico than in Bolivia was water quality data and the history of water pollution. Such information was very difficult to obtain in Bolivia. Until recently, very little data had been gathered in the nation as a whole concerning water quality and availability.

Step 2: Document-based analysis

The document-based analyses conducted as part of this research was conducted to gain an understanding of the goals and results of the various strategies followed to improve access to water through privatization, and the results of the same. For instance, I reviewed complaints filed before, during and after privatization in Puerto Rico to determine whether in fact, water quality had improved during the privatization process. It did not. In Bolivia, I was also able to review locally-generated documentation (pamphlets, academic articles published in each city, newspaper articles, and case law) which also allowed me to examine diverse sources of information and attain a more complete picture of the different components of the effect of the water privatization projects.

From a legal perspective, I also examined the legality of the process followed to implement privatization. For example, I reviewed the changes in the law that paved the way for privatization to determine if the process had adhered to basic constitutional principles of law. In both nations, privatization had been hastily approved, without adequate measures set up to assure its legality and accountability.

Water services had traditionally been run by the government. Reviewing documentation such as I indicated above, as well as the approval process and negotiations of the terms of the contracts, the passage of laws and regulations, endorsements, and other similar documentation, as well as government actions, provided an opportunity to gain an understanding of the characteristics of the privatization projects in each country. The

strategies chosen for Bolivia and Puerto Rico were analyzed with regard to each of the privatization projects' particular objectives and characteristics, that is, improvement of water quality in Puerto Rico, and better access in Bolivia. This provided the background for an analysis of four different privatization schemes that, in turn, can be used to formulate opinions on the possible success or failure of water privatization projects elsewhere.

Step 3: Interviews

I selected the people to be interviewed based on their familiarity with the subject, their role in water privatization in each nation, their written work, and their availability. The interviews were of particular use as they revealed intricacies of privatization schemes that are not readily apparent in the literature or elsewhere. The interviews also led to the identification of contrasting points of view and, as a researcher, allowed me to gain a better understanding of the issues and analyze data from a more informed perspective. In addition, the interviews led to the identification of further valuable sources of information. These new sources allowed cross-checking of some of the information already provided or obtained, prompted new areas of research, and led to more encompassing and thorough understanding of the issues related to privatization.

Research risks and limitations

As with any research, this research encountered unavoidable limitations and risks. Nonetheless, although these limitations are recognized, steps were taken to minimize these limitations as much as possible.

The first limitation is the choice of only two nations, each with two privatization projects. Thus, the analysis and four case studies in this research can arguably be considered only specific to the two nations studied, during the time periods in which these

specific privatization projects took place. The ability to extrapolate from this research and generalize may be considered limited (Yin 2003). Nonetheless, these limitations have been mitigated in several ways.

First, the literature review has been broad and covered privatization experiences in nations around the world and not just Bolivia and Puerto Rico, or even just Latin America. Thus, the example of Bolivia is presented as a typical case study of what has already been learned from privatization projects elsewhere; the example of Puerto Rico, however, is atypical in many ways. First, it was not imposed by outside entities as was done elsewhere around the world. Secondly, the choice of a much more economically developed nation, often considered a colony of the United States (Puerto Rico), versus one of the poorest, but completely independent, nations in the Americas (Bolivia), allows us to examine privatization from the perspective of two economically and governmentally contrasting nations. Choosing two case studies with such great differences allows for a better understanding of the complexity and varied factors in privatization, since each nation's path to privatization has been unique and yielded strikingly different results. Third, when I first began researching this topic, water privatization in La Paz/El Alto, Bolivia, was considered quite successful, although eventually that contract was also brought to an end, as had all other water privatization contracts in both nations.

Finally, my legal background as a practicing attorney, and one whose mother tongue is Spanish, also allowed for a unique and more thorough insight into the legal, regulatory framework of privatization of these two Spanish-speaking nations, than

someone without the legal knowledge and familiarity with Latin American cultures.⁷ This also led to a clearer understanding of the interactions between regulators, lawyers, societies and the water sector in general.

There are also inherent limitations to the use of case studies. As Yin states in his introduction to the use of case study methodology, “[u]sing case studies for *research* purposes remains one of the most challenging of all social endeavors” (Yin 2003, emphasis in the original). Nonetheless, it is still considered a very useful approach when performing research that is searching for answers to the “how” and “why” of a particular issue (*Id.*). Issues such as bias, application to situations other than those encompassed by the case study, and thoroughness, are often possible limitations to case study approaches (*Id.*)

To address those concerns, different mechanisms were incorporated into the research design. These included the use of multiple sources of evidence, as well as addressing all sides and explanations of issues involved in privatization; comparing and contrasting explanations suggested in the privatization arena; and structuring the investigations to assure the ability to cover as many of the significant aspects of the objectives of the research as possible. Such an approach can allow for thorough and incisive opportunities to engage in comparisons between the experiences covered in the case studies, and others around the world.

Summary

The purpose of this research project was to examine how the privatization of water services in two nations, within two different legal, regulatory, and economic frameworks,

⁷ The author recognizes that other Indian languages are spoken in Bolivia. Luckily, many Indigenous people there speak Spanish, in addition to one or more indigenous languages.

improved the quality of water or people's access to an adequate supply of clean water. At the local level, the research analyzes the background and characteristics of two different water privatization projects in each country, with two different private water companies involved. At an international level, the research examines linkages between each project and the privatization trend and the reorganization of the water sector around the world, as influenced by the World Bank, the IMF, and important political leaders.

In addition, the two case studies chosen to gain an understanding of the characteristics of privatization were very different in many ways, as shown below. Their geography, political and economic history, population size and distribution, and availability of natural resources –including water, and many other characteristics, provided excellent scenarios to perform an in depth analysis of privatization.

Table 2-1 Water Related Diseases

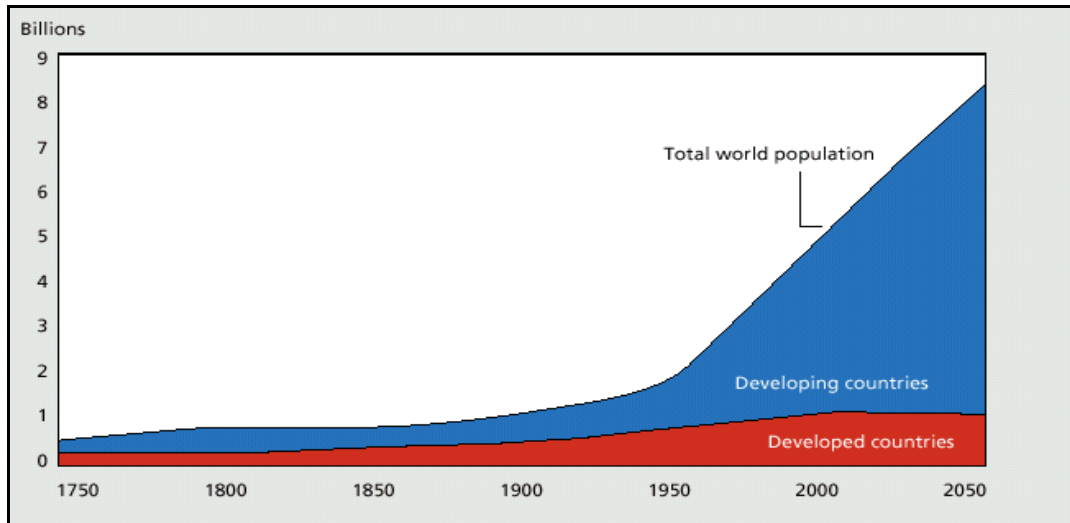
Waterborne diseases: caused by the ingestion of water contaminated by human or animal feces or urine containing pathogenic bacteria or viruses; include cholera, typhoid, amoebic and bacillary dysentery and other diarrheal diseases
Water-washed diseases: caused by poor personal hygiene and skin or eye contact with contaminated water, include scabies, trachoma and flea, lice and tick-borne diseases
Water-based diseases: caused by parasites found in intermediate organisms living in contaminated water; include Dracunculiasis, schistosomiasis, and other helminths [intestinal worms]
Water-related diseases: caused by insect vectors, especially mosquitoes, that breed in water; include dengue, filariasis, malaria, onchocerciasis, trypanosomiasis and yellow fever

Source: Gleick, Peter, Gary Wolff, Elizabeth L. Chalecki, and Rachel Reyes. The New Economy of Water The Risks and benefits of Globalization and Privatization of Fresh Water. Oakland: Pacific Institute, 2002.

Table 2-2 Characteristics of privatization in Puerto Rico and Bolivia

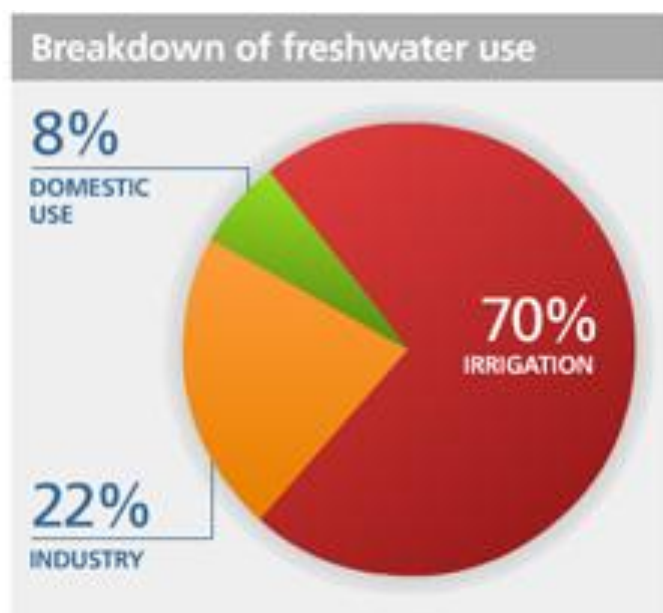
Puerto Rico	Bolivia
Two privatization projects	Two privatization projects
Goal was to improve water quality and infrastructure	Goal was to increase access to water, particularly for the poorer sectors of society
Both privatization projects considered failures soon after execution of the contracts	One privatization contract was an immediate failure; the other was successful for a number of years, and deemed a failure by some at the end (although some disagree)
Has universal access to water	Does not have universal access to water either in urban or rural areas, and the poorer sectors of society routinely have little access to water services
Pursued by the government of its own accord	Imposed as a requirement for a loan to be granted by the World Bank

Figure 2-1 World Population Growth 1750 – 2050



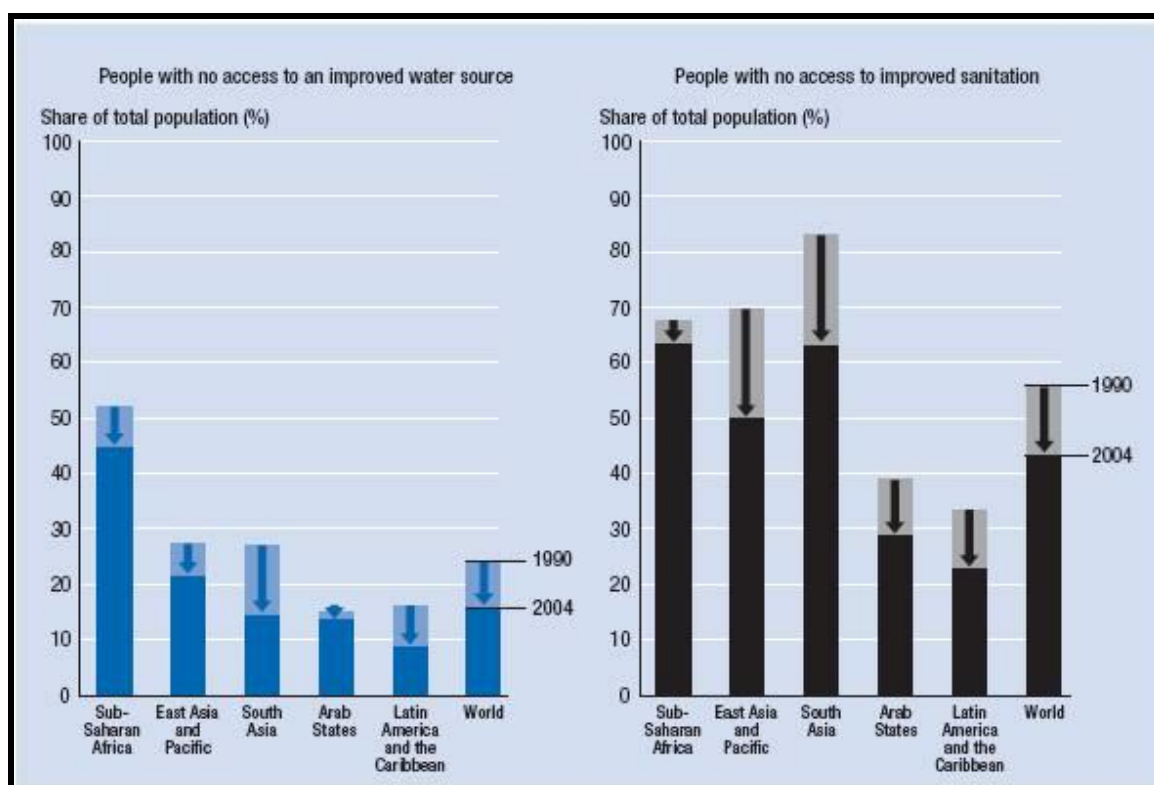
Source: World Bank Group. 2000. "World Population Growth." Chap.III in Beyond Economic Growth Meeting the Challenges of Global Development. Available at: www.worldbank.org/depweb/beyond/global/ chapter3.html

Figure 2-2 Global freshwater use in 2010



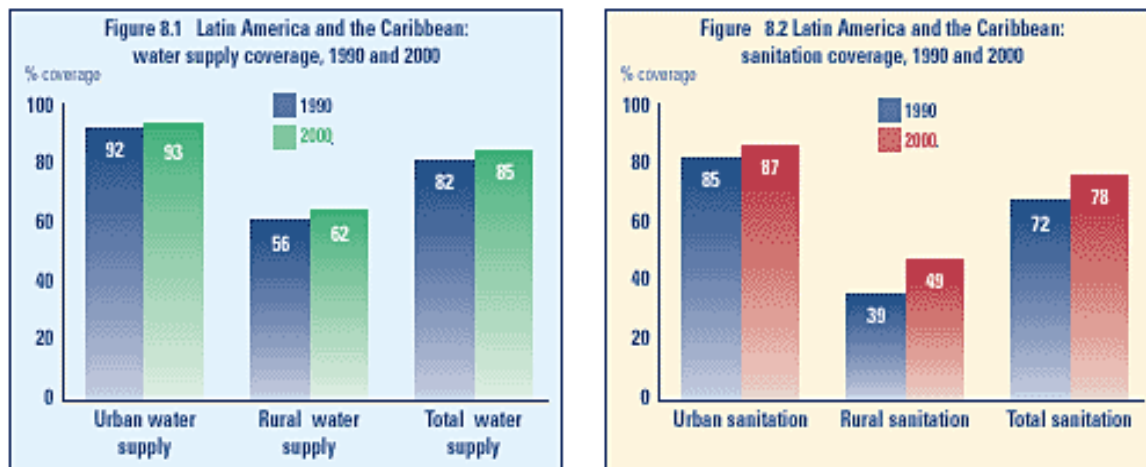
Source: UN Water Statistics 2010. Available at: http://www.unwater.org/statistics_use.html

Figure 2-3 People without access to an improved water source or sanitation



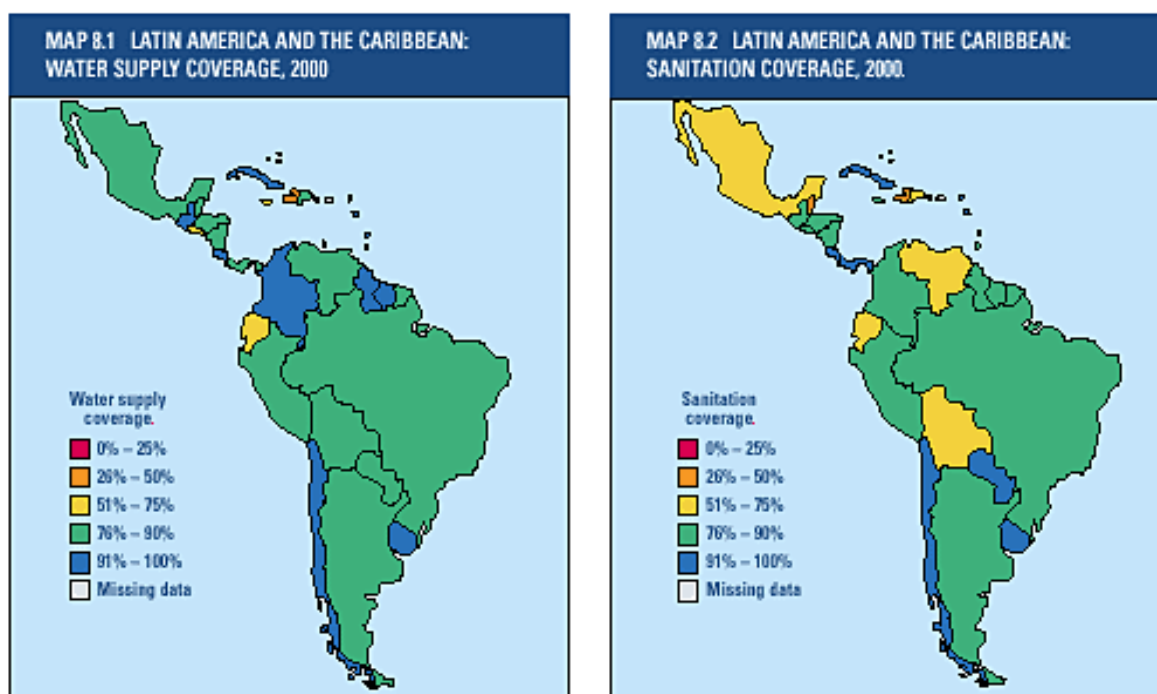
Source: UN Human Development Report. 2006. "Beyond scarcity: Power, poverty and the global water crisis." Available at: http://hdr.undp.org/en/media/HDR_2006_Chapter_1.pdf.

Figure 2-4 Water Supply and Sanitation Coverage in Latin America and the Caribbean



Source: WHO/UNICEF. "Global Water Supply and Sanitation Assessment 2000 Report." Available at: who.int/docstore/water_sanitation_health/Globassessment/GLOBALTOC.htm

Figure 2-5 Water supply and sanitation coverage in urban and rural areas in Latin America and the Caribbean



Source: WHO/UNICEF. “Global Water Supply and Sanitation Assessment 2000 Report.” Available at: who.int/docstore/water_sanitation_health/Globassessment/GLOBALTOC.htm

CHAPTER III – THE DEVELOPMENT OF WATER PRIVATIZATION

Background and History of Water Privatization

Introduction: Definitions

What is privatization? The definition of privatization varies greatly and can encompass very different scenarios (Kessler 2004). A simple definition of privatization is “...the transfer of service functions from public to private ownership or control” (Pronty 1996). In this arrangement, part or all of the control over a service usually handled by the government, such as providing drinking water or sanitation services, is passed on to a private institution, usually a large corporation (Kessler 2004, Gleick et al. 2002).

In practice, privatization can involve (1) the transfer of system owner/operation responsibility to a private party (also known as a concession); (2) the sale of the distribution of publicly owned water rights to a private party (e.g., as in the case of England and Wales); (3) build-operate-transfer ventures (“BOTs”); or any combination of these or other similar arrangements (Bakker 2004) (also see Table 3-1). Great Britain follows a model where the water supply distribution system is both owned and operated by private parties, whereas France follows a system where the municipalities themselves own the water supply but have it managed on a contract basis by private entities (Id.). Privatization may include the *complete* as well as the *partial* transfer of ownership or control (Kessler 2004). In a complete transfer, a nation may engage in the sale of the entire water infrastructure (Id., Jacobs and Howe 2002).

The pursuit of privatization as a “panacea” for the problems associated with the provision of water services has led to changes at various levels, including legal and regulatory frameworks, economic approaches, and managerial structures. As a result of

these changes, water services have sometimes undergone significant restructuring, often leading to a sharp reduction in the involvement of the State.⁸

Typical water service practices in selected areas

Europe

In Europe, private companies have been providing water services for centuries to cities in Spain and the United Kingdom. In England, water was provided by a private company as early as 1582. This continued to be the trend for the next 400 years (Tynan 2002). France has also privatized much of its water services; private companies have been managing water services since the Napoleonic era, and continue to do so today (Godoy 2003). In fact, some of the largest companies that provide water services around the world today are French companies. Private companies in France manage about 80% of water services, while municipalities manage the rest (Id.).

It is important to note that in the past, water services were often provided by private entities solely for the wealthy segment of the population (Bakker 2003). Private companies made minimal attempts to address societal needs; their primary goal was simply to attend to the needs of those who could afford it (Id.). This is contrary to the present perception of privatization, which is portrayed as an efficient alternative for the provision of safe drinking water and sanitation services to those segments of the population, particularly the poor, which have traditionally been left without access to those services.

⁸ The perils that some believe have come about because of the state's lack of involvement are discussed later.

The Americas and elsewhere

In the Americas, as well as in many countries around the world, including those in Africa and Asia, governments had traditionally been the major providers of essential services, including water (Orwin 1998). In the Americas in particular, water services were traditionally provided by the national or local governments: Canada, the United States, Perú, Paraguay, Bolivia, and Trinidad and Tobago, among many others (Orwin 1998).

The modern era of privatization (from the 1970s to the present)

The trend towards privatization in modern times, including water services, began with the support of politicians such as England's then Prime Minister Margaret Thatcher in the 1970s and 1980s in Europe, and President Ronald Reagan in the Americas (Kessler 2004). It was also promoted by several French companies with global interests that had successfully managed water in France for centuries (Godoy 2003). Two of the major companies in this group include French firms Suez Lyonnaise des Eaux (now called just Suez) and Vivendi Environnement (now called Veolia Environnement, as a subsidiary of Vivendi Universal). The British firm Thames Water and German Rheinisch-Westfälisches Elektrizitätswerk (known as RWE) later joined this group, as have some others. They have been referred to by some as the Water Barons.⁹

At first, Suez and Vivendi (Veolia Water) actively promoted and successfully expanded their privatization ventures around the world, and Thames Water, owned by RWE, followed closely. Although RWE's participation in the global water market is virtually nonexistent at the present time, Suez and Veolia Water continue to expand their

⁹ They will be explored in more detail later in this chapter.

privatization efforts in the water services' sector. Veolia Water, for instance, now has operations in 64 countries; approximately 4,400 water service contracts; serves more than 139 million people' and has almost one hundred thousand (100,000) employees (Veolia Water Key Figures 2009).

Despite a 2003 World Bank report documenting many privatization failures, the World Bank's view on privatization is still encompassed in the following statement: "[e]conomists like privatization; the average citizen does not" (Nellis and Birdsall 2003). Furthermore, the report states that "...the wider public is more struck by the *apparent* social costs ..." (*Id.*, emphasis added.)

In recent years, the World Bank and the International Monetary Fund (IMF) have actively supported the shift from state management of essential services, such as water, to private companies. As a requirement for loans, for instance, international lenders such as the World Bank steadily promoted privatization, with concessions being one of the two most common forms of privatization (Bayliss and Fine 1998, World Bank PPI 2010.). .

The timing and expansion of privatization around the world

Beginning in the late 1980s, at least 3800 traditionally government-run entities went from public to private hands in less than a decade. The rise was consistent among developing nations, growing from 4 in 1988 to over 60 in 1995 (Bouton and Sumlinski 1997.)

Revenues from the sale of SOEs [state-owned enterprises] in developing countries had already grown from only \$2.6 billion in 1988 to over \$21 billion in 1995... The majority (51 percent) of privatization revenues have been earned in Latin America followed by East Asia (21 percent) and Europe and Central Asia (18 percent). Relatively little privatization has taken place in the Middle East, North Africa or in Sub-Saharan Africa. While South Asia has also experienced only modest amounts of privatization over this period,

sales (primarily in Pakistan and India) have been increasing in recent years. (Id.)

At first, the majority of privatization took place in countries that were once part of the Soviet Union and Eastern European nations (Id.). Later on, privatization expanded to other nations in Europe, Central and Eastern Asia, and Latin America. Many nations explored privatization with mixed results (Table 3-2). Among the nations that privatized were Argentina, the Philippines, Puerto Rico, New Zealand, Bolivia, and Germany to name but a few (Pérez Corral 2003, Orwin 1998). Notwithstanding this expansion, countries such as Denmark, Greece, and Ireland in Europe, and Costa Rica in Latin America, were examples of non-adopters of privatization at the time when many others countries in these regions were privatizing (ILO 1999).¹⁰

Privatization in Latin America

In Latin America, the privatization trend began in the 1980s and has continued to the present, although at a decreasing rate. Until privatization began, responsibility for managing water supply and sanitation services had routinely rested on the government's shoulders. By the 1980s, however, this responsibility was slowly but surely being transferred to private entities, as privatization began to spread in Latin America, very soon after Great Britain's "pioneering sales" of SOEs (Nellis 2003). See Figures 3-3 and 3-4, concerning private investment commitments to infrastructure projects from 1990 to 2008, and new water projects started during this same time, respectively. Bolivia, for instance, "...granted a six year monopoly and a 40 year concession on the \$610 million 'capitalization' of Entel, Bolivia's international and national long-distance

¹⁰ The author is unable to provide an explanation for this disparity as her research did not encompass gaining an understanding of this issue, seemingly quite complex.

telecommunications monopoly” (*Id.*). See also Figure 3-5, concerning investment commitments to infrastructure projects by subsector from 1990 to 2008.

Water privatization in particular

In the 1990s, almost all of Latin America had approved or was in the process of approving *enabling* legislation for water privatization (ILO 1999, Foster 2002). This was essential for privatization projects as many laws in Latin American nations prohibited the privatization of essential services, such as water. Legalizing privatization did not translate, however, into the pursuit of privatization projects in every country. Only some cities in Latin America privatized water services and this was done with varying rates of success. In Argentina, for example, the cities of Tucumán and Buenos Aires privatized their water services. Tucumán’s privatization venture failed almost immediately, while the Buenos Aires experience was considered a success for a number of years. Bolivia’s experience was quite similar. Only the cities of Cochabamba and La Paz/El Alto entered into contracts for private water management. While the Cochabamba venture failed within six months after its inception, the La Paz/El Alto venture continued for approximately five years, and was considered quite successful in its beginning years. In Puerto Rico, there were two island-wide privatization attempts, one after the other. Both of them failed.

Water Privatization since 1991

During 1991, according to the World Bank, private investment in water privatization projects was limited to a single project in the region of Latin America and the Caribbean (PPI Water 2010). In 1993 there were 6 projects in Latin America. That number rose to 22 and 21 in 1997 and 1999, respectively, down to 3 in 2006, and up to 8 in 2008 (*Id.*). See Table 3-4.

In contrast, by 1997 the World Bank had documented that private investment had led to about 2,500 infrastructure projects *worldwide* with a capital outlay of \$20 billion in the early 1990s that soared to approximately \$130 billion by 1997 (Klein 2003). Since then, investment has continued to soar in some regions of the world. For instance, in East Asia and the Pacific, there were between 4 and 5 projects between 1993-1996, this number rose to 62 and 47 projects in 2007 and 2008 respectively (World Bank PPI 2009). In contrast, from 1991 to 2008 there were at most 5 projects in the Middle East and North Africa, and 9 projects in Europe and Central Asia. In terms of developing countries in general, in 2008, “[t]he number of developing countries implementing new private water projects was the lowest since 1995. Even more, three of the nine—China, Brazil, and Algeria accounted for 89% of new projects and 85% of investment. China alone accounted for 71% of new projects and 31% of investment” (PPI data update note 23 2009).

In the last few years, privatization has slowed in Latin America. There were only six privatization projects in 2005, three in 2006, six in 2007, and 8 in 2008 (World Bank PPI Water 2010)(see Table 3-4). By 2008 the only nations in Latin America that had any water projects that reached “financial or contractual closure” were Brazil and Guatemala (World Bank PPI Update Note 23 2009).¹¹ In both cases, most of the contracts were concession contracts.¹²

There are many reasons that may have contributed to the failure of these contracts. Table 6 – 1 lists some reasons for the failure of water privatization contracts throughout the

¹¹ Brazil had all but one of the projects (PPI Data update note 23 2009).

¹² Another exception is Havana, Cuba, which entered into a privatization contract in 2000. The project is ongoing (Guerra-Pujol 2009).

world. In Latin America, the reasons for termination of projects include: the unwillingness of parties to renegotiate the terms of the contract (Mendoza, Argentina), increase in water rates without any improvement in the service (Cochabamba, Bolivia), and deteriorating water quality (Puerto Rico).

Despite the fact that water privatization flourished in many countries and cities in Latin America and elsewhere, there were also examples of places where privatization barely took hold (Table 3-2). Relevant examples in Latin America include the important cities of Bogotá, Colombia, and Panamá City, Panamá, where water privatization was never strongly pursued (Ronderos 2003, Foster 2002).

As Figures 3-5 and 3-6 illustrate, access to an improved source of drinking water worldwide has increased from 78% in 1990, to 87% in 2008, while access to improved sanitation has increased from 55% in 1990, to 62% in 2008.¹³ There is still, however, great disparity between urban and rural areas. For instance, while about 76% of urban areas have sanitation coverage, rural areas only have 45%. In terms of water supply, 96% of urban areas have coverage, while rural areas only have approximately 62 (GLASS 2010). See Figure 3-7. It is therefore clear that there are still many issues pending regarding the provision of adequate water services, although services have definitely improved.

¹³ An improved sanitation facility is one that hygienically separates human excreta from human contact.” (WHO/UNICEF JMR 2010). “An improved drinking-water source is one that by nature of its construction, adequately protects the source from outside communication, in particular from fecal matter.(Id.).

Arguments for and against privatization

Arguments for privatization

The main reasons articulated in favor of water privatization include (1) eliminating corruption in current governmental management, (2) improving economic efficiency, (3) reducing rates/costs, (4) eliminating unnecessary subsidies, and (5) being more responsive to consumers' needs (Shiva 2002, Kessler 2004, NRC 2004). It is also argued that privatization reduces poverty and frees monies for use on other social services (NRC 2004, UTCPM 2004). The latter are arguments frequently set forth by the water companies and by international lending institutions such as the World Bank and the International Monetary Fund (IMF). Aside from subsidies, all of these reasons were explored in the research that informs my analysis of water privatization projects in Bolivia and Puerto Rico and will be explained in more detail in the remaining chapters.

Although many water privatization contracts promoted by the World Bank have been terminated, the World Bank claims that, in most cases, water privatization has led to better (and cheaper) access to water for the poor (Figure 3-8). In the wake of numerous governments terminating water privatization ventures allegedly because of large increases in costs, such as in the case of Cochabamba, Bolivia, Tucumán, Argentina, and Puerto Rico, the World Bank continues to assert that the cost of water was actually *reduced* for the poor. They maintain that this is because the poor no longer had to resort to buying water from small private vendors (e.g., water trucks), who frequently charge very high rates. This is indeed common among the poor who lack access to water services provided by the government (Klein 2003). In addition, it is argued that the poor state of government finances and previous mismanagement were the real culprits in the demise of many privatization projects (World Bank Development Project 2003).

Opposition to privatization

Those who oppose water privatization point to failures in water privatization efforts such as Puerto Rico, Uruguay, South Africa, and Atlanta, among others, resulting in greater pollution and/or higher rates, (Ruiz Marrero 2004, Pérez Corral 2003, and Public Citizen 2003). They argue that the poor are the ones most negatively affected by privatization and as a result, stand to have even less access to water than before, by having their services cut-off if they are unable to pay (Leoni 2005, Bond 2002). Furthermore, those involved in gender equity issues also stress that within the poor community it is women who bear the brunt of the negative consequences for the poor when water is privatized (Grossman et al. 2001). This is because women are the ones who are traditionally in charge of providing water for their homes. It is argued that when families are unable to pay the rising costs of privatized water, it is women who have to procure alternative water, spending valuable time to bring back water to their homes (Figure 3-9). These are considered “hidden costs” associated with lack of access to clean water in sufficient amounts, often leading to loss of educational and income-producing activities for women and girls (Gleick 1999).

Another argument raised against privatization is that it leads to a lack of government control and transparency, as well as dependency on private companies, frequently international ones that are remote from the communities involved and hard to reach through political or legal action (Water Industry 2004, Gleick et al. 2002). In addition, some state that privatization leads to lack of accountability, and merely shifts the types of corruption to such activities as bribes to secure concessions or pay off inspectors (Ruiz Marrero 2004). Finally, it has been argued that privatization leads to public health and agricultural crises as well as cultural disintegration, by reducing or altogether

eliminating effective water sharing schemes and/or local decision-making (Shiva 2002, Public Citizen 2003). This is a claim also made by community water organizations.

Neither governmental nor private provision of water services
is a panacea for issues related to adequate provision of water
services

Elinor Ostrom has stated that the process by which water can be managed “to ensure their long term economic-viability... [is] no more settled in academia than in the world of politics” (Ostrom 2003). Some suggest that the State should be the party managing these resources, while others believe that private parties are the only ones who will efficiently be able to act as a manager. But, as she correctly points out, there is evidence that

...neither the state nor the market is uniformly successful in enabling individuals to sustain long-term, productive use of natural resources systems.(Id.).

Ostrom also points to examples of “communities of individuals [who] have relied on institutions resembling neither the State nor the market to govern some resources systems with reasonable degrees of success over long periods of time.”(Id.). Her observations reflect thinking that is not routinely found in studies of water privatization, as she does not consider either governmental or private management of resources, including water, as necessarily the *sole* party which can assure success in management. Her argument is that central authorities, of any kind, often fail. This is very relevant in the discussion on whether or not privatization can bring about positive results in water management, as a review of the literature on this topic reveals that most of the studies either support (e.g., NRC 2004) or oppose privatization (e.g., Shiva 2002), across the board, and not on a case by case basis.

Other observers remain undecided on water privatization (without suggesting that water management should only be under the purview of the State) and recommend a cautious approach before turning control of something so essential for life over to private entities. They suggest careful scrutiny prior to setting up any non-public arrangement for water management (Gleick 1999).

The International Water Companies (the Water Barons)

At the present time, three large water companies, Veolia, Suez and RWE (previously Thames Water), manage most of the water services rendered by private companies throughout the world, although smaller companies are also flourishing (Water Industry 2004). Often these companies partner with local entities to provide their services, or act through subsidiaries, so that it is very difficult to uncover exactly in which ventures they participate. “In 1990, about 51 million people received their water from private companies ... and [t]hat figure is now more than 300 million.” (*Id.*). To put it another way, while in 2002 these companies only did business in about 12 countries, by 2009 they managed water services in more than 50 countries. (*Id.*) In 2009, Veolia, the largest water company in the world, claimed to have operations on every continent (Veolia Water 2009). As stated in the report:

A growing interest in the expansion of private water services led the International Consortium of Investigative Journalists (ICIJ), a project of the Center for Public Integrity, to conduct its own investigation of privatization. The investigation revealed that Suez, Veolia, and to a lesser extent, RWE had been successful in expanding operations to all continents (Mardsen 2003). Although the study also mentions other companies, such as Bechtel (from the United States) and Saur (from France), it is clear that Suez and Veolia continue to dominate the realm of water services around the world. The study also

concluded that these companies had worked hand-in-hand with major financial institutions such as the World Bank (Id.). In addition, these companies had actively lobbied governments and worked closely with “international trade and standards organizations for changes in legislation and trade agreements to force the privatization of public waterworks.” (Id.).

The explosive growth rate in water privatization has raised concerns that a handful of private companies could soon control a large chunk of the world's most vital resource. While the companies portray the expansion of private water as the natural response to a growing water shortage crisis, some observers point out the self-serving pitfalls of this approach (Mardsen 2003).

Veolia

Veolia was previously known as Générale des Eaux and was founded by Napoleon Bonaparte III, through an imperial decree issued in 1853, as a water supplier for Paris, Lyons and other cities (Veolia Water 2010). Some of the founders “included the Rothschild family, a Fould, a Lafitte, the Duc de Morny--the emperor's half brother)--and a large proportion of the imperial nobility.” (funding universe 2009). Veolia’s future financial success appeared to be assured, and so it was. By 1860, the new company had entered into contracts to provide water to Lyons, Nantes and finally, a contract to provide water services to Paris and its suburbs (Id.). The latter contract is often referred to as the first “French capitalist venture.” (Id.) As Paris’ population grew so did French industry and, consequently, Veolia’s profits.

In the 1970s, Veolia began its diversification into areas other than water services. Soon thereafter, Veolia became one of the largest companies in the world. One of Veolia’s divisions is related to environmental services – Veolia Environnement (previously Vivendi

Environnement), and is considered a leader worldwide. In 2008, Veolia Environnement, the parent company for Veolia Water, was ranked as a Fortune 500 company and 135th among the world's largest corporations (Fortune Global 2009).

Another division is Vivendi (previously Vivendi Universal), which is involved in the field of communications and ranked second in the world in the field of telecommunications. In 1990, Vivendi, parent company of Vivendi Environnement, "reported earning over \$5 billion in water-related revenue ..." (Mardsen 2003). Vivendi was ranked 207 among Fortune 500 companies in 2009 (Fortune 2009). It had previously been ranked at 153 (Id.).

Veolia claims to have been creating global and integrated solutions for public and private sector clients for more than 155 years. It is considered the world's largest water company (Veolia Water Key Figures 2009). It brands itself as "partner to municipalities and industry" (Veolia Water Press Headlines 2009). In the Americas it has projects in Canada, Colombia, Mexico and the United States (Veolia Water Key Figures 2009).

GDF Suez

Suez was funded in 1858 by a French diplomat by the name of Ferdinand de Lesseps, in what appears to have been a typical concession arrangement. The company, *Compagnie Universelle du Canal Maritime de Suez*, was awarded the concession for the building of the Suez Canal (Piquet 2003). In 1997, the company merged with Lyonnaise des Eaux and became Suez Lyonnaise des Eaux ("Suez"). In 2003, Suez' water and waste divisions merged to create Suez Environnement (Chandra et al. 2005). The latest merger between Gaz de France and Suez, resulted in the company becoming GDF SUEZ. As a result, Suez is now also involved in natural gas exploration, transportation, among others. (GFD Suez First-Half Annual Report 2009). Suez is ranked 53rd in the Fortune 500

ranking system, with around 99,500,000 million dollars in revenues in 2008 (Fortune Global 2009). It has about 200,000 employees (GDF Suez 2009).

Suez Environnement is also involved in the design and management of drinking water, wastewater and sewer systems (Chandra et al. 2005). In particular, Suez is involved in the construction and operation of waste water treatment, as well as hydro electric plants around the world. Among Suez' clients are local and state governments, including municipalities, countries, and industrial customers. As indicated in a report prepared by the Polaris Institute:

Suez Environment's operations are primarily run through subsidiaries Ondeo, SITA, Degrémont and United Water Resources. Some of their operational capacities include:

- Management of drinking-water and sanitation services
- Design, construction and operation of water-treatment plants (drinking water, desalination, wastewater, sludge treatment)
- Complete management of the industrial water cycle
- Waste collection, sorting and recycling
- Biomass and waste-to-energy conversion
- Landfill disposal of household and industrial waste
- Urban and industrial waste management

For its local customers, Suez Environment manages public water resources, and then undertakes to distribute them, collect wastewater and then collect, sort, store and recycle the waste. (*Id.*).

Suez refers to itself as “a global leader in the environment” and one that is dedicated to “water and waste management services”. In terms of water, specifically, the

following is a list of what Suez indicates it provides, both in terms of people served, and services rendered:

- 76 million people supplied with drinking water
- 44 million people benefit from our wastewater treatment services
- 1.6 billion m³ of drinking water distributed
- 2.5 billion m³ of drinking water produced
- 2.1 billion m³ of wastewater treated
- Nearly 150,000 km of drinking water distribution networks
- More than 10,000 water treatment plants built in 70 countries
- 1,746 drinking water production units
- 1,535 wastewater treatment sites

(Suez-Environnement 2009).

RWE

RWE was one of the giants in water management services at the time that the privatization efforts in Bolivia and Puerto Rico took place. Since then, although the parent company has remained, its water division has been sold to Kemble Water Limited, as will later be explained. It is important, nonetheless, to understand its role in world water services at the time that water privatization was at its peak in the Americas, as its participation was part of the backdrop of privatization at the time.

RWE, a German company established in 1898, essentially dealt solely in energy for almost 100 years. Their motto was “the energy to lead”. RWE was partially owned by a number of German municipalities, and at first it served Germany exclusively. In 2000, however, RWE bought Thames Water (a water company) and Innogy (an energy company), both in the United Kingdom, together with American Water Works, now

American Water, in the US. This led to incursions into water projects outside German markets.

Thames Water was one of nine regional companies formed in England in 1973/1974. At the time, the company was called “The Thames Water Authority”. In 1989, during Prime Minister Thatcher’s government, it was privatized (Socialist Equality Party 2006). The acquisition of Thames Water led to operations for RWE in: Australia, Canada, Chile, China, Croatia, Egypt, Germany, Hungary, India, Indonesia, Italy, Japan, Malaysia, New Zealand, Poland, Puerto Rico, Singapore, South Africa, Spain, Thailand, Turkey, UAE, and the United Kingdom, among others (Chandra et al. 2005). This alone, allowed RWE to become a key player in the realm of world water companies. This position was further augmented by the acquisition of American Water.

Through the acquisition of American Water, RWE was able to enter the US and Canadian markets, two very important markets in a region in which RWE had not previously been successful. At the time, American Water had sixteen subsidiaries, providing both water and wastewater services. It served about fifteen (15) million Americans in twenty seven (27) states and three (3) Canadian provinces. The acquisition of American Water appeared to be a successful move for RWE. By 2003, RWE Thames’ annual revenue had “increased by almost fifty percent because of its acquisition” (*Id.*).

In 2005, RWE had approximately 260,000 shareholders, with foreign investors owning approximately 15% of the total (*Id.*). By this time, RWE had expanded its services, but only within Europe and the US (*Id.*). This included, of course, water services. In 2006, however, RWE sold RWE Thames Water to Kemble Water Limited, a consortium of institutional investors managed by the Macquarie Capital Funds (Europe) Limited

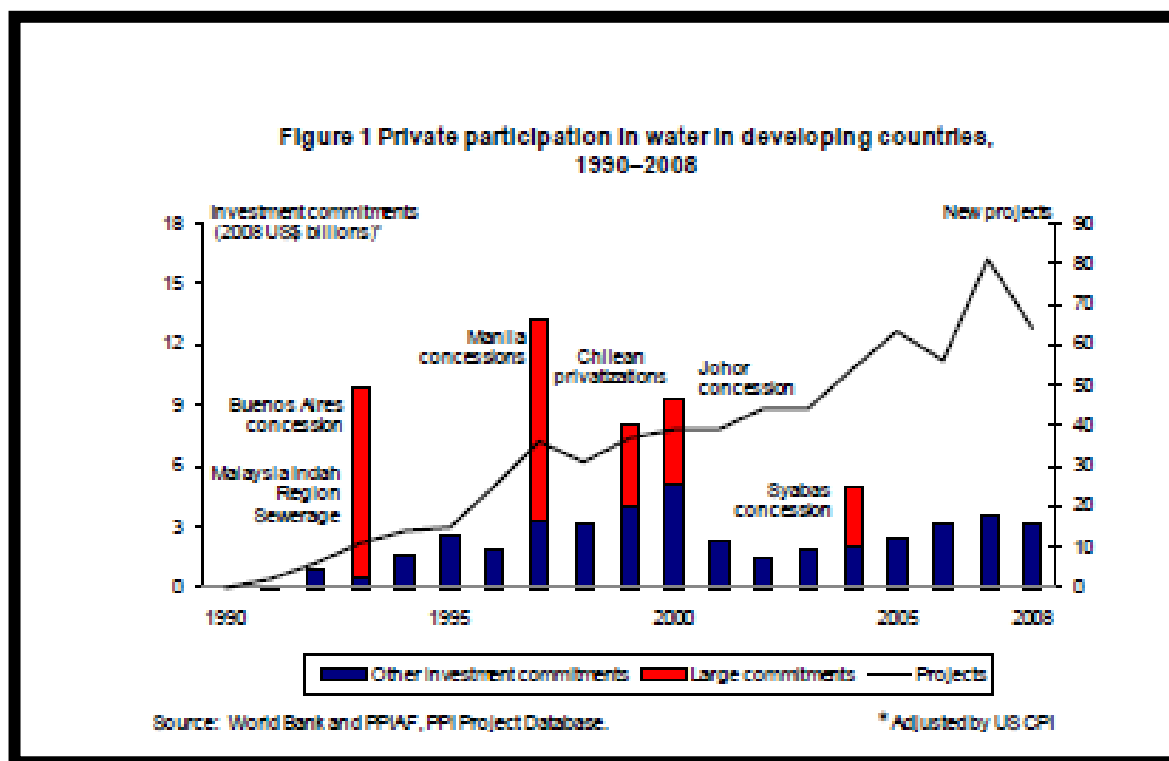
(Thames Water 2006).¹⁴ RWE Thames Water continued to expand its services. It now claims to be “...providing clean water to some 70 million customers in 20 countries. RWE Thames Water and its subsidiaries operate 650 waste water treatment plants, 550 water treatment plants and a pipeline network of 150,000 kilometers around the world” (RWE Thames Water 2009). It now is also involved in greenhouse gas mitigation projects. In 2008, however, “RWE ... decided to sell 58 million of American Water’s shares at US \$ 21.50 per share ... approximately 36% of American Water’s shares outstanding.” (RWE Thames Water 2009). RWE’s profits went down at the time, allegedly as a result of the sale of American Water at a price below what had been expected (Kennedy 2008).

By 2009, the company had expanded a great deal more, serving other Western and Eastern European countries, such as Belgium and Slovakia. In June 2009, RWE bought the Dutch energy utility Essent N.V. (RWE Thames Water 2009). RWE also joined forces with other conglomerates as in the case of Australia, where it joined forces with Vivendi and Halliburton KBR for various projects (Chandra et al. 2005). In Germany it went into business with Vivendi, and in Budapest, with Suez (Id).

At the present time, RWE is involved in oil and gas, water, mining, nuclear energy, carbon capture and storage, renewable energy (e.g. windmills), fossil fueled water plants, carbon capture and storage. RWE Thames continues to expand its reach throughout the world.

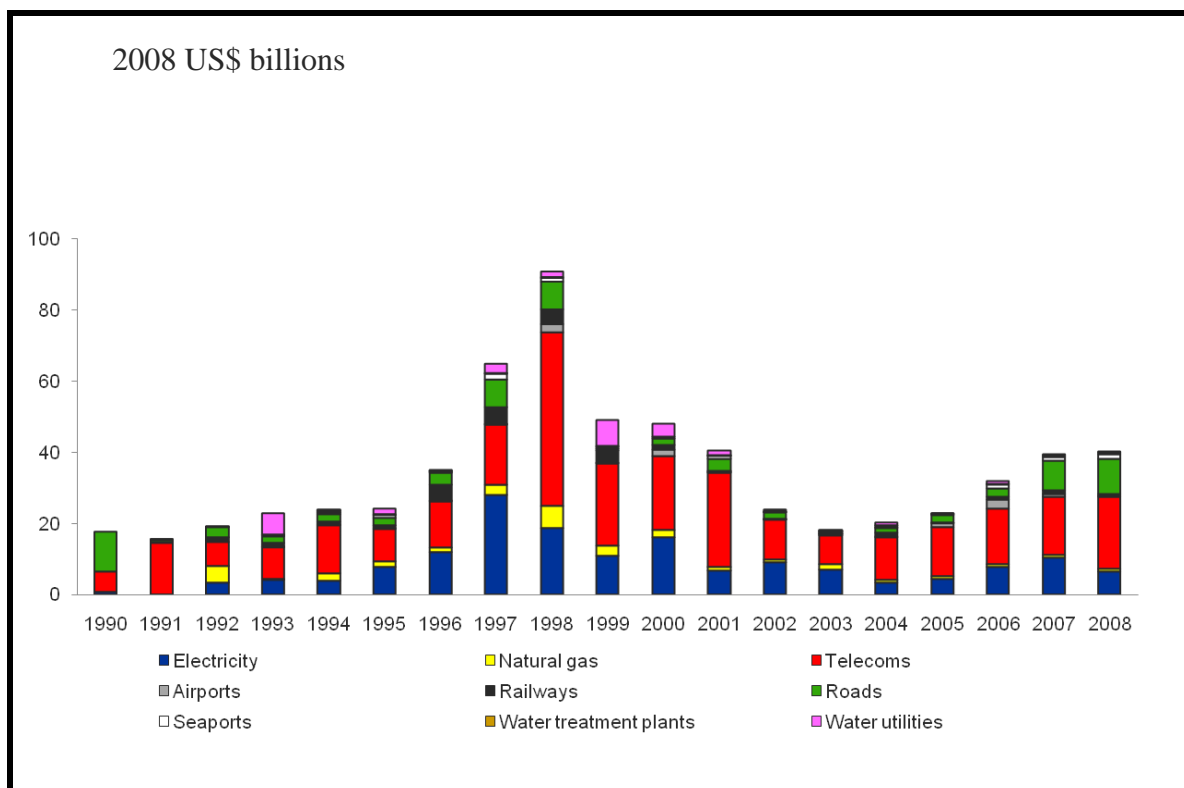
¹⁴ McQuarie itself is considered “one of the world’s largest financial institution involved in infrastructure projects and one of Australia’s largest companies.” (Thames Water 2006).

Figure 3-1 Number of implemented projects with private participation in low and middle-income countries



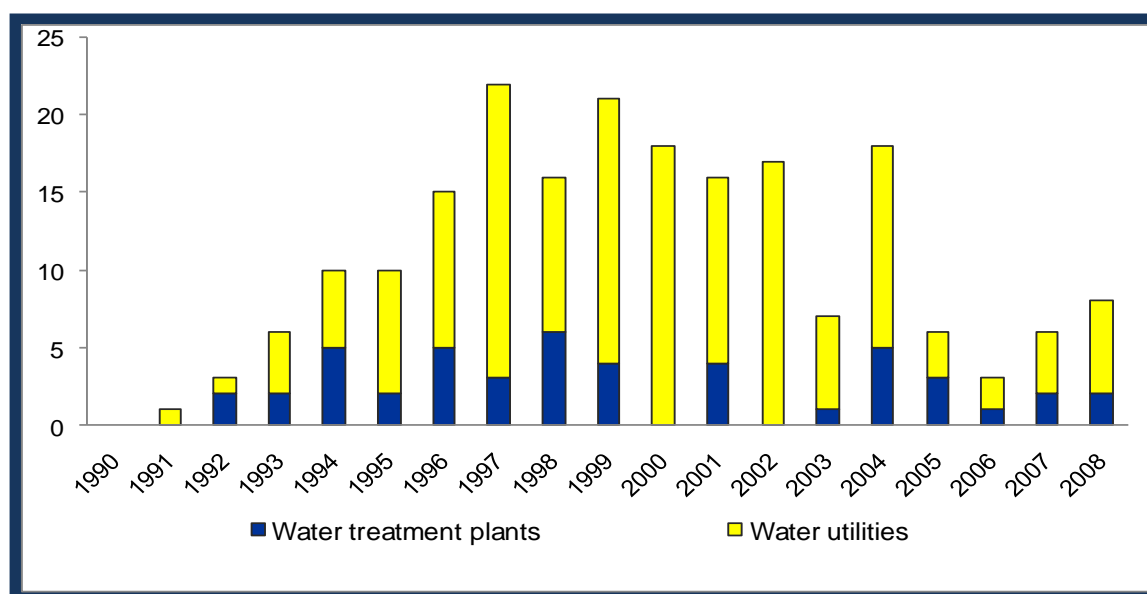
Source: World Bank PPI Data Note 23, 2009. Available at: <http://ppi.worldbank.org/features/June2009/2008WaterDataLaunch.pdf>

Figure 3-2 Investment commitments to infrastructure projects with private participation in Latin America and the Caribbean, by subsector, 1990–2008



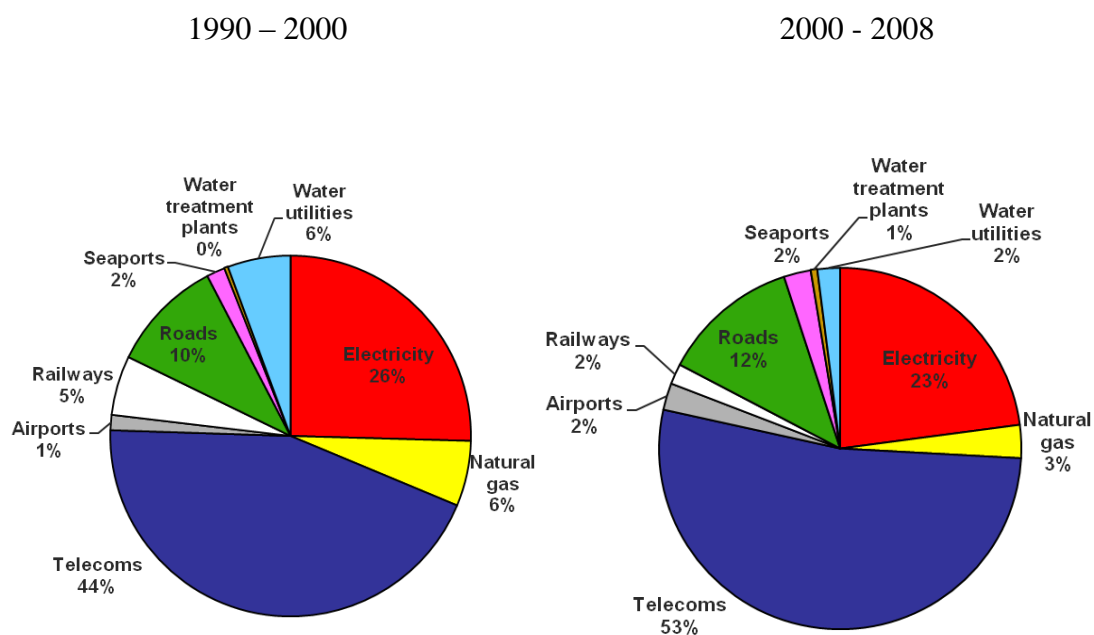
Source: World Bank PPI Data Note 23, 2009. Available at: <http://ppi.worldbank.org/features/June2009/2008WaterDataLaunch.pdf>

Figure 3-3 Private investment commitments to infrastructure projects from 1990 to 2008



Source: World Bank PPI Data Note 23, 2009. Available at: <http://ppi.worldbank.org/features/June2009/2008WaterDataLaunch.pdf>

Figure 3-4 New water projects started from 1990 to 2000 and from 2000 to 2008

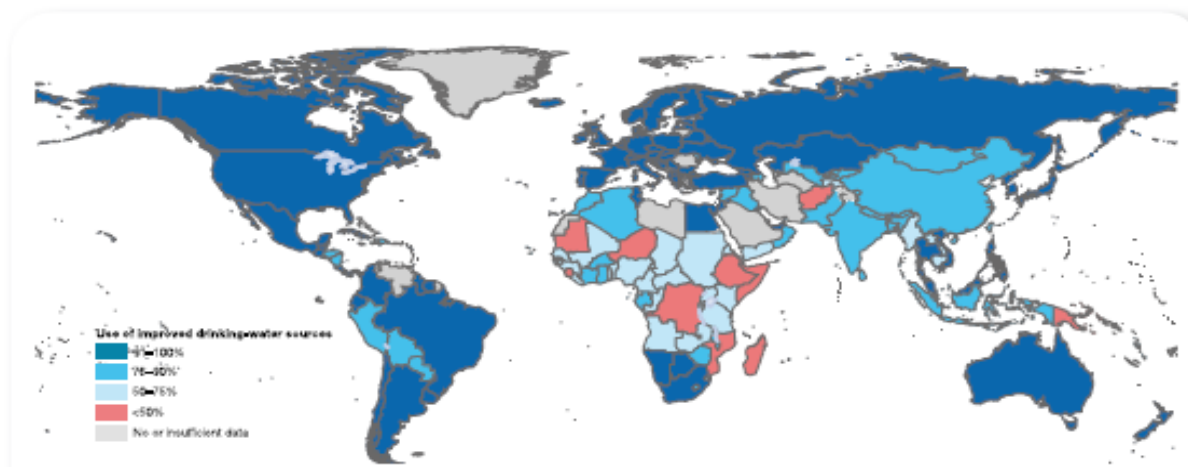


Source: World Bank PPI Data Note 23, 2009. Available at: <http://ppi.worldbank.org/features/June2009/2008WaterDataLaunch.pdf>

Figure 3-5 Access to Improved drinking-water sources

Use of improved drinking-water sources

From 1990 to 2008, approximately 1.8 billion people gained access to drinking-water from an improved source. Currently, 87% of the world uses drinking-water from improved sources, compared with 78% in 1990. Nearly 900 million people do not use drinking-water from an improved source, compared with an estimated 1.2 billion in 1990.

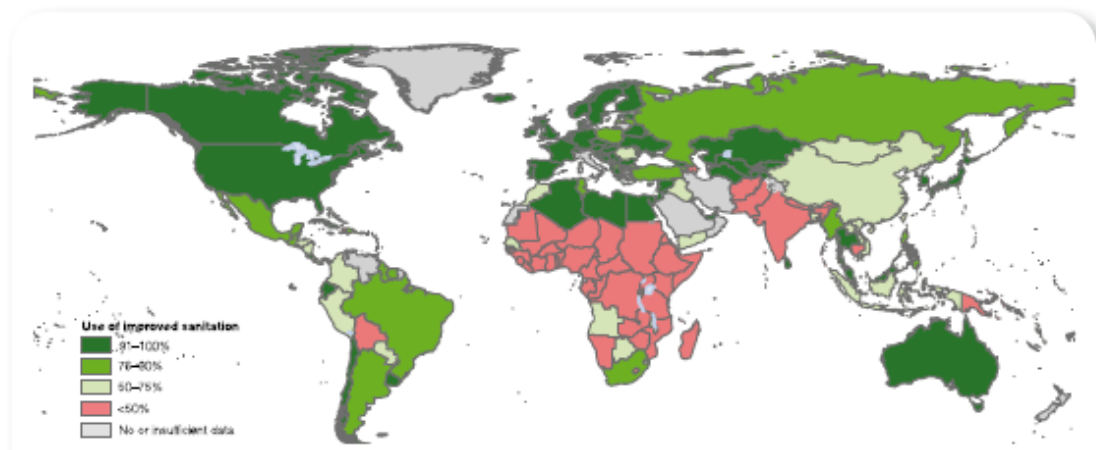


Source: GLAAS. Global Annual Assessment of Sanitation and Drinking Water 2010.
Available at: http://www.unwater.org/activities_GLAAS_2010.html

Figure 3-6 Access to Improved Sanitation

Use of improved sanitation

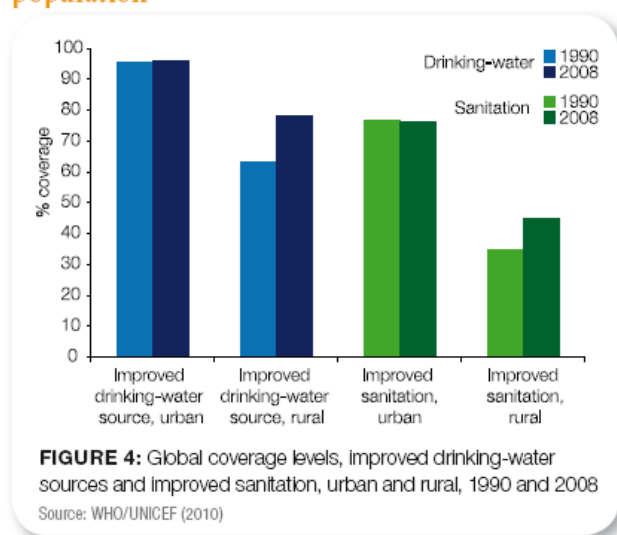
From 1990 to 2008, approximately 1.3 billion people gained access to improved sanitation, while the world's population increased by over 1.5 billion (from 5.3 to 6.8 billion) over the same period. Despite this considerable progress, the world is not on track to meet the MDG sanitation target by 2015. Only 62% of the world's population uses improved sanitation facilities, compared with 55% in 1990. Over 2.6 billion people do not use improved sanitation facilities, compared with an estimated 2.4 billion in 1990.



Source: GLAAS. Global Annual Assessment of Sanitation and Drinking Water 2010.
Available at: http://www.unwater.org/activities_GLAAS_2010.html

Figure 3-7 Disparity between urban and rural areas with regard to improved drinking water and sanitation services from 1990 to 2008

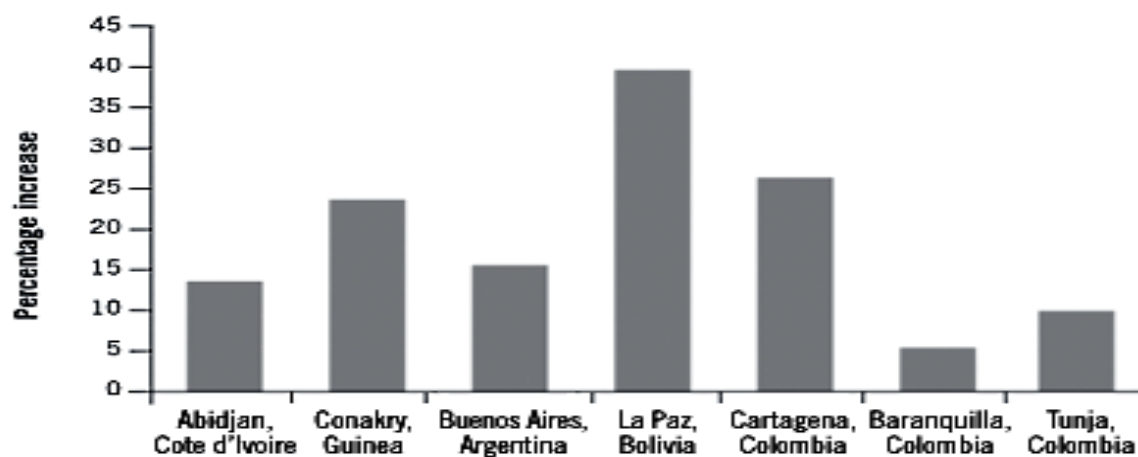
Disparity between urban and rural areas ... only 45% of the world's population living in rural areas uses improved sanitation facilities, compared with 76% of the urban population



Global coverage data suggest large urban/rural disparities in terms of the use of improved drinking-water sources and basic sanitation (Figure 4). While use of improved sanitation in rural areas has increased from 35% to 45% since 1990, there are still over 1.8 billion people in rural areas living without improved sanitation services. In comparison, 96% and 76% of people living in urban areas use improved drinking-water sources and improved sanitation, respectively. However, with the rapid urbanization that took place between 1990 and 2008, the urban population not using water from an improved source increased by 40 million, and the urban population not using improved sanitation increased by 260 million.

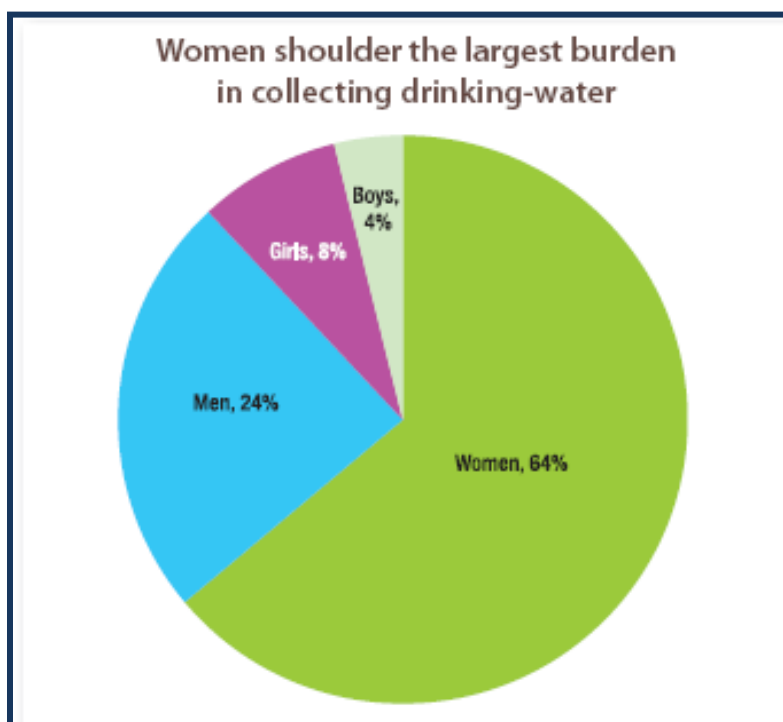
Source: GLAAS. Global Annual Assessment of Sanitation and Drinking Water 2010.
Available at: http://www.unwater.org/activities_GLAAS 2010.html

Figure 3-8 Increase in access to water following privatization – percentage increase in population



Source: Klein, Michael. "Where Do We Stand Today with Private Infrastructure?"
Special Report The World Bank Institute, Development Outreach, March 2003.
Available at: www1.worldbank.org/devoutreach/march03/article.asp?id=190#figure5

Figure 3-9 Women's burden with regard to drinking water



Source: WHO/UNICEF Joint Monitoring Program Report, 2010. Progress on Sanitation and Drinking Water. Available at: <http://www.wssinfo.org/>

Table 3-1 Types of privatization

Concessions	Like a management contract, a private party takes over the operation and maintenance of a utility, but in addition, it also is responsible for investments. Unlike other types of contracts in the water sector they are usually long-term contracts (between 20 and 30 years)
Build-operate-transfer (“BOTs”)	This includes variations such as design-build-operate (“dbos”), build-operate-own (“boo”), and any arrangement that is suitable to both parties. Although similar to concessions they are more commonly used in “greenfield projects”, that is, water treatment plants and the like
Leases	Leases in the water sector are used the same as everywhere else: The State leases its assets to a third party, who in turn manages the same.
Management contracts/O & M	Usually transfer management (operation and maintenance) of an asset for a limited amount of time (3 to 5 years)
Divestiture	Sale of all or part of one’s assets. Ownership of the same is transferred to a private party. Used in England and Wales

Source: Adapted from Jensen, Olivia and Frederic Blanc-Brude. “The Handshake: Why do Governments and Firms Sign Private Sector Participation Deals? Evidence from the Water and Sanitation Sector in Developing Countries.” World Bank Policy Research Working Paper No. 3937. June 1, 2006. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=923244

Table 3-2 Investment in projects by region and year of investment (US \$million)

Year	East Asia and Pacific	Europe and Central Asia	Latin America and the Caribbean	Middle East and North Africa	South Asia	Sub-Saharan Africa	Total Investment
1991	0	0	75	0	0	0	75
1993	2,558	0	4,071	0	0	0	6,629
1994	821	0	525	0	0	0	1,346
1995	520	0	1,293	0	0	0	1,813
1996	149	942	192	0	0	20	1,304
1997	8,033	0	1,933	0	0	0	9,966
1998	943	108	1,276	0	0	0	2,327
1999	273	6	6,011	0	0	82	6,372
2000	4,064	288	2,845	0	0	31	7,229
2003	697	324	296	169	0	9	1,494
2004	3,367	241	1,133	0	111	0	4,852
2005	1,014	440	190	510	0	0	2,154
2006	1,572	711	713	0	0	0	2,996
2007	1,902	609	606	230	142	121	3,610
2008	974	0	807	874	76	0	2,731
Grand Total	28,777	4,020	23,735	1,783	331	266	58,912

Source: Adapted from World Bank PPI Data Update Note 37, 2010. "Private Participation in Infrastructure Database." Available at: <http://ppi.worldbank.org/features/June2010/PPI-Water-note-2009.pdf>

Table 3-3 Number of Projects by region and year of financial closure

Financial Closure Year	East Asia and Pacific	Europe and Central Asia	Latin America and the Caribbean	Middle East and North Africa	South Asia	Sub-Saharan Africa	total
1991	0	0	1	0	0	1	2
1992	1	0	3	1	0	1	6
1993	3	1	6	0	0	1	11
1994	4	0	10	0	0	0	14
1995	4	0	10	0	0	1	15
1996	5	3	15	1	0	1	25
1997	14	0	22	0	0	0	36
1998	13	1	16	0	0	1	31
1999	8	1	21	2	0	5	37
2000	13	6	18	0	1	1	39
2001	13	5	16	0	1	4	39
2002	20	4	17	1	0	2	44
2003	26	9	7	1	0	1	44
2004	31	4	18	0	1	0	54
2005	45	6	6	4	1	1	63
2006	45	6	3	0	0	2	56
2007	62	3	6	3	5	2	81
2008	47	0	8	5	2	2	64
Grand Total	354	49	203	18	11	26	661

Source: World Bank PPI Data Update Note 37, 2010. "Private Participation in Infrastructure Database." Available at: <http://ppi.worldbank.org/features/June2010/PPI-Water-note-2009.pdf>

Table 3-4 List of selected countries and the outcome of privatization in 2006

Region	Countries	Privatization	Very little privatization	Privatization in progress	Failed privatization
Africa	Gambia	√			√*
	So. Africa	√			√
Asia	China	√			
	Indonesia	√			√
Europe	England	√			
	France	√			
	Italy		XX		
Latin America	Argentina	√			√*
	Bolivia	√			
	Cuba			√	
	Perú	√			√
	Puerto Rico	√			√*
	Uruguay		XX		√*, X
	Venezuela		XX		

Source: Adapted from Bayliss, Kate and Ben Fine. "Beyond Bureaucrats in Business: A Critical Review of the World Bank Approach to Privatization and Public Sector Reform." 10 J. Int. Dev. (1998), 841-855.

Notes: √ All concession-type of privatization projects failed
 √* Some concession-type privatization projects have failed but other forms of privatization are ongoing
 X Uruguay, as did The Netherlands, approved a constitutional reform outlawing water privatization projects in theory. In practice, some projects have not been terminated.
 XX Very limited privatization

CHAPTER IV – PUERTO RICO’S WATER PRIVATIZATION EFFORTS

Water Privatization in Puerto Rico

Brief Introduction

The Commonwealth of Puerto Rico (Puerto Rico) is located in the Caribbean. It is the smallest island of the Greater Antilles, with an area of 9,104 square kilometers (GDB 2009). It is bordered by Hispaniola to the west and the Virgin Islands to the east. The territory of Puerto Rico includes the main island of Puerto Rico, as well as other islands and keys including Culebra, Vieques, Isla de Mona, and Desecheo. See Figure 4-1. Puerto Rico’s location is strategic, geographically as well as politically, as it lies between the United States (“US”) and Central and South America. See Figure 4-2.

Puerto Rico is a tropical and mountainous island. It has extensive coastal areas, a central range leading to a coastal and fertile plain belt in the north with fairly constant precipitation patterns, and a fairly dry south coast (USEPA 2006). See Figure 4-3.

In terms of demographic indicators, Puerto Rico had a population of 3,967,288 in July 2009 (GDB Fact Sheet 2010). Puerto Ricans have a high literacy rate which stands at 94.1 percent. Life expectancy for men is 74.86 years while women’s life expectancy is 82.36 years. Urban and rural populations both have near 100 percent access to drinking water and sanitation services (GDB 2009). These indicators reflect how Puerto Rico fares much better than the rest of Latin America and the Caribbean, where access is more limited, particularly for rural populations.¹⁵

¹⁵ In Latin America access to an improved source of drinking water for urban areas is 95 percent, while for rural populations it is 63 percent (WHO/UNICEF Update JMR 2010). In terms of sanitation services of any sort (including unimproved and improved facilities), access to these services lags behind drinking water in Latin America. While 81 percent of people have access to improved sanitation facilities in urban areas, that access was only 39 percent for rural area residents (Id.).

Brief History of Puerto Rico

After being colonized in 1493 and later enslaved by the Spaniards, Puerto Rico remained a poor, rural, mostly illiterate, disenfranchised society for several centuries (Trías Monge 1997). At the end of the Spanish-American war, Spain and the US signed the “Treaty of Paris”, whereby Spain ceded sovereignty over Cuba, Puerto Rico, and other islands to the U.S.

In 1900, Congress approved the Foraker Act (“Organic Act of 1900”), and established a civil government in Puerto Rico (Ribes Tovar 1973). In 1917, this act, together with the Jones-Shafroth Act, led to US citizenship for Puerto Ricans. Puerto Rico remained, however, very poor. Access to an adequate supply of water at the time was difficult. In the 1940s and 1950s, Puerto Rico adopted a strategy of modernization and industrialization (Economic Commission 2006). This was known as “Operation Bootstrap” (Richardson 1992). In the space of about two decades, Puerto Rico went from an agricultural to an industrial and service-oriented economy. Puerto Ricans had one of the highest *per capita* incomes in Latin America and the Caribbean (Gutiérrez n.d.). In 1948, Puerto Ricans elected their first governor: Luis Muñoz Marín (Muñoz Marín). He actively engaged in the industrialization of the island (Trías Monge 1997).

By departing from dependence on agriculture and developing an industrialized society, Puerto Rico was able to successfully improve its infrastructure and its economy as a whole. As a result, it was able to provide its residents with universal access to basic services such as drinking water and sanitation. Most of the nations of the Caribbean, as well as many nations in Latin America and the developing world, have not been able to do the same (Economic Commission 2006). These changes began in the 1940s and continued well into the 1970s, and in addition to access to water services, included an improved

public education and public health system. Other advances were the establishment of a representative and democratic government, building roads, and the development of an infrastructure for the provision of key services that would foster economic development.

(Economic Commission 2006, Cántala Oliveras 1997). ¹⁶ By the 1980s, Puerto Rico was:

...as measured by conventional indexes, as industrialized as countries in southern Europe” (Richardson 1992). Agriculture, which had once been at the center of Puerto Rico’s economy, comprised less than five [5] percent of the island’s economy. (*Id.*).

In 1950, Puerto Ricans ratified their constitution and, as a result, the island’s official name became the Commonwealth of Puerto Rico and hence a “Free Associated State” (“Estado Libre Asociado de Puerto Rico”) (Reyes 1997).

The beginning of privatization

It was during the industrialization process that the government also began to privatize. At that time, the form of privatization followed was that of divestiture. Refer to Table 3-1. Thus, the government began to sell its assets. Then Governor Muñoz Marín sold the State’s “carton, bottle and cements plants to businessman [later governor] Luis A. Ferré” (Blasor 2004). ¹⁷ This policy, that is, divestiture and other forms of privatization, would be revisited from the 1980s on, as will be discussed later on in this chapter.

Muñoz Marín’s party, the PDP, remained in power in the island until 1968, when the pro-statehood party (NPP) won the elections. See Table 4-1. Throughout this time, despite some privatization, the government had owned and operated more industries than

¹⁶ In the 1940s and 1950s, most towns and homes located in the countryside did not have access to water services (Trías Monge 1997).

¹⁷ This privatization trend did not begin in other Latin American nations until decades later, clearly differentiating Puerto Rico from most other nations in the region. Ferré later founded the pro-statehood New Progressive Party (“PNP”) in 1967, becoming governor in 1968.

what traditionally was the case in the US (Stewart 2002, cited in Economic Commission 2006).¹⁸ Thus, the government of Puerto Rico owned and managed the electric company, the port authority, many industrial factories, agricultural land, hotels, sugar refineries, and the water authority (*Id.*). In 1974, the government purchased the telephone company to *improve its services and reduce costs* [the same argument set forth by the government for privatizing water services later] (Stewart 2002).

As will be explained in more detail in Chapter 6, current governor Luis Fortuño has embarked on a quest to promote public-private ventures and deregulation, as a way to improve economic conditions in the island. To promote privatization, on June 8, 2009, the government approved Law 2029 (P de la C 1377). This law reads as follows:

To establish the government of Puerto Rico's public policy concerning public-private partnerships, authorize all departments, agencies, public corporations and instrumentalities, legislative and judicial branches of the government to establish public-private partnerships through contracts.

This law garnered a lot of support from contractors and builders, arguing that it would improve the economy (Boletín Legislativo 2009). There has been, however, no mention of privatizing water management to the extent it was done under two water concession projects, entered into under previous political administrations.

¹⁸ During this same time, the government created a large number of public companies to manage water, transportation, communications, and other essential services. As a result, the government was not only the principal employer, but also managed most of the island's utilities and other basic services. The importance of this will gain greater relevance when we review the process of privatization and the temporary private management of water services.

Water in Puerto Rico

Water Management, quality, use and quantity issues

Water management

In Puerto Rico, the management of water services as a whole is under the purview of PRASA. Law Number 40, May 1, 1945 (22 P.R. Annotated § 141 et seq.). There are other state and federal laws that play a direct role in water management on the island as well as a number of other agencies that manage applicable laws. For instance, the application of the Federal Safe Drinking Water Standards (“SDWA”) ¹⁹, which are standards of the US Government, are implemented and enforced by the Department of Health of Puerto Rico (“PRDOH”), under the supervision of the Environmental Protection Agency (“EPA”). ²⁰ In addition, there are a number of other local agencies that participate in water management. These include:

- Environmental Quality Board (“PREQB”)
- Department of Environmental and Natural Resources (“PRDNR”)
- Department of Solid Waste (“Autoridad de Desperdicios Sólidos”)
- Soil Conservation Organization (“Servicio de Conservación de Suelos”)

PRASA serves about 97 percent of the drinking water needs of Puerto Ricans, through 212 water systems (PRDNR 2006, Resolución 564). Those that are not serviced by PRASA rely on independent rural aqueduct systems, that in turn obtain their water from

¹⁹ 42 USCA 300f, et seq.

²⁰ Under Puerto Rican law, the PRDOH was already in charge of implementing regulations to protect the quality of safe drinking water under Law. No 5, 21 July 1977 (Ley para Proteger la Pureza de las Aguas Potables de Puerto Rico). The regulations under the SDWA were also adopted by Puerto Rico under Regulation 6090.

creeks, aquifers, wells, and springs (PRDNR 2006) While in 2006 there were at least 270 small independent systems that provided water to mostly rural communities who were not serviced by PRASA, the number had increased to 297 by 2009 (Resolución 564).²¹ Those not operated by PRASA may be communal or non-communal. The non-communal systems are mostly operated by private companies (96 percent), which treat water, while the remaining communal water systems receive untreated water (PREQB 2005). Still, Puerto Rico remains the only place in Latin America and the Caribbean that has near universal access to water and sanitation coverage and has had so for decades (Orwin 1998).

22

PRASA is a public corporation. A key distinction between a public and a private corporation is that the first is organized for governmental (societal) purposes, while the second is not (Black's Law Dictionary 1968).²³ As a public corporation, and under Puerto Rican law, PRASA had always enjoyed a substantial degree of administrative and financial independence. Huertas Alicea v Compañía de Fomento, 98 TSPR 147 (1998). In *Huertas Alicea*, while defining the characteristics of a corporation under Puerto Rican law, the Supreme Court of Puerto Rico reiterated that PRASA was indeed a public corporation and, although it had a great measure of autonomy, its authority was limited by law (supra).

21 The independent systems are mostly run by area residents.

22 Notwithstanding Puerto Rico's access to water and sanitation services, it has repeatedly fared poorly when compared with the US and its territories. In 2004, Puerto Rico was third in terms of number of violations, with only Samoa and Washington D.C. faring even worse (Resolución 2009). Since then, it has continuously been fined by EPA. As recently as May 2010, the island entered into a consent decree with EPA to address outstanding violations under the Clean Water and the SDW acts, which had been the subject of a complaint filed by this agency (US v. PRASA and the Commonwealth of Puerto Rico, May 3, 2010).

23 The importance of this definition will become more relevant as we discuss the merits of the arguments set forth on behalf and against allowing a private corporation to manage water services.

One of those limitations was PRASA's inability to enter into contracts with private parties. This restriction was also a constitutional one.

Water quality

Puerto Rico has always struggled with water quality issues, but the problem became more of a concern beginning in the 1960s. By law, the Puerto Rico Environmental Quality Board (PREQB) performs an assessment of water quality of rivers, streams, lakes, lagoons, estuaries and coastal waters every two years. In addition, the government has undertaken and/or participated in many studies directed at improving water resources (PRDNR 2006, 2008). These have included Water Resource Assessments (1973 and 1975); Island-wide Water Supply Studies (1980 and 1983); Water Plans (1984, 2000, 2008), and many other such studies (PRDNR 2006, 2008).

In 1993, PREQB's assessment found that 84 percent of the rivers assessed, 63 percent of the lakes and lagoons, 17 percent of the coastal waters and 89 percent of estuaries had been affected by some pollution source (PREQB 1993). The 1993 PREQB report also indicated that there were a number of incidents of groundwater contamination that affected potable water sources and potentially endangered many residents (Id.). Groundwater continues to be contaminated (Quiñones and Alicea 2004). In 2004, it was estimated that at least 350 wells were contaminated (Id.).

As many continued to conclude, the main problems that Puerto Rico faced in terms of water quality and quantity have included soil erosion since at least 1993. Soil erosion, in particular, is a big issue as it reduces the capacity of water storage and increases the cost of treating water (Id.).

In Puerto Rico there are 102 watersheds totaling 5,394.2 miles of streams and 3,843.12 estuarine acres. There are 18 lakes or reservoirs and 20 lagoons (PREQB 2004).

Of the rivers and streams, about 23.3 percent were already impaired by 2004 (Id.), while all lakes are considered to be impaired in terms of aquatic life (Id.). Coastal areas are also affected by the following: beach erosion, fecal contamination, chemical pollution from illegal discharges, solid waste disposal and privatization of public resources (Seguinot, Barbosa and Méndez 2008). According to Seguinot et al., concern with privatization stems from the fact that a pattern of unregulated and unguided private development has had disastrous consequences for the island's coastal areas (Id.).

In a report issued in 2004 by the U.S. Geological Survey (USGS) together with the Commonwealth of Puerto Rico, the USGS concluded that one of the principal water quality issues in Puerto Rico was the presence of fecal coliform and fecal streptococcal bacteria in high concentrations (USGS 2004). See Figure 4-4. This continues to be the case at the present time (Plan Integral 2008).²⁴ Maximum concentrations of certain bacteria have consistently been above the legal standards since at least 1985, according to a 2002 USGS report (USGS 2002). The 2002 report emphasized how communities faced difficulties regarding the treatment of drinking water for bacteria because of run-off with high sedimentation concentration and turbidity (Id.). The USGS reached the same conclusion in 2003 (USGS 2004).

Water use and quantity

Water use has fluctuated over the last four decades. It increased in the 1970s, went down in the 1980s, and once again rose in the 1990s, although at a slower pace than in earlier years (Id.). In 1970, water use hovered around 1.5 million cubic meters per year.

²⁴ As mentioned elsewhere in this chapter, EPA filed a complaint against PRASA and the Commonwealth of Puerto Rico for violations which included failure to comply with effluent standards.

By 1995, it had risen to 2.1 million cubic meters. Principal uses of the water include residential, as well as agricultural, commercial and industrial use (PRDNR 2006, Plan Integral 2008). PRASA struggles to address issues concerning low system pressure and intermittent availability of water in communities throughout the island (Id.). See Figure 4-4.

One issue concerning water use in Puerto Rico that was to be addressed during the privatization contracts in Puerto Rico was the discrepancy between the amount of water produced and the water that can be accounted for, and therefore billed (Plan Integral 2008). See Table 4-2. The Puerto Rico Department of Natural Resources (“PRDNR”) lists a number of reasons for the recurring discrepancy between water produced and water billed: 1) theft; 2) faulty water meters; 3) unrealistic estimates of amount of water produced, as a result of faulty meters, due to incorrect calibration, among other things; and 4) water loss as a result of filtration or leaks in the transmission and distribution process (Id.).

In 2002, Puerto Ricans were using 0.2 percent of their renewable water supply (Figure 4-5). By 2003, PRASA was producing around 560 million gallons of water daily – enough to attend to the demands of Puerto Rico’s population (Government Still Pondering 2003). ²⁵ In 2005, PRASA was producing more: about 617 million gallons a day to about 98 percent of the population of Puerto Rico (PREQB 2005). Even with a steadily increasing production, however, PRASA was losing between 45 and 50 percent of the water it attempted to provide, for the reasons stated above (Government Still Pondering 2003, Inventario de Recursos 2004). In addition, Puerto Rican reservoirs continued to

²⁵ Other sources believe that the number of gallons provided by PRASA was lower, considering it approximately around 467 gallons in 1993 (PREQB 1993).

steadily lose storage capacity due to “the high sediment loads of river systems”, as indicated before (USGS 2005).²⁶ See Table 4-3 for a report on water uses in 2006 and 2007.

The Puerto Rican government had been struggling with an increasingly complex scenario regarding the provision of clean water to its people when it first considered privatizing water services. It was facing an aging infrastructure, more stringent federal and state regulations, changing urbanization patterns, varying rainfall patterns, and population growth (PAHO 2001). Some of the problems present in this scenario also included water shortages, as well as dealing with the impact of more frequent hurricanes and droughts (USGS 1999, 2005).

In the 1980s and 1990s, and as a result of the increased sediment loads as well as the problems above-stated, Puerto Rico faced what were termed “critical water shortages” (AP 2003). These problems had also led to severe rationing on at least three occasions by 2005 (USGS 2005). Rationing, together with deteriorating water quality and an aging and inefficient infrastructure, has led some to believe that Puerto Rico, as other islands in the West Indies, “will find it difficult to provide water for its future generations” (USGS 2005). Recent water studies confirm that the scarcity issue is becoming a problem, as there are communities which are already dealing with intermittent access to water and low

²⁶ Some of the problems faced by Puerto Rico and other Caribbean islands mentioned above are significantly different to those facing land-locked nations such as Bolivia; however, there are other problems, such as aging and outdated infrastructures and increased urban density, which are common to many societies.

pressure (Inventario de Recursos 2004).²⁷ In 2008, Puerto Rico suffered a deficit in terms of availability of water during drought conditions (Plan Integral 2008).

Privatization Trends in Puerto Rico

Introduction

As stated in the introduction, there are different forms of privatization (see Table 3-1). These range from corporatization to subcontracting and concession contracts. In Puerto Rico, selling state assets per se first took place in 1948. That year, the government sold a number of its manufacturing plants to private entities for \$10.5 million dollars. Two years later, then Governor Muñoz Marín sold more state assets (Martínez 2003). It was not until the 1980s, however, that Puerto Rico engaged in the large scale sale of its assets.

Privatization in Puerto Rico does not appear to have been a function of political preference. Members of the two major political parties, the NPP and the PDP, have supported privatization as a way to address various financial issues since the 1980s.²⁸ For instance, in the 1980s Governor Carlos Romero Barceló of the NPP privatized public hospital management. In the 1990s, Governor Rafael Hernández Colón (Hernández Colón) of the PDP tried to sell all of the Puerto Rico Telephone Company (“PRTC”) but was only able to sell long distance services (Díaz 2004).²⁹ He was able, however, to privatize a bus line and engaged in other privatization ventures. Governor Pedro Rosselló (“Rosselló”) of

²⁷ Note that water shortages took place during both privatization ventures.

²⁸ Aníbal Acevedo Vilá (Acevedo Vilá), governor of Puerto Rico from 2004-2008, expressed during his tenure that one of the ways in which Puerto Rico was to improve its economy was through the creation of public-private partnerships (Acevedo Vilá 2006).

²⁹ The sale was vigorously opposed by the Union and the government was unable to obtain the market price it was seeking for the sale. Six years later, Governor Rosselló (NPP) successfully sold the PRTC (Díaz 2004, Hemlock 2000).

the NPP, also engaged in privatization, selling the Puerto Rico Maritime Authority, as well as privatizing hotels and other state-owned companies. Thus, in the last three decades, and under the administration of two different political parties, the Puerto Rican government sold the following assets, among others:

- Puerto Rico Maritime Authority
- Teodoro Moscoso Bridge (Puente Teodoro Moscoso)
- San Juan –Río Piedras Bus Route
- Four hotels (Caribe Hilton, Ponce Hilton, Mayagüez Hilton, and El Convento)
- A number of hospitals and clinics
- The Pineapple Company (Compañía de Piñas Lotus)
- The Sugar Corporation (Corporación Azucarera)
- The PRTC

(Blasor 2004, Díaz 2004 PAHO 1998).

In addition to more encompassing forms of privatization, Puerto Rico also subcontracted management of important services during this time such as management of public housing, family law matters, and a number of jails (Blasor 2004). Most of these privatization efforts –including those pertaining to water management- began to take place during the governments of Hernández Colón (PDP) and Rosselló (NPP), between the early 1990s and 2001.³⁰ See Table 4-1. Rosselló was particularly adamant in his belief in privatization as a way to address ongoing management problems, a notion that has been

³⁰ After the recent election of Governor Luis Fortuño, public-private partnerships have gained prominence as a mechanism to address what the government perceives are issues that can best be addressed through those arrangements. They are not, however, concession-type contracts.

readily adapted by the pro-statehood present-day governor of Puerto Rico, Luis Fortuño.³¹ As a result of Rosselló's belief, the government entered into a number of contracts with private parties, some of which were later rescinded by Governor Sila Calderón ("Calderón", from the PDP) when she was elected to the post (Blasor 2004). Nonetheless, privatization continued. Calderón entered into another privatization contract for water services, as well as others contracts for management services in other fields. This will be discussed in the upcoming chapters. Soon after the two water-management privatization ventures ended, the government continued to engage in privatization but at a much more limited and minor scale with regard to water.

The road to water privatization

In the 1970s, PRASA was selected as the best managed utility in the US and its territories (Agosto Alicea 2006). By the 1980s, however, the situation had changed drastically, as Puerto Rico was struggling with serious water quality issues.³² By 1985, EPA and PRASA had already entered into the first of many consent decrees to address some of the violations found by EPA. In 1987, Hernández Colón reorganized PRASA. Among other things, he fired most of the members of PRASA's Board of Directors, and named Juan Agosto Alicea (Agosto Alicea 2006), previously Secretary of the Treasury Department, to head PRASA's Board of Directors.

³¹ Rosselló's supporters argue that he was trying to reduce a huge public sector which employs about a third of the economy's workforce, twice that of the US (16 percent). They argue that his privatization efforts were hampered by "[i]rresponsible unions ...[that] fiercely opposed ...[his] privatization efforts." (Hexner et al. 1998).

³² The author's research did not include an analysis of the reasons for the deterioration of the water management structure in Puerto Rico. It seems plausible, however, that population growth, stricter laws, and increased urbanization patterns, among other things, may have contributed to PRASA's inability to adequately address water quality issues.

At this point in time, Puerto Rico owed fines of around sixty one (61) million dollars. Agosto Alicea, as the new board president, entered into negotiations with EPA, reaching an agreement that reduced the fine to seven and a half million dollars. EPA allowed PRASA to use that sum for capital improvements and agreed on a timeline for Puerto Rico to address all of the outstanding violations.

In 1988, in an effort to address some of the financing issues that agencies like PRASA were facing, the government approved Law 44. This law created the *Authority for the Infrastructure of Puerto Rico* (AFI), which was to assist PRASA by offering it financial, managerial and technical assistance. AFI's assistance would allow PRASA to once again issue bonds, something it was unable to do for some time, and hence expand its capital improvements program (Office of the Comptroller 2003). AFI was a public corporation affiliated with the Government Development Bank ("GDB"). AFI's activities basically revolved around providing financing to PRASA. Thus, between 1988 and 1998, AFI's actions consisted of authorizing different financial transactions for PRASA's benefit. These actions included issuing bonds, authorizing credit lines, and processing state and federal loans. In addition, AFI assisted PRASA with five contracts for professional and consulting services (Office of the Comptroller 2003).

In 1989, Governor Hernández Colón created the "Economic Advisory Council", ("CAEG", for its acronym in Spanish.) CAEG was composed of members from Hernández Colón's cabinet, as well as persons from the private sector. The group was created to develop a plan to modify the economic trajectory that Puerto Rico had been following. This group suggested further privatization as a way of improving the local economy (Gutiérrez n.d.). Members believed that the inefficiency of the public sector was an obstacle in Puerto Rico's quest to continue on a path of rapid development (*Id.*). They

further emphasized the need to find the necessary capital to improve Puerto Rico's infrastructure and gain the support of the private sector in these endeavors (*Id.*).

In 1993, the NPP candidate Rosselló won the elections. Although he stated that he would follow a new model of economic development, he continued to pursue privatization as a solution to Puerto Rico's economic problems. At the time that Rosselló took office, PRASA was grappling with ever greater financial issues. The entity was also facing difficulties meeting EPA's timeline or-requirements for compliance with a number of provisions of the consent decree, as well as adequately addressing water quality and quantity issues (Law 19, 1997).

On September 13, 1993, to address the constitutional limitations that prevented PRASA from privatizing its services, and alleging major problems in water management, Rosselló declared a state of emergency at PRASA. (See 4-5, which includes a brief listing of the steps taken during the privatization process, and its after effects.) Rosselló issued emergency order 1993-41, "Boletín Administrativo OE 1993-41", which authorized PRASA's Executive director to take *any actions necessary* to address the severe problems that PRASA faced. These actions paved the way for PRASA to privatize its services, which in turn allowed it to grant concessions (Office of the Comptroller 2002).

PRASA was undoubtedly in poor financial shape at the time of Rosselló's decision to issue the emergency order.³³ Rosselló's justification for declaring a state of emergency

³³ The extent of the economic debacle was such that PRASA was no longer able to sell its bonds. In fact, in 1994, Moodys Investors had "raised the rating on PRASA's outstanding revenue bonds from Ba to Baa1, reflecting the Commonwealth of Puerto Rico's guarantee of the bonds" (Moodys 1994). The problems continued. By 1998, PRASA's debt had escalated to seven hundred fifteen (\$715) million dollars (Hexner et al. 1998). To help PRASA avoid defaulting on its loans, the government guaranteed four hundred and three (\$400.3) million dollars in PRASA revenue bonds in December 1995 (*Id.*).

was indeed its poor financial condition. He and others claimed that they were searching for ways to address maintenance and repair issues of an ailing infrastructure; storage, treatment, distribution and preservation of drinking water; and collection, treatment and disposal of wastewaters. In short, their objective was the improvement of all services that PRASA provided, as well as an improvement of PRASA's financial status (Orden Ejecutiva 1993).³⁴ The notion was that a private party would have the expertise to more effectively manage water and address PRASA's outstanding issues. From 1985 to 1992, PRASA had failed to develop a single water project to improve ~~or~~ increase water services in Puerto Rico. This was of particular importance during this time period, as the demand for water, particularly in metropolitan areas, had substantially increased (Law 19, 1997).

Two years later, Rosselló issued another order reiterating Boletín Administrativo OE 1993-41, and declared that PRASA's state of emergency continued OE 1995-69 (Orden Ejecutiva 1995-69). The order was issued in an attempt to pave the way for the next step in the privatization process: allowing companies to bid for a contract to manage PRASA's main services.

In 1994, Emilio Colón, PRASA's executive director at the time, suggested privatization to the Governing Board of Puerto Rico ("Governing Board"), to improve some of PRASA's services and assume responsibility for others. This private entity was to be PSG, which as indicated before, was a subsidiary of Veolia.³⁵ Soon thereafter, the

³⁴ This law was not revoked until December 2000.

³⁵ Soon thereafter, PSG changed its name to Compañía de Aguas de Puerto Rico (CGE). The next amendment to the contract (Amendment 1) was signed with Compagnie Générale des Eaux-Salude (CGE), PSG's and Aqua Alliance's parent company and a private operator ("CAPR", May 26, 1995). Vivendi, as many other corporate entities, uses many different names, including Veolia, Veolia Water North America, and many others (Public Citizen 2005). Through Amendment, PSG's responsibilities were expanded to include further responsibilities, such as

Governing Board approved a number of resolutions which authorized PRASA's Executive Director, among other things, to begin negotiations for a privatization contract with PSG. That same year, and at the behest of the Governing Board, Rosselló designated a privatization committee to negotiate and later administer the privatization process. This committee was composed of representatives from PRASA, the GDB, the Treasury Department, Smith Barney (financial advisors) and several U.S. law firms.

The water privatization contracts

Professional Services Group ("PSG")

In May 1995, PRASA entered into a contract with PSG (Government of Puerto Rico, Puerto Rico Aqueduct and Sewer Authority Agreement for the Operation, Management, Repair, and Maintenance of an Aqueduct, Sewer and Customer Services System May 26, 1995, "Contract PSG 1995"). Resolution AFI-95-7, issued by AFI's Board of Directors, indicated that given the problems that PRASA had been facing with regard to operating and financial difficulties relating to its water and waste water facilities, it was authorizing the execution and delivery of an operating agreement with PSG. PSG was defined as a Minnesota corporation but, as indicated above, it was a subsidiary of Veolia, one of the Fortune 500 French companies that provide water services all over the world. Initially, the company was to engage in the administration, operation, repair and maintenance of the drinking water and sanitation services system *for a fixed fee* for a period of five years.³⁶ These duties were expanded in 1998.

managing the human resources division. Other amendments extended the term of the contract until February 28, 2002, with the possibility of further extensions.

³⁶ A fixed fee refers to contracts where a service or a product is provided at fixed, specific rates. Such a contract requires that the costs be fixed in advance and the details of a job are

The following statements, included in the introductory part of the contract, illustrate the beliefs that prompted the contract:

- “... *it is necessary* for a private entity to operate, maintain, repair and manage a clearly defined portion of the PRASA system.”
- “*The Operator is an experienced provider* of full contract operation services for aqueduct and sewer utility systems.”(Contract PSG 1995).

As stated in Article III, Section 3.01 (a) (i) – (ix), PSG’s duties included, but were not limited to, the following:

- (i) Management, operation, repair and maintenance of drinking water and sewer services, in accordance with all applicable laws (state and federal);
- (ii) Qualified management and supervision of PRASA personnel;
- (iv) Treatment of wastewater and disposal of waste water sludge in accordance with federal and environmental laws;
- (vi) Reporting and filing reports in accordance with all state and federal laws and regulations;
- (xii) Providing annual audited statements of the non-labor costs;
- (xiii) Performing and providing all sampling and required laboratory work on a timely basis.

(Contract PSG 1995)

Section 10.02 (e), also lists the representations and obligations assumed by PSG:

“locked down”, meaning that the job details cannot be amended without negotiation between the signatories to the contract. The second privatization contract was not for a fixed fee.

“The Operator represents and warrants that it shall and will be accountable, liable, responsible, and answerable for the performance of all of the assignments, duties, obligations, services, commitments, and work contemplated in this Agreement.”

Furthermore, Schedule 1, which is entitled “Performance Standards and Guarantees” includes the following language:

...the Operator shall comply with all applicable provisions of Federal and Commonwealth laws, including rules and regulations promulgated thereunder, and with any permits, consent decrees, administrative orders, or compliance plans issued or approved by any court or administrative body...

(Id.)

Under the terms included in PSG’s contract, the majority of operational costs remained solely PRASA’s.³⁷ Most other costs were the responsibility of other governmental entities (Id.).³⁸

In 1998, Law 40 was amended to allow PRASA to delegate part of its duties and responsibilities to a private entity. This was the basis for Amendment 1 of the PSG contract, which resulted in the government handing a number of responsibilities to PSG

³⁷ The contract with Ondeo was quite different. Under the terms of the Ondeo contract, it was Ondeo who was responsible for operational costs.

³⁸ As an independent governmental entity, PRASA received funds and managed them accordingly. PRASA had to attend to its liabilities independent of the central government. Only when it was specifically agreed upon did the Government of Puerto Rico provide funds to PRASA.

(now Compañía de Aguas de Puerto Rico, “CGE”), which had previously been solely under PRASA’s purview, such as the financial and human resource departments.

On March 1, 1999, through Amendment 2, PSG’s name was changed to “Compagnie Générale des Eaux” (“CGE”), which was PSG/CGE’s parent company, and the amendment included an additional party: Aqua Alliance, Inc. (“AA”) (Office of the Comptroller 2002).³⁹ In addition, PSG and AA went on to handle all services to the general public such as billing, collection, laboratory work, human resources, as well as manage PRASA’s finances.⁴⁰ The delegation of administrative tasks was expanded, both in terms of administrative capability and operations in general (*Id.*).

Between August 1996 and May 1998, the contract was also amended through a series of what were termed modifications. This included the elimination of AA’s name as an operator, and an advance to PSG for special projects for the sum of 7,753,024 dollars, although PSG had only spent 1,654,737 at the time (Office of the Comptroller 2002). It was also amended again several times in 2001.⁴¹ One substantial amendment was Modification 5 to Amendment 2 (Office of the Comptroller 2003). This modification to the contract expanded the projects that PSG was to handle, and for which PSG was paid twenty million dollars to develop various island-wide projects (“Proyecto de Agua para Todos”). Another amendment was Modification 6 to Amendment 2, which concerned the

³⁹ Since most of the literature and reports routinely refer to the company using its original name, “PSG” will be used throughout the paper.

⁴⁰ AA was later eliminated through a modification to this same amendment.

⁴¹ This is not uncommon in concession-type contracts, where amendments frequently occur.

end date of contract. The contract was extended until February 28, 2002, with the possibility of another extension to end on June 30, 2002 (Id.).⁴²

The contract with PSG was sharply criticized by the Office of the Comptroller for many reasons, including the following:

- PRASA's Board of Directors did not request written proposals from entities that could have potentially been better candidates to assume the management of water services in Puerto Rico. Said behavior prevented PRASA from considering other alternatives, perhaps more favorable to the project at hand;
- In violation of applicable regulations, PRASA's Executive Director twice amended the terms of the contract with PSG without the agreement of the other members of the Board of Directors. These amendments took place in 1998. As in the case of the single party negotiation with PSG, the Office of the Comptroller believed that PRASA's Board did not fully assess whether these conditions or amendments were in fact beneficial to Puerto Rico's objectives;⁴³
- In violation of other applicable laws and regulations, PRASA did not submit the required copies of the four amendments to the PSG contract to the Office of the Comptroller and submitted other documentation in a late fashion. Again, this prevented adequate assessments and/or review of the contract and its amendments by other governmental agencies.

(Office of the Comptroller 2002).

⁴² The contract was terminated in 2002.

⁴³ The concern that PRASA had consistently agreed to conditions which lacked any evidence that they were beneficial to Puerto Rico's objectives were repeated throughout all of the auditing reports reviewed by the author and cited in this document.

The Comptroller's above-cited report further criticized PRASA for poor management practices. These poor practices included lack of supervision, inadequate payment authorization –because work rendered was incomplete or deficient, and lack of uniformity(Id.) The report also showed that PRASA's operational deficit escalated to \$241.1 million during this time period, forcing the Government Development Bank ("GDB") to intervene on a number of occasions to "provide emergency funding" (PSI Briefing 2000).

Other concerns included PSG's lack of compliance with the terms of the contract by failing to address issues required by the contract within the established deadlines. PSG also failed to submit reports stipulated by the contract regarding financial audits, list of equipment replaced or installed, system maintenance practices, or revision or updates of PRASA's emergency plans. PSG was also consistently late in delivering reports that included equipment and chemical inventories and in making payments to other governmental agencies, such as the PRTC. In terms of labor issues, and specifically compliance with state law and agreements with the employees' union, PSG failed to institute effective vacation plans resulting in having to pay sixty three million dollars. In addition, it subcontracted work without notifying the union, in violation of all existing labor agreements (Office of the Comptroller 2003).

PRASA and PSG had problems almost immediately after signing the contract. When PSG began to render its services in September 1, 1995, PSG and PRASA differed in their view of PSG's duties under the terms of the contract. Negotiations immediately ensued over costs of operation, reimbursements, and other financial matters. In June 1998, PRASA and PSG entered into a settlement agreement to address those differences. The agreement was meant to address PRASA's concerns about overpayment and other issues,

and PSG's claims of monies owed in maintenance, repairs, replacement and renewal of various items (Office of the Comptroller 2000). The final terms of the settlement were a product of negotiations between the parties, and were criticized by the Office of the Comptroller for its inaccuracy and absence of evidence of how PRASA's calculations of the amounts it owed were determined (*Id.*).

The contract with PSG was rescinded in 2001 (Office of the Comptroller 2003). At this time, PRASA *was forced* to resume management of water services in Puerto Rico. Some felt that PRASA was ill-equipped to do so, as it had not prepared itself for the possibility of resuming management. Such is the belief of then Comptroller of Puerto Rico, Manuel Díaz Saldaña (Díaz Saldaña 2006). He believes that PRASA's inability to foresee that it *might have* to resume management of water services and prepare for that possibility, was a dire mistake, as it placed the delivery of said services in peril (*Id.*). PRASA placed itself in the untenable position of not being able to readily terminate a contract for failure to comply with its terms, given its inability to resume management. In fact, Díaz Saldaña believes that PRASA had to postpone the decision to rescind the contract *because* it was unable to take over management, a proposition that he believes could have been avoided (*Id.*).

Ondeo

After entering into a contract with PSG, Rosselló had set aside PRASA's emergency order. This order, however, was once again reinstated by the new governor of Puerto Rico, Sila Calderón, the first female governor of Puerto Rico.⁴⁴ Since the

⁴⁴ Puerto Rico, however, had already had a female mayor: Felisa Rincón Viuda de Gautier, also from the PDP, who was San Juan's mayor from 1946 to 1968. A beloved figure, she was the first woman to have been elected mayor of a capital city in the Americas.

inception of the Calderón government in 2001, Puerto Rico had been assessing the possibility of returning management of water services to PRASA.⁴⁵ This assessment led to the establishment of a committee of eleven persons headed by Juan Agosto Alicea, who had also previously presided over the GDB. The committee included government officials, as well as lay persons, and representatives of the private sector. After a year-long assessment, the committee concluded that PRASA was not ready to resume management of water services. This decision was based, in great measure, on a recommendation made by Price Waterhouse, an accounting firm which the government had hired to conduct a study on the subject. The firm suggested that returning management of water services to the government would be less cost-effective than allowing a private entity to manage them.⁴⁶ The government had already solicited bids for the privatization project and had received some that reflected lower costs than if the government were to manage water services. The stage was set for a second attempt at water privatization.

Seven different companies submitted bids. Although three entities withdrew their bids, four continued on. Suez' subsidiary Ondeo submitted the lowest bid and was awarded the concession (Agosto Alicea 2006, Office of the Comptroller 2003). On May 3, 2002, Puerto Rico entered into a contract with Ondeo for the administration, operation, and maintenance of the drinking water and sewer systems of Puerto Rico (Office of the Comptroller 2007). The ten year "Service Contract for Water and Wastewater System Asset Management (Island-Wide) by and between Puerto Rico Aqueduct and Sewer

⁴⁵ During this time, PSG continued to manage water services for the island.

⁴⁶ The author does not know the basis for this recommendation as she was unable to gain access to the Price Waterhouse Report.

Authority (PRASA) and Ondeo de Puerto Rico, Inc.” (“Service Contract”) was the largest of its kind at the time and made headline news.

The service contract...shall continue in effect for ten (10) years ...
or if renewed at the option of PRASA. Sections 2.2 and 2.3 of the
Service Contract.

The contract was supposed to lead to “annual turnover of around five hundred seventy four million dollars” (Forbes 2004), it did not.

There were sharp differences between the contract with PSG and the one with Ondeo. In Ondeo’s contract, Ondeo was responsible for all expenses incurred in the delivery of its services, whereas in PSG’s contract, the government bore the responsibility for many of PSG’s costs in rendering its services. In addition, whereas PSG was at liberty to raise water prices, Ondeo *could not raise prices*.

[Ondeo will]... assist PRASA in eliminating PRASA’s current
operating deficit within five (5) years of the date of this Service
Contract without any rate increases... Section 2.1 of the Service
Contract.

The contract also had an option whereby Puerto Rico could choose *not to renew* the contract after five years, with PRASA resuming responsibility for water management. Presumably, the notion was that the government would not find itself in the untenable position it had been in before with PSG, when it was unable to resume PRASA’s management, even though it wanted to rescind its contract with PSG.

Calderón’s government believed that entering into a contract with Ondeo was the solution to Puerto Rico’s ongoing water problems. Ondeo had (and still has) successful water management ventures throughout the world. As a company with ongoing

privatization ventures, Ondeo had proven that it is an efficient water provider. Calderón and others in her government believed that Suez' vast experience in water management throughout the world would result in improvement in the delivery of water services in Puerto Rico. This expectation was based on the premise was also that PRASA's present day problems stemmed from lack of expertise.⁴⁷

Almost immediately after the contract with Ondeo took effect, as in the case with PSG, problems began to emerge. The two sides disagreed on the way that management of water services should be carried out. Similarly, as in the case of PSG, soon after the approval of the contract, Suez insisted on a series of modifications to the contract.⁴⁸

The relationship with Ondeo soured quickly. The contract was brought to an end on January 13, 2004, only eighteen (18) months after its signing through the "Resolution Agreement by and between Puerto Rico Aqueduct and Sewer Authority and Ondeo de Puerto Rico, Inc." ("Resolution Agreement") (Office of the Comptroller 2007). The parties agreed and entered into the Resolution Agreement to address the concerns and claims made by both sides regarding monies owed, and to rescind the contract (*Id.*). Ondeo demanded an additional ninety three (93) million dollars from the government to continue its operations (Caribbean net news 2004). The company alleged it had sustained financial losses during its first year and a half of operations due to "misinformation provided by the

⁴⁷ It is unclear why the Calderón government believed that Ondeo was any different to PSG, as both shared the same characteristics in terms of experience, successful projects, and presumably, the ability to improve water services in Puerto Rico.

⁴⁸ As indicated before, this seems to be an inherent characteristic of water privatization contracts that the author has reviewed, including the ones in Cochabamba and La Paz-El alto (Bolivia), Tucumán (Argentina) and Puerto Rico.

government”,⁴⁹ and had thus “[f]aced economic realities very different from initial projections” (Forbes 2004). As a result, Ondeo expected that the government compensate it for said losses (Caribbean net news 2004). Clearly, the parties disagreed on their respective obligations under the contract. It is possible that Ondeo expected, at least in the beginning of its threat to refuse to continue operations, that, as had been the case with PSG, PRASA would be unable to resume management of water services. The government, however, refused to agree with Ondeo’s alleged change of terms and when it “threatened to reduce services to make up for the losses”, PRASA still did not agree to Ondeo’s demands (Reuters News Service 2004).

Before the termination of the contract, many from the Governor’s party (PDP) had already been publicly requesting the rescission of the contract with Ondeo. They claimed that Ondeo’s performance was not satisfactory, and argued that Puerto Rico’s water quality had in fact further deteriorated under Ondeo’s management.⁵⁰ When the parties failed to reach an agreement over Ondeo’s claims and what the government was willing to concede, negotiations were begun to settle terms for termination of the contract. At this time, PRASA owed steep fines due to water violations under Ondeo’s management. From 1995 to 2002, PRASA lost 1.1 billion dollars (Agosto Alicea 2006).

The rescission of the contract with Ondeo returned management of water services to PRASA. Under the terms of the termination agreement, Ondeo continued to manage the sewer system until March 2004, under PRASA’s supervision (Office of the Comptroller

⁴⁹ Lack of access to adequate information is a frequent assertion by water companies when facing criticism for the way they are managing water under a privatization contract.

⁵⁰ Such was the argument of then Senate President., Antonio Fas Alzamora.

2007, Resolution Agreement). From April 1 to June 30, 2004, PRASA would resume management of the service but Ondeo would continue to provide technical support. On July 1, 2004, the contract was finally rescinded and PRASA returned to managing all of Puerto Rico's water services (Id.).

After PSG and Ondeo

That same year, and after eight years of water privatization contracts, the government instituted a series of measures to change PRASA's management of water services in Puerto Rico. The idea was to improve services by reorganizing the geography of water management. To do so, PRASA divided the island into five (5) regions. The government approved Law No. 92, on March 31, 2004 (P. de la C 4337), which established the following, among other things:

- that the territory of Puerto Rico would be divided into five regions in terms of management of water services. These regions were: metro, north, south, east and west.⁵¹ (See Figure 4-6);
- to avoid political manipulation, the posts of Executive Regional Director, Executive Director of Infrastructure, and President were set for a period of six years, thereby not coinciding with election terms;
- PRASA was authorized to enter into agreements with municipalities for capital improvements and other matters;

⁵¹ The five regions are: San Juan, Caguas, Arecibo, Ponce and Mayagüez, each with its own independent accounting system. A consortium manages construction projects in the five regions, supervised by PRASA. Other governmental entities also participate in these projects, such as Puerto Rico's DOH, and EPA. The consortium also includes a number of contractors and subcontractors who are in charge of performing the construction work in each of the five regions.

- PRASA was granted the authority to enter into agreements with regulatory agencies, as well as declare a state of emergency if deemed necessary;
- PRASA was authorized to hire employees and ex-employees of the private parties that managed water services in Puerto Rico for eight years, as well as of PRASA's own ex-employees, for a period of two years.

In sum, PRASA was granted greater latitude in its decision-making process.

After PRASA's reorganization, Puerto Rico embarked on a different form of privatization with respect to water.⁵² In this new phase, only management of construction work was turned over to private companies. Each of the regions had different contractors overseeing management of the construction phase of pending work. Relying on different contractors was to prevent, in theory, the possibility of being overly dependent on one particular private party, and thus protect PRASA from being placed in a disadvantageous and powerless position (Agosto Alicea 2006).

As to general management of water services, the problems have continued, regardless of the termination of both privatization contracts. PRASA's largest fine, as some point out, took place two years after the end of the latest water privatization venture and the reorganization of the agency itself (Díaz Saldaña 2006). Management of water services in an island plagued with increased urbanization, overpopulation, aging infrastructure and other similar problems, still remains a daunting task. PRASA's reorganization into five regions does not seem to have had a bearing on the quality of water

⁵² As will be shown later, the government has assumed a much more aggressive stance in terms of favoring public-private partnerships, approving a law that created a department to oversee such arrangements Law 29, approved in 2009.

services, like privatization before it, based on the number of fines that have been levied against PRASA (Informe de Auditoría CP-07-06 January 2007).

Views on Privatization in Puerto Rico: then and now

As elsewhere in the world, there have been both supporters and detractors of the privatization trend in Puerto Rico. Some argue that the issue is not whether or not to privatize, but rather how to improve the mechanism of privatization (Office of the Comptroller 2002). They argue that, given adequate management of the privatization endeavor, and an allowance for transparency, access to adequate information and an efficient framework, privatization could lead to effective results in water management (*Id.*). Díaz Saldaña, Comptroller for the Government of Puerto Rico during both water privatization ventures (PSG and Ondeo), believes that there are a series of measures that must be taken to achieve success in any privatization venture (Díaz Saldaña 2006). To that end, his office actively pursued the development of a policy that could lead to successful privatization ventures, based both on the experiences of Puerto Rico and elsewhere. The office of the Comptroller has issued numerous pamphlets and information concerning the need to follow principles which it alleges will ensure successful public administration, including administration regarding privatization projects. Among some of the principles espoused by the Comptroller are ones that are parts of a pamphlet that delineate the necessary steps to follow for a successful privatization venture. See Figure 4-7. This scheme emphasizes seven phases, all of which are geared towards a more “hands-on” approach to the process of privatization. The objective is to pursue a legal, economic and managerial framework that can adequately address issues pertaining to privatization. It also stresses the need for transparency in decision-making processes; adequate access to

information at all times; fair and economically-viable objectives; effective supervision and fairness and openness of bidding processes, among others.

The principles included in the above-referenced scheme are of ongoing concern for all who are involved in privatization, and in fact, attempt to allay those concerns by providing what is argued as an adequate mechanism for successful privatization. All of these principles, it has been argued, were missing in the privatization ventures of both Puerto Rico and Bolivia. Unfortunately, many who are involved with privatization in Puerto Rico and elsewhere take an “all or nothing” approach: either privatization can be successful, provided certain mechanisms are in place, such as an effective, transparent, and informed legal and managerial framework, or any effort to privatize will result in ultimate failure, no matter what mechanisms or principles are followed.

Some members of the banking community in Puerto Rico believe that privatization has been largely successful in the island and that the government is learning -and can continue to learn- how to “fine tune” the privatization process and avoid the failures of the recent past (Díaz 2004). Along that same line, others argue that with the assistance of adequate regulations, privatization can be successful. They believe that the key lies in devising an adequate strategy when privatizing (Ruiz Marrero 1999).

Privatization supporters point to ventures such as the building and operation of the “Teodoro Moscoso Bridge”, which has been heralded by the Federal Highway Administration for its innovative financial approach and is widely thought to be a success (DTOP 2006).⁵³ As the first contract of its kind in Puerto Rico and all of the US, it is said

⁵³ In 1990, Puerto Rico passed a law that granted the Department of Transportation the ability to enter into contracts with private parties for DBO of roads, bridges, etc.

to have greatly increased access to the main San Juan Airport while guaranteeing significant financial returns for the government of Puerto Rico (Autopistas de Puerto Rico 2004, DTOP 2006). Another success story is that of the sale of the Maritime Company. It was a company that had been in financial trouble for many years, and its sale relieved the government of Puerto Rico from the burden of having to subsidize it.

Those who oppose privatization as a whole in Puerto Rico point to many instances in which privatization has not been successful. One example of the shortcomings of privatization was the contracting of a number of prisons to be run by private companies since 1997. By 2002, Puerto Rico concluded that it would *save* money if it resumed government management of said prisons (AP 4 Feb 2002).⁵⁴

Views on Water Privatization in particular

Regarding privatization in general, important political figures in Puerto Rico, such as Agosto Alicea (head of the GDB during the second privatization effort), believe that privatization can be an excellent mechanism to address particular issues. Regarding water, however, his view is different. As he states, privatization can lead to the accomplishment of many objectives, as long as those services are not *essential* (Agosto Alicea 2006). He believes that it is too risky to allow a private party to be in control of something as essential as water. In contrast, Díaz Saldaña, a person intimately involved with both privatization projects in his role as head of the Office of the Comptroller, disagrees. He does not believe that privatization of water should be treated any differently than any other privatization project. He argues that privatization has always taken place, as when governmental entities hire others to do particular tasks, such as billing, management of

⁵⁴ Interestingly enough, this is the same argument used to promote privatization:

certain programs, research, etc. In his view, what is essential is that mechanisms are in place to guarantee adequate supervision of the privatization contract (Díaz Saldaña 2006). Said another way, Díaz Saldaña believes that with adequate supervision and regulation, water privatization can be successful.

Concession-type Water Privatization in Puerto Rico: a
failure

At the time of the water privatization projects, Puerto Rico already had virtually attained universal access to water. Although at some point new sewer services connection were in peril because of lack of compliance with federal water laws, these issues were being addressed *before* the government entered into a contract with PSG and later Ondeo. Thus, the issue of improving access to water or improving the quantity of water that people had access to, while important in many other Latin American privatization efforts, was not present in Puerto Rico.

Nonetheless, Puerto Rico was undoubtedly facing many problems concerning its water supply. Plagued by debt; fines; theft; water quality and in some cases, quantity issues; and water loss (due to an aging infrastructure and theft), the government was dealing with a crisis that seemed to be growing steadily as the years went by. Thus, the alternative of hiring a private entity which had wide experience managing water services must have seemed like a feasible alternative. Unfortunately, both privatization contracts did not work out as expected. But do these failures prove that the premises underlying my hypothesis that all concession-type water privatization ventures in Puerto Rico are destined to fail are flawed? Is there room for successful ventures or is failure inherent in the “nature of the beast”?

A review of how water privatization took place clearly illustrates how government rushed to issue emergency orders, approve laws, award a bid, and enter into contracts with unfavorable terms and inadequate mechanisms in place to *supervise* the contracts with the private entities. This resulted in chaos, mismanagement, abuse, overpayments, and fines, as the government of Puerto Rico was unable to effectively direct or control the actions of the private parties (Office of the Comptroller 2007.) This was reiterated with regard to the first privatization contract evident in the allegations set forth in the complaint that the government filed against PSG, Vivendi, Aqua Alliance and others (the signatories of the first privatization contract) (KACO2-7184, Superior Court of San Juan, Puerto Rico) (see Table 4-4). In the complaint the government of Puerto Rico claimed that PSG: (1) repeatedly violated the terms of the collective bargaining agreements by subcontracting without adequate notification to the union; (2) failed to make payments to other governmental entities even when PSG had received the money to pay from PRASA; (3) failed to reimburse PRASA for overpayment; (4) failed to address outstanding environmental violations; (5) failed to perform upkeep and maintenance of the infrastructure, and other allegations. Yet, at the time when these alleged violations were taking place, the government was neither able to address them nor to effectively terminate the contract and resume management of the services itself, as the Comptroller at the time has pointed out (Díaz Saldaña 2006).

The contract with Ondeo failed quicker than the one with PSG. In addition, water quality continued to deteriorate, water quantity shortages continued, and as a result, Puerto Rico continued to be fined repeatedly (Informe de Auditoría CP-07-06 January 2007). The parties did not agree on their respective obligations under the contract. In the end, the government of Puerto Rico chose to terminate this contract as it had seen no improvement

in the delivery of Puerto Rico's water services and it was consistently dissatisfied with Ondeo's performance (see Table 4-4).

Why were the objectives of Privatization Contracts not met
in Puerto Rico?

I analyzed the PSG and Ondeo privatization contracts, bearing in mind the underlying premises that formed the basis for my hypothesis, to analyze why they both failed. In the case of both PSG and Ondeo, most of the premises were proven to be false.

That a private company will be more efficient than a governmental entity in managing water services

Regarding greater efficiency or access to resources which will improve water services, there is no indication that either PSG or Ondeo were more efficient, better managers or improved water services more than PRASA (Office of the Comptroller 2007). In fact, the opposite was true. Reports prepared by the Comptroller showed repeated irregularities that included overpayments; mismanagement which led to many environmental and labor violations and large number of fines; failure to follow established accounting practices; and other deficiencies (Office of the Comptroller 2002, 2003 and 2007). The fact that the penalties and fines, in particular, continued throughout the private operators' tenure lends credence to the above-stated propositions as it resulted in large expenditures for the government of Puerto Rico and exemplified bad management and failure to improve water services.

It is true that PRASA had been struggling with repeated violations of applicable federal and state water laws for decades. For instance, in 1985, PRASA entered into a Consent Decree with EPA where "it agreed to upgrade many of its wastewater treatment plants to ensure compliance with the Clean Water Act." Puerto Rico Aqueduct & Sewer

Auth. v. Metcalf & Eddy, 506 U.S. 139 (1993). PRASA was also fined repeatedly for violations to the SDWA, evident in the large number of administrative orders issued by the EPA as well as the Department of Health (“DOH”) from 1991 to 2003 (Annex 4.2(i), Resolution Agreement between PRASA and Ondeo , 2004). ⁵⁵ In 1994, PRASA incurred more than forty one violations throughout the island, regarding turbidity, bacterial presence, and other parameters (Annex 1, Agreement PRDOH and PRASA, 2006).

In 1995, PRASA entered into another Consent Decree with EPA (Consent Decree, Civil No. 92-1511 (SEC), Federal District Court for the District of Puerto Rico.) ⁵⁶ The Consent Decree concerned violations to the CWA and National Pollutant Discharge Elimination Systems (“NPDES”) permits (Informe de Auditoría CP-03-02 July 2002). The decree concerned at least 74 Administrative Orders that EPA had issued concerning violations in sewage treatment plants (Id.). PRASA was assessed a fine of two hundred thousand dollars.

In 1997, however, after the first privatization contract had already been in place for approximately two years, PRASA was again found to be in violation of various water laws reveals the following violations to the CWA:

- PRASA-Lares, Puerto Rico – Administrative penalty complaint under §309 (g) for violations of effluent limits in the NPDES permit issued for the city of Lares’ sewage treatment plant (\$125,000.00)

⁵⁵ The resolution agreement relates to the second water privatization contract entered into between PRASA and Ondeo, a subsidiary of Suez Internationale des Eaux, now Suez. The first contract was with Professional Services Group (“PSG”), also known as Compañía de Aguas, a subsidiary of Vivendi (now Veolia). PSG changed names several times during the contract’s tenure.

⁵⁶ Note that in 1995, PRASA had already entered into a contract with PSG to manage its water services.

- PRASA-Arecibo, Puerto Rico – Administrative penalty complaint under §309(g) for violations of effluent limits in the NPDES permit issued for the city of Arecibo’s sewage treatment plant (\$100,000)
- U.S. v. Puerto Rico Administration of Corrections (PRAC, Puerto Rico) – Entered into a Consent Decree under which PRAC agreed to cease the discharge of pollutants from three of its facilities. (Lack of compliance with a prior consent decree regarding the same matter brought about penalties in the sum of \$625,000.00. PRASA also agreed to construct new water lines and perform other work (\$600,000.00).)
- U.S. v. Puerto Rico Aqueduct and Sewer Authority (PRASA) (Puerto Rico) – The parties entered into a treatment stipulation whereby PRASA paid \$375,000.00 to the U.S Treasury. This payment addressed a long list of penalties imposed by EPA (27 motions and a number of orders dating from 1985 and up to 1996). In addition, PRASA paid \$251,400.00 for violations of the Pump Station Stipulation entered into in this same case in 1995
- U.S. v. Puerto Rico Aqueduct and Sewer Authority (PRASA, Puerto Rico) – Agreement regarding PRASA’s violations of its discharge permit in the city of Mayagüez’ sewage treatment plant. PRASA paid \$150,000.00 in civil penalties, and contributed \$400,000.00 to a local initiative researching sources of water pollution, as well as attend to other matters at the plant.

The violations continued during the privatization ventures. Again on December 8, 2000, EPA and PRASA entered into a Consent Decree in the case of United States v. Puerto Rico Aqueduct and Sewer Authority (PRASA), Civil Action 00-2554, filed in the United States District Court for the District of Puerto Rico, for violations to the CWA and

the SDWA. In addition, and concerning the need to address sewage treatment plant violations, EPA issued fifteen Administrative Orders to correct violations in 1998; eight in 2001, fifty one in 2002 and thirty six in 2003 (Annex 4.2(i) EPA- Órdenes Administrativas de Plantas de Alcantarillado (Administrative Orders sewage treatment plants), Resolution Agreement between PRASA and Ondeo 2004).

In 2001, PRASA entered into another Consent Decree for violations to NPDES permits and the CWA (Consent Decree, Civil No. 00-2554, Federal District Court for the District of Puerto Rico.) This Consent Decree concerned violations in thirty nine sewage treatment plants and required PRASA to pay stipulated penalties in the amount of nine hundred eighteen thousand seven hundred and seventy three dollars (Id.).

Again in 2003, due to violations to the CWA by PRASA and both private operators (PSG and Ondeo), all three agreed to be jointly and severally liable for the payment of a million dollar fine (EPA 2003, Consent Decree, Civil No. 01-1709). The parties were to engage in remedial actions and address a list of violations related to water issues. As codefendants in the agreement, both PSG and Ondeo shared legal and financial responsibility with PRASA for these violations. The US sought civil penalties as well as injunctive relief for the codefendants' discharges of raw sewage, violation of pollutant discharge permits, failure to operate and maintain a number of pump stations, and failure to report other violations of sections 301(a) and 402 of the Clean Water Act (“CWA”), 33 U.S.C. 1311(a) and 1342 (EPA 2003). The violations encompassed at least 185 sewage pump stations (EPA FY 2003 Case Highlights). The codefendants agreed to complete the required construction and maintenance work. In addition, they were to spend 1 million dollars on a project to assist low-income populations in rural areas improve drinking water quality.

Regarding the improvement of water quality, even if the cases above-referenced were not considered, none of the studies on water found an improvement with regard to these recurring issues during the time of the privatization projects and, as stated above, many fines were issued from 1998 to 2004 (Annex 4.2(i) of the Resolution Agreement between PRASA and Ondeo 2004).

That a private company will have access to monies and resources that a public entity may not have, which in turn will lead to investments that will improve water services

There is no indication that either private company that operated in Puerto Rico had access to monies that lead to investments and improvement in the delivery of water services.

That a private company will not be affected or influenced by local political considerations

The premise that local political considerations are less likely to take place during water privatization projects was not relevant in the case of Puerto Rico, although it was relevant and will be analyzed in Chapter 5, when the Cochabamba privatization contract is reviewed. A Local politics do not seem to have played a role, before or after privatization, as both major political parties pursued privatization, with poor results.

That a private company has developed expertise that will allow it to better manage and successfully improve water services, even if unfamiliar with local characteristics and practices

Again, there is no indication that either private operator was able to use its expertise to successfully manage water services in Puerto Rico. The Office of the Comptroller identified numerous violations concerning reporting, payment and billing, etc., and in

addition, as indicated before, numerous steep fines were levied against the government of Puerto Rico for water quality violations (Office of the Comptroller 2003, PSI Briefing 2000)

That a private company will be able to generate greater profits, while improving the delivery of water services and that it will be able to regulate itself without the need for a strong regulatory presence

These premises were also not proven to be true. There was no evidence that profits increased under either contract. In fact, given the large number of fines that PRASA had to pay during the tenure of both contracts, its financial situation deteriorated. As indicated by the Comptroller, PRASA's operational deficit escalated to \$241.1 million dollars during the PSG contract (Id.).

As for self-regulation, there was evidence provided in numerous reports from the Comptroller's Office that from an accounting and legal perspective, there were numerous problems in the performance of both contracts. Failure to pay vacations, subcontracting without notifying the union, etc., all led to greater expenses for PRASA (Office of the Comptroller 2003). This led to unexpected and higher payments, fines, orders, agreements and complaints as stated above.

That governmental entities will be able to adequately supervise private water companies and resume management of the services if need be

This was not proven to be true. Regarding adequate governmental supervision, the numerous deficiencies, fines, administrative orders, and complaints issued, filed and entered into during both concessions reflect that the government was in fact unable to effectively supervise and address issues concerning problems with either privatization contract. During the tenure of both contracts, and as indicated by the Comptroller of

Puerto Rico at the time, the government of Puerto Rico spend millions of dollars in addressing all of these issues, as well as eventually in the negotiation and termination of both contracts (Díaz Saldaña 2006).

In addition, PRASA agreed to amendments in the contract that were not based on solid evidence that agreeing to them would actually benefit water services in Puerto Rico (Office of the Comptroller 2003). PRASA's continued failure to submit documents to the Comptroller's Office prevented the auditing agency an adequate review and assessment of the issues concerning the amendments or modifications.

As to resuming management, PRASA was unable to resume management of water services after the first operational contract, which was what contributed to a decision to privatize the services once again (Díaz Saldaña 2006).

That a private company will be able to adequately regulate itself and, as a result, there will be no need for a strong regulatory presence

The reports prepared by the Office of the Comptroller of Puerto Rico, the fines received and the complaints voiced by the government of Puerto Rico during the tenure of both privatization contracts, reveals that the government had serious concerns about the companies' performance. It is precisely for those reasons that the concession contracts were brought to an end. Even with the presence of the Office of the Comptroller, there were irregularities found at all times in the performance of these contracts. It does not seem plausible that the companies were adept at regulating themselves, thereby invalidating this premise.

That a government will be able to negotiate and enter into concession-type contracts with private parties for the delivery of water services at “arms length”, that is, on an equal footing

As stated in the previous section and in the Comptroller’s Reports, the government repeatedly agreed to terms in the contracts that were never shown to be beneficial to the government of Puerto Rico. This is particularly relevant in a situation where fines and excessive expenses were the norm, as evidenced by the criticisms of the Office of the Comptroller. In fact, by 1998, when the parties entered into a Settlement Agreement to address their differing views concerning PRASA’s alleged over or under payments, as well as PSG’s claims over various issues, the Comptroller’s Office has pointed out that negotiations hinged on inaccurate calculations and lack of evidence to support what PRASA allegedly owed (Office of the Comptroller 2000).

.It is clear that the problems continued during both privatization contracts, that is, from 1995 to July 1, 2004, and they have continued afterwards also. See Table 4-4 for a description of the timeline of water privatization.⁵⁷

After privatization

In June 2006, PRASA pleaded guilty in a criminal complaint filed against it for fifteen felony counts encompassing violations to the CWA (United States of America v. Puerto Rico Aqueduct and Sewer Authority and the Commonwealth of Puerto Rico, Civil Action No. 06-1624). The counts included in the complaint consisted of the illegal discharge of pollutants from a number of wastewater and drinking water treatment plants,

⁵⁷ PSG managed water services in Puerto Rico from 1995 to 2002, while Ondeo did the same from 2002 to 2004.

according to the US Justice Department and EPA (EPA National News 2006). PRASA was to pay ten million dollars in fines, the largest fine of its kind ever paid by a utility for violating the CWA (Id.). PRASA also entered into a Consent Decree with EPA in 2006 regarding a series of repeated violations at sixty one wastewater treatment plants during previous years (EPA National News 2006). In accordance with the Consent Decree, PRASA is to spend about 1.7 billion dollars in capital improvements as well as other improvements throughout its water systems over the next fifteen (15) years, particularly at wastewater treatment plants. PRASA has to complete one hundred and forty five (145) capital improvement projects during this period (Id.).

Conclusion

The Puerto Rican government is continuing to struggle with an increasingly complex scenario regarding the provision of clean water. Rationing, together with deteriorating water quality and an aging and inefficient infrastructure, has led some to believe that Puerto Rico, as other islands in the West Indies, “will find it difficult to provide water for its future generations” (Id.). Additional monies, alone, will not necessarily resolve PRASA’s problems. As stated by past Governor Acevedo Vilá, in a 2005 state of address, PRASA needs to be more efficiently run, not receive any more monies (Acevedo Vilá 2005).

On the one hand, many claim that the situation concerning water has in fact deteriorated as a result of the two privatization ventures (the last one having ended in 2004), but given that PRASA was fined at least two years *after* both concessions ended, and has even been charged in a criminal case, it is likely that privatization was, at the very least, not the only culprit for the deteriorating quality of water services in Puerto Rico. Although one could argue that the 2006 fines were solely the result of previous

mismanagement by PSG and Ondeo's, it is difficult to ascertain if this is true, given Puerto Rico's long history of non-compliance which pre-dates both privatization efforts.

On the other hand, privatization did not *improve* the quality of water services either, and certainly led to many more fines and expenses for Puerto Rico, as evidenced by the work done by the Office of the Comptroller of Puerto Rico. Contrary to what was believed and argued by those that supported privatization of all of the water supply services, two different privatization projects, with different companies and varying contractual terms, failed. There has been no indication that engaging in yet another widespread water privatization project could be successful the next time around, as the government has not taken any steps to incorporate any of the suggestions made by the Comptroller of Puerto Rico and others. These suggestions are those included in Figure 4-7 and address issues of accountability, transparency, evaluation, etc.

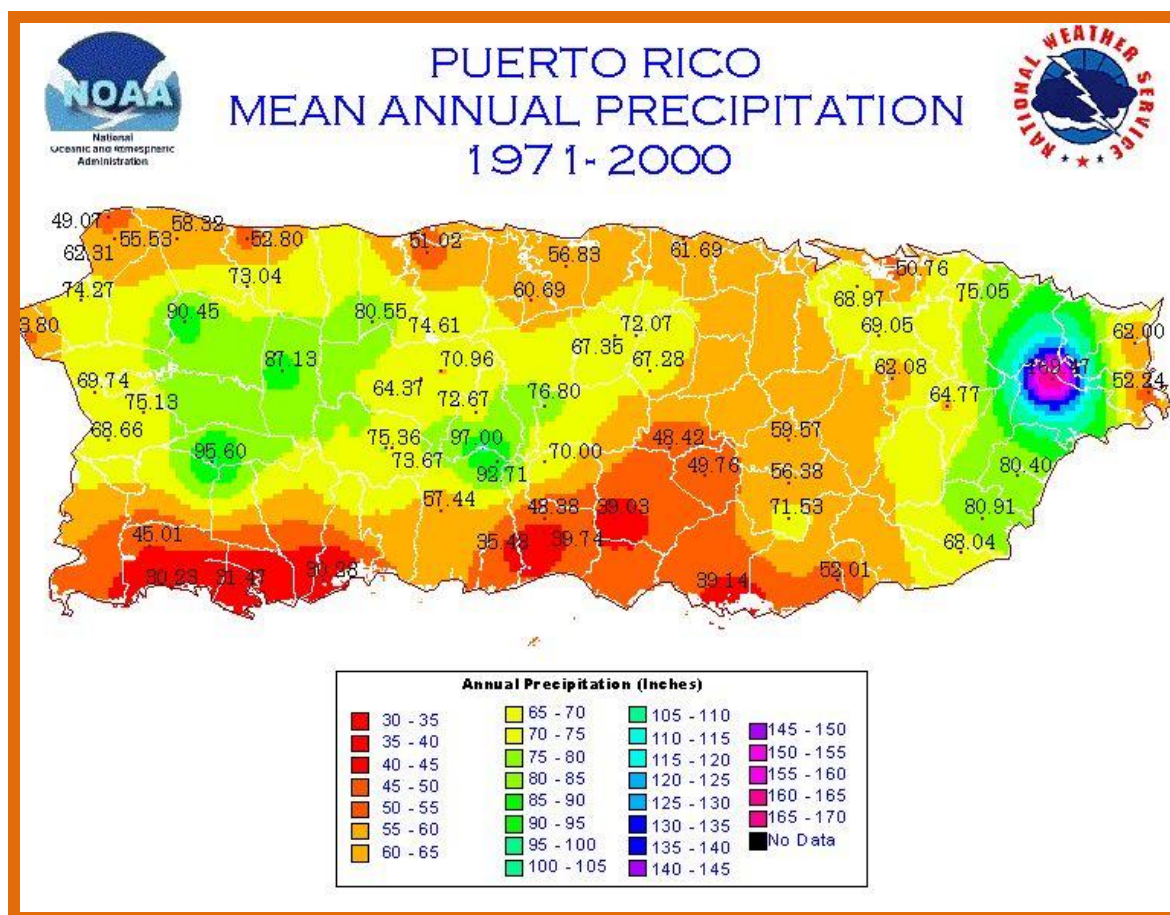
Since entering into concession contracts did not prove to be the answer to the problems that Puerto Rico is facing with regard to water, it must continue to search for alternative arrangements that will result in improving water services.

Figure 4-1 The Commonwealth of Puerto Rico



Source: Available at: <http://www.theodora.com/maps>

Figure 4-3 Puerto Rico Mean Annual Precipitation 1971-2000



Source: [www.srh.noaa.gov/sju/Puerto Rico mean_annual_pcp.jpg](http://www.srh.noaa.gov/sju/Puerto%20Rico%20mean_annual_pcp.jpg)

Figure 4-4 Communities with deficient access* to safe drinking water



Source: Puerto Rico DNRA (Puerto Rico Departamento de Recursos Naturales).
 Available at: http://www.drna.gobierno.pr/oficinas/arn/agua/negociadoagua/planagua/plan-integral-de-recursos-de-agua-de-puerto-rico/plan-integral-de-recursos-de-agua-de-puerto-rico-2008/enabling_cookies

Note: *Deficient access is defined as intermittent access to safe drinking water

Legend:






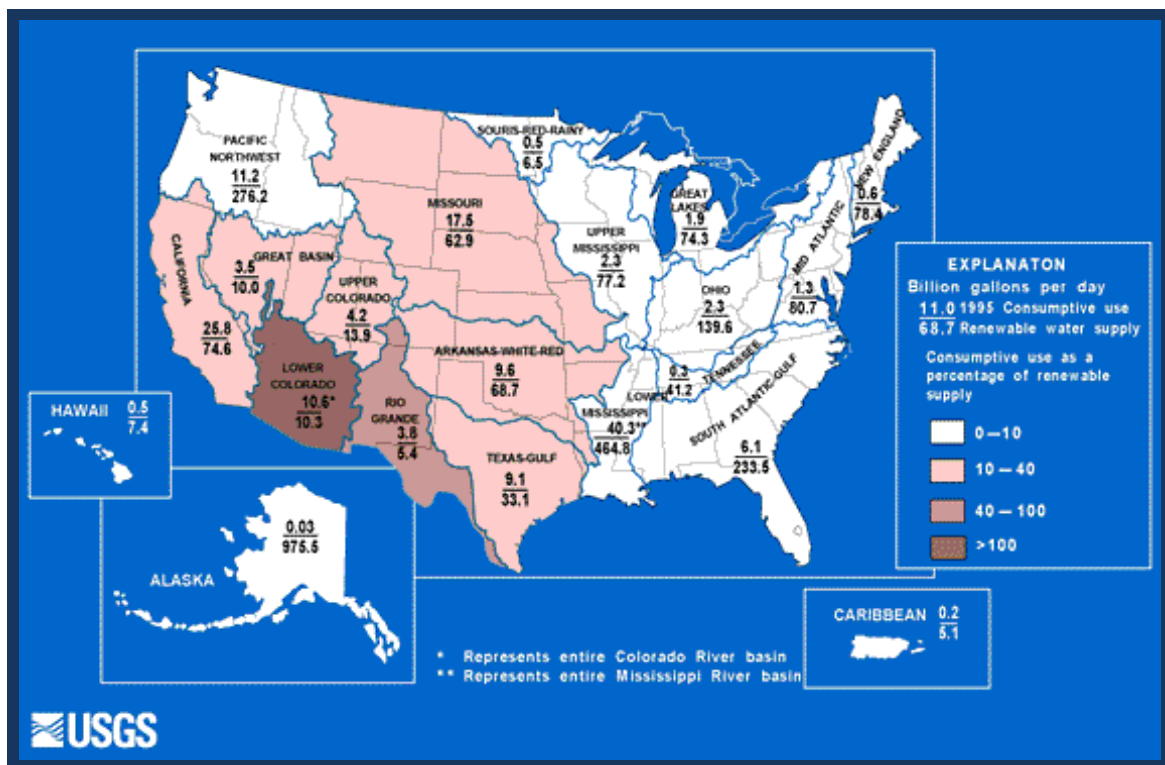
Deficient sectors	
Southeast region	
Eastern region	
Metro region	
North region	

Figure 4-5 Consumptive use of water in the U.S. and Puerto Rico*



Source: U.S. Geological Survey (USGS) 2002. Water Resources Data Puerto Rico and the U.S. Virgin Islands Water Year 2002. Caribbean Water Science Center Data Reports. Guaynabo: USGS, 2002.

Note: *Updated using 1995 water usage estimates, 2002. The author was unable to locate more recent surveys.

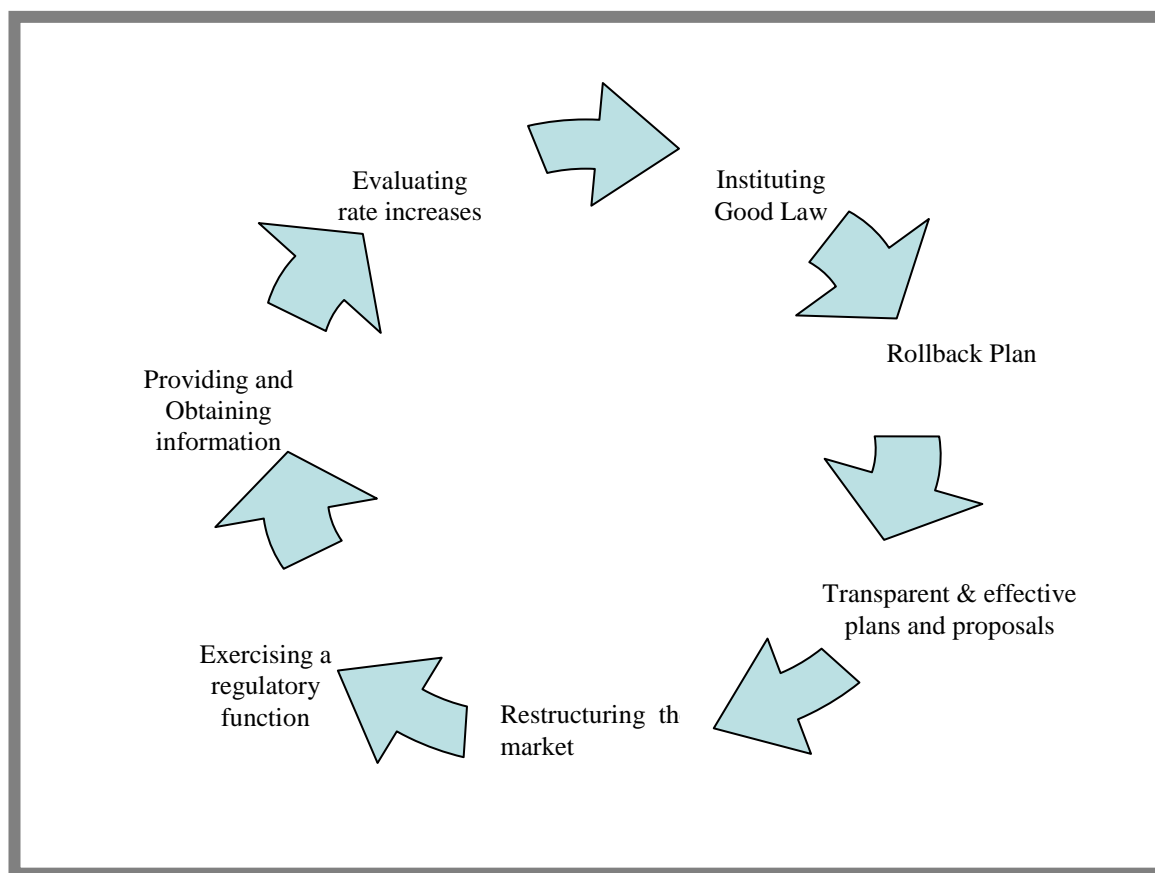
Figure 4-6 Water regions in Puerto Rico



Source: Autoridad de Acueductos de Puerto Rico. Regiones Operacionales. Available at: <http://www.acueductospr.com/NUESTRAAUTORIDAD/regiones.htm>, accessed on 2/4/10.

Note: (Metro): Metropolitan Area; (Este): East; (Sur): South; (Oeste): West; (Norte): North; Culebra and Vieques

Figure 4-7 Seven Fundamental Phases for Successful Privatization



Source: Adapted from Office of the Comptroller, 2001 (Oficina del Contralor). Las Siete fases Fundamentales para una Privatización Exitosa. "Siete Fases...". Oficina del Contralor, 2001.

Table 4-1 Elected governors of Puerto Rico

	Term	Political Party
Luis Muñoz Marín	1949-1965	Popular Democratic Party
Roberto Sánchez Vilella	1965-1969	Popular Democratic Party
Luis A. Ferré	1969-1973	New Progressive Party
Rafael Hernández Colón	1973-1977	Popular Democratic Party
Carlos Romero Barceló	1977-1985	New Progressive Party
Rafael Hernández Colón	1985-1993	Popular Democratic Party
Pedro Rosselló	1993-2001	New Progressive Party
Sila M. Calderón	2001-2005	Popular Democratic Party
Aníbal Acevedo Vilá	2005-2009	Popular Democratic Party
Luis Fortuño	2009- present	New Progressive Party

Table 4-2 Production, consumption, and unaccounted for water for each region

Region	Production	Measured consumption	Water Unaccounted for	percent
East	110.3	54.5	55.8	50.6
Metropolitan	245.9	96.3	149.6	60.8
North	133.7	57.8	75.9	56.8
Southeast	105.0	51.2	53.8	51.2
Total	594.5	259.8	335.0	56.3

Source: Puerto Rico DNRA (Puerto Rico Departamento de Recursos Naturales). Available at: http://www.drna.gobierno.pr/oficinas/arn/agua/negociadoagua/planagua/plan-integral-de-recursos-de-agua-de-puerto-rico/plan-integral-de-recursos-de-agua-de-puerto-rico-2008/enabling_cookies (Author's translation)

Table 4-3 Water use in 2008

	2006	2007
Clients - Potable Water	1,289,642	1,305,642
Clients – Water Provided	95,261	96,458
Volume Sold Potable Water	95,261	96,458
Volume Water Served (millions of gallons)	57,586	58,310

Source: Puerto Rico DNRA. Available at: http://www.drna.gobierno.pr/oficinas/arn/agua/negociadoagua/planagua/plan-integral-de-recursos-de-agua-de-puerto-rico/plan-integral-de-recursos-de-agua-de-puerto-rico-2008/enabling_cookies (Author's translation)

Table 4-4 PRASA and the road to privatization

1945	Law 40	Creation of PRASA
1993		Declaration of emergency status at PRASA
		Renewed declaration of emergency status at PRASA
1995		Beginning contract with PSG
1998	Law 328	Modification of the law creating PRASA to allow it to privatize its services
2002	Law 95	Modification of the law creating PRASA to change the composition of the Board of Directors, create Executive Offices and assist with the administration of the water services in conjunction with a private party
2002		Termination of the contract with PSG
2002		Beginning of the contract with Ondeo
2004		Termination of the contract with Ondeo
2004	Law 92	This law allowed for the restructuring of PRASA, as it returned to managing water services after two privatization ventures
2009	Law 29	To promote and manage public-private partnerships

CHAPTER V – BOLIVIA: WATER PRIVATIZATION IN TWO CITIES

Brief Introduction

Bolivia, officially renamed “Plurinational State of Bolivia” in March 2009, is a mountainous land-locked nation located in the central region of South America. Its immediate neighbors include Brazil, Paraguay, Argentina, Chile and Perú. Bolivia is the second poorest nation in the western hemisphere. It has an area of 1,100,000 square kilometers (Figure 5-1). This is “slightly less than three times the size of Montana” or two times the size of Spain (CIA 2009, Senamhi 2009).

To an important extent, the recent history of water problems and privatization efforts in Bolivia are tied to the often unstable and complex history of the country. The following two sections provide a general background on these issues.

History of Bolivia

The Indians have suffered, and continue to suffer, the curse of their own wealth. That is the drama of all Latin America.

Eduardo Galeano

The Early times: the Aymaras ⁵⁸ and the Quechuas

There is controversy concerning who were the original peoples of the area now known as Bolivia and Perú. What is certain is that the Bolivian altiplano (highlands) had been well-settled for more than 20 thousand years by the time that the Spanish arrived there (Hudson and Hanratty 1989).

Among the most powerful groups extant in the area were the Quechua and the Aymara. The Quechua proved to be more successful than others and eventually expanded quicker than the Aymara, eventually becoming known as the Incas (Hudson and Hanratty

⁵⁸ Another spelling frequently used is Aimara.

1989). The Inca Empire, however, was not firmly established by the time of the arrival of the Spanish, as it had been unable to completely subjugate all of the other tribes in the area (Library of Congress 2006). The next few centuries consisted of additional exploration and exploitation by the Spanish Crown.

1807– 1825: The Road to Independence

On July 16, 1809, Pedro Domingo Murillo headed a revolution which eventually resulted in the independence from Spain of what was then called Alto Perú and the creation of the República Bolívar (Bolivarian Republic) in 1825 (Hudson and Hanratty 1989).⁵⁹ The Bolivarian Republic was named in honor of Simón Bolívar Palacios, South America's "Libertador" (Liberator).

1825-to present: Government in Bolivia after independence

from Spain

The new country faced many challenges, including numerous boundary disputes with its neighbors, a moribund silver mining industry, lack of foreign credit, and conflict with the Catholic Church.

Library of Congress 2006

Almost since its independence, Bolivia was ruled by a series of *caudillos* (military dictators), all from the ruling white or mestizo classes. Astoundingly, from 1825 to 1982, Bolivia endured 192 coups, gaining "...the dubious distinction of the world's highest number of coups d'états ..." (López Levy 2001). Since 1950 alone, Bolivia had more than twenty five (25) governments, *juntas* or presidents (Political Database of the Americas 2009). From 1950 to 1960, Bolivia had five presidents; from 1964-1966 five military

⁵⁹ In reality, "[t]he loyalty to Ferdinand was a pretense used to legitimize the independence movement" (Hudson and Hanratty 1989).

juntas, and from 1966 up the present, twenty eight presidents, including Armed Forces' juntas. See Table 5-1 for a listing of Bolivian presidents in the last ten years.

Bolivia's losing wars with its neighbors

The first important battle in which Bolivia was involved was that of the Battle of Yungay. Joining forces with Perú, these two countries created the Perú-Bolivia Confederacy (Library of Congress 2006). The Chilean government waged war against the confederacy, and in 1839, forced its dissolution. (Id.).

The second war was that of the Pacific. Bolivia entered into a war against neighboring Perú in 1878 and lost. As a result, Chile grabbed the mineral-rich desert lands that comprised the area of the Atacama Desert, as well as a coastal strip that provided Bolivia's outlet to the sea (Id.). The result was devastating for Bolivia, as it left it land-locked.

The next loss for Bolivia was the war of El Chaco. From 1932 to 1935, Bolivia waged war against Paraguay over the "El Chaco" region, an area believed at the time to contain large oil deposits, although this later proved false (Id.). The war wreaked havoc in the economies of both nations, and it is estimated that close to one hundred thousand people died. In 1936, the Chaco region was divided between the two nations, with Paraguay being awarded the largest portion.

After the wars

While recovering from defeat in the War of El Chaco, Bolivia found itself immersed in the economic depression of the 1930s (Library of Congress 2006). Bolivia's economy spiraled into hyperinflation. Following the 1964 election, the civilian elected government was overthrown by the military (U.S. Department of State 2006, Hudson and Harrity 1989). The military regimes of the 1960s on were characterized by extensive

political and social repression and the imposition of austerity measures, as part of a stabilization plan introduced by the International Monetary Fund (“IMF”), the World Bank, and other international financial institutions (Hudson and Harrity 1989).

Present day Bolivia: an indigenous president

Until 2006, none of Bolivia’s presidents belonged to an indigenous group, even though indigenous peoples comprised about two-thirds of Bolivia’s population. In 2006, Evo Morales, an Aymara Indian of the “Movimiento Al Socialismo” party (Movement towards Socialism, known as MAS for its acronym in Spanish), won the presidential elections. Morales was elected on a platform that promised change for the poor and indigenous peoples of Bolivia, and a redistribution of the nation’s wealth (World Bank Reseña 2009).

The Geography of Bolivia

Geographic Zones

Bolivia is divided into three distinct geographical zones. The first is the “Altiplano” (high plains, plateaus or heights), in the western part of Bolivia. Another is the area known as the “Yungas” (tropical valleys), which are semi-tropical and located in the Northeast. The third is the area known as the tropical “Llanos” (lowlands), located north and east of the Andes mountains (Id.). The lowlands are also divided into regions. The north lowlands are the ones known to be water-rich (Id.). Sixty-two (62) percent of Bolivian territory lies in the Amazon region, while thirty-two (32) percent lies in the Andean high plateau (Sistema Regional 2004).

Hydrography of Bolivia

Bolivia has parts of three of the four main basins in South America; the Amazonas, the del Plata, and the Altiplano” (Senamhi 2009). It also has lakes, as well as well as salt

flats (Figures 5-2 and 5-3). At the present time, Bolivia only has seventy five (75) water quality monitoring stations to cover all of Bolivia's nine (9) departments (Id.).

Water quality in Bolivia

In 1993, in an effort to assess the capability of the nation with regard to performing water quality assessments, the World Bank sponsored a study of the nation's laboratories (Reuther 1993). The results were not very encouraging. The laboratories lacked adequate resources to perform analyses, lacked essential equipment, had inadequately trained personnel, and skimpy financial support. Some of the concerns that had prompted the study were the need to assess water quality because of possible mercury pollution in the Amazon-due to gold mining, as well as pesticide residue.

In addition, the above-referenced study documented many other concerns about the disposal of untreated waste, such as the disposal of "untreated process residues and sewage sludge from simple treatment plants [which] are taken by ...[La Paz and El Alto]... and disposed of at ...landfill sites...together with domestic solid waste (Id.)."

Also, "[h]azardous solid wastes (e.g. sludge. chemicals) from tanneries are disposed without any registration or pretreatment at the municipal waste sites, whereas also here hide residuals for glue production..." (Id.).

Population

Each of Bolivia's distinct geographic regions have very different economies. These economies have fluctuated over time. Potosí, for instance, once the wealthiest city in Bolivia, is now one of its poorest. In contrast to Potosí, the province of Santa Cruz has remained one of the richest regions, actively seeking local autonomy, particularly since Morales' ascent to power. Santa Cruz is considered "the booming business capital" of Bolivia (U.S. Department of State 2009).

In July 2009, Bolivia's population was 9,775,246 (*Id.*). About seventy two (72) percent of the population speaks at least one indigenous language, while the remainder speak only Spanish (INE 2009). Population density is one of the lowest in Latin America, but varies greatly from one area to another and particularly from rural to urban areas (*Id.*). Even in rural areas, density "ranges from less than one person per square kilometer in the southeastern plains to about 10 per square kilometer ... in the central highlands." (*Id.*). In terms of religious beliefs, although Bolivians are overwhelmingly Catholic, their indigenous beliefs are often intermingled with Christian worship.

Bolivia's population remains largely indigenous. Although estimates vary, at least sixty (60) to sixty two (62) percent of the population is indigenous (U.S. Department of State 2009, Sistema Regional 2004). This includes Aymara, Quechua and Guaraní, among others (*Id.*). There are thirty two (32) ethnic groups in the Amazon region (*Id.*). The *mestizos* (of mixed ancestry) comprise around twenty five (25) to thirty (30) percent of the population (U.S. Department of State 2009).

Resources

Although Bolivia is one of the poorest and least developed nations in Latin America, it is very rich in natural resources (U.S. Department of State 2009). These include natural gas, petroleum, tin ⁶⁰, silver, and gold, among others (CIA 2009). Bolivia has "...the world's largest historic silver and tin deposits and is also highly prospective for gold, antimony, tungsten, copper, chromium, bismuth & salt [among others]" (BRR Project Overview 2008). Currently, at a time that many companies around the world are searching

⁶⁰ Simón Patiño became one of the most prominent citizens of Bolivia when he rose from "rags to riches". Patiño obtained title to a tin mine which turned out to be one of the most profitable ones in the world.

for lithium, it has been discovered that Bolivia has what is believed to be the world's largest reserves of this metal. Bolivia is now in the process of building plants for its extraction (ABI 2/10/10). ⁶¹

Bolivia is also largely a nation of subsistence farmers. Among the crops cultivated in Bolivia are soybeans, coffee, cotton, potatoes and of course, coca (INE 2009). Approximately two thirds of its people live in abject poverty (U.S. State Department 2009). This will be explored in more detail in the section on economic indicators.

Bolivia's poor

Bolivia's economic situation remains dismal. As an example of this, one can point to the fact that 27 percent of children under five suffer from chronic malnutrition. This is more prevalent in rural areas where the percentage rises to thirty seven percent . In addition, according to a 2003 survey "thirty seven percent [percent] of pregnant women were reported to have anemia..." (WHO 2003). ⁶² Bolivia is still a nation that routinely faces epidemics of diseases such as cholera, malaria, yellow fever, and tuberculosis, diseases that have been eradicated in more developed nations (Sistema Regional 2004). In Bolivia—as well as in most of Latin America--the rural population has always been poorer than its urban counterpart (See Table 5-3, Gobierno Nacional 2006).

Public and Private Investment

In terms of foreign and local investments, Table 5-4 illustrates the fluctuation of each one over time. Foreign investment in particular has been steadily decreasing since

⁶¹ Although mining is highly profitable for mine owners, it is important to note that miners' wages are extremely low: about six dollars a day (Schipani 2008).

⁶² It was only in 2003 that Bolivia instituted a national register of vital statistics, allowing for a greater understanding of the problem (Sistema Regional 2004).

2000 except in the area of construction, as evidenced in Table 5-5. But there are areas where the increase has not been constant, and in some cases has even stopped, as in the case of transportation, storage and communications; manufacturing; and production and distribution of electricity, gas and water (INE 2009).

Water access in Bolivia before Privatization

By some measures, water access had been improving in Bolivia prior to privatization, albeit very slowly. In 1990, the proportion of people with access to improved sanitation was thirty three percent, while reliable access to an improved water source, was seventy two percent. By 2002, these statistics had increased so that forty five percent of people had access to improved sanitation, while eighty five percent had access to an improved water source (UN Human Development Report 2006). By 2009, eighty six percent of the population was using an improved water source.⁶³ Access, however, continued to vary significantly from one region of the country to another.

Statistics on poverty indices, development, as well as access to water from 1997 to 2007 compiled by the Bolivian Institute of Statistics reveal the following: (1) that the sharp difference in access to water between rural and urban residents continues; (2) that access to water has fluctuated over the years but was higher in 2007 than ever before; (3) that the source of water may include wells, piped water, or water sellers (water carts) among others (INE 2009) (Table 5-6).

⁶³ The report does not reflect whether it considers “access” and “use” as interchangeable terms. One cannot be certain whether people may have access but choose not to use it for reasons that may include that they cannot afford it, or whether they have access and also use the improved water source.

Economic, administrative and legal conditions prior to

Privatization

Structural adjustment programs

Beginning in the 1980s--and more insistently in the 1990s--the World Bank, the IMF and other financial international organizations determinedly promoted structural adjustment programs in the developing world. This was particularly true in Latin America, including Bolivia (Pérez 2007).

In 1985, Bolivia began to vigorously implement stabilization and structural reform programs (Chávez Álvarez 1992). The programs were directed at reducing inflation, as well as changing the pattern of economic growth that had been followed in Bolivia until that time—which included privatization (*Id.*). “From 1986 to 2001, Bolivia received \$350 million from the IMF with the condition that they [Bolivia] adopt very specific conditions” (Shultz 2005).

In 1990, Bolivia approved Law 1178.⁶⁴ Law 1178 addressed issues of administration and governmental controls of the public sector (Contraloría 2006). Its objectives were to improve the condition of the public sector by providing a legal framework that would lead to efficiency, transparency, and legality (*Id.*). Unfortunately, the law was not successful, as Bolivia is still perceived to be the third most corrupt nation in Latin America, according to the corruption ranking by Transparency International⁶⁵, an issue that greatly concerns governmental leaders (*Id.*).

⁶⁴ Law 1178 (Ley 1178 de Administración y Control Gubernamentales) was approved on July 20, 1990.

⁶⁵ The corruption ranking is the result of a joint initiative between Transparency International and Göttinger University and it relies on “the level at which corruption is perceived

In accord with all of these measures, the government of Bolivia deregulated its economy, reorganized the public sector and pursued privatization. The goal was to redefine the state, sharply curtailing its once pivotal role in the economy (*Id.*). Those that promoted this plan argued that it was the state's strong manipulation of the economy that had led to hyperinflation and the deterioration of the Bolivian economy; thus the emphasis on privatization. To that end, the government continued to take various measures, including issuing decrees, such as 22836, to promote privatization (Table 5-7). Decree 22836 is informative as it provides a clear description of what the political leaders claimed they were hoping to achieve with privatization: promoting economic growth and increasing jobs, reducing the public deficit, improving efficiency, and “democratizing” the economy, among others (*Id.*).

President Gonzalo Sánchez de Lozada played a major role in the implementation of structural adjustment programs and ensuing privatization. He was elected president twice, serving from 1993 to 1997, and from 2002-2003 ⁶⁶ and was also part of “the second generation of structural reforms...” (Crespo Flores 2004a). The “second generation” believed in a free-market approach and the privatization of state-run enterprises (*Id.*). President Sánchez avidly pursued structural reform and privatization. He was known as “the white mining executive, University of Chicago-trained free-market economist who... privatized the Bolivian economy ...” (Crespo Flores 2004b).

by people working for multinational firms and institutions as impacting on commercial and social life.” Transparency International Corruption Perception Index 1996 (Transparency 2005).

⁶⁶ Sánchez de Lozada fled to the United States from Bolivia in 2003 when forced to resign from the presidency. In 2008, Bolivia served the United States with a request to extradite Sánchez de Lozada to Bolivia for crimes against humanity and illegal killings. Sánchez de Lozada, as expected, has opposed the request, but the American courts agreed that the request process could move forward. It is still pending.

Whether to privatize or not was not necessarily a free choice of the Bolivian government. Privatization was an integral part of the structural adjustment programs *required* by the World Bank (Peredo Beltrán 2004). Using Cochabamba as his first example of the position taken by the World Bank, Shultz states that:

The World Bank's most aggressive pressure campaign for privatization focused on the public water system of Bolivia's third largest city, Cochabamba. ... In February 1996, Bank officials told Cochabamba's Mayor that it was making a \$14 million loan to expand water service *conditioned* on the city privatizing its water. In June 1997, Bank officials told Bolivia's President that *\$600 million in international debt relief was also dependent on Cochabamba putting its water into corporate hands*. (Shultz 2003, 2007, emphasis added).

There was no room for dispute: if Bolivia wanted aid for its water development programs, it needed to agree to the World Bank condition to privatize its water services. Bolivia complied (Pérez 2007).

Municipalities and water services prior to Privatization

Throughout Latin America, water management had traditionally been under the purview of municipalities. In Bolivia, the *Regulation for Control and Water Use* ("Reglamento de Dominio y Aprovechamiento de Aguas"), later *1906 Water Law* ("Ley de Aguas de 1906"), gave the "municipalities the responsibility for developing rules governing the distribution of water in urban areas" (Komives 2003).

In the 1960s, "the government chartered the first municipally-owned, semi-autonomous water utility for La Paz: SAMAPA (Id.). Through Decree-Law 07597, issued on April 25, 1966, La Paz' water services, and later El Alto (an area that comprised part of northern La Paz) were placed under SAMAPA's purview. SEMAPA also provided water services in Cochabamba, and other municipal entities managed water services throughout Bolivia.

In its quest for privatization, and as referenced above, the government of Bolivia began to take a series of steps concerning the privatization of services. Aside from the issuance of decrees and approval of laws, the early 1990s saw the development of a plan concerning the improvement of water services in urban areas. The plan was named “Programa de Agua para Todos” (Water for All). Through this plan, Bolivia sought to manage water from a national, instead of local, perspective, increasing national supervision over said services. One possible reason could for pursuing a national approach could presumably allow greater control, and possibly an easier transition into privatization.

To implement its national plan, as well as its privatization agenda, the government also approved the “National regulations for Water and Sanitation Services in Urban Areas.” Resolution 510, dated October 29, 1992, issued by the Ministry of Urban Affairs, *required* SAMAPA and other utilities “to offer in-house water and sewer services to neighborhoods prepared to cover the cost...” (Komives 2003). This requirement placed SAMAPA and other similar agencies in an untenable situation, as they did not have enough resources to comply with the conditions of the resolution. The Ministry’s 1992 decree, and as could be expected, did little to change water management in Bolivia.

As a result of the national plan and other legislation, services such as water were to be managed by a national entity. In addition, all entities providing water services-again either private or public- would need to obtain a concession from the Government before being able to provide any services (*Id.*). The conditions of the private concessions, however, were allowed to be negotiated independently by private companies (*Id.*).

Legalizing Privatization

In the legal arena, the government approved decrees, laws and regulations specifically eliminating any legal restrictions or prohibitions on privatization, including

water services. In October 1999, the government issued Law 2029 (“Ley del Servicio de Agua Potable y Alcantarillado Sanitario del Parlamento de la República”).⁶⁷ Law 2029 *specifically* allowed the privatization of drinking water and sewer services in Bolivia.⁶⁸ The approval of this law was essential to the privatization process. Its objective was to:

...establish the norms that will govern the rendering of services related to drinking water and sewer services and the institutional framework that governs them, the procedure that will be followed to grant concessions and licenses for rendering these services, the rights and obligations of the lenders and users, the establishment of the principles to be used for pricing, tariffs, rates and quotas, as well as the determination of fines and sanctions. (Author’s translation.)

Approval of other laws facilitating privatization followed (See Table 5-7.). During the next five (5) years, Bolivia’s water management systems, as well as the laws that governed them, were drastically changed. This led to the reorganization of water management. For example, issuance of decree 24716 led to the creation of SIRESE (“Sistema de Regulación Sectorial”), an entity which was assigned the task of overseeing concessions in sectors already determined to be adequate candidates for privatization (Capra et al. 2005). Among the responsibilities assigned to SIRESE were the following:

The Superintendent of Waters—head of the regulatory body, the Water Superintendence—is responsible for granting concessions for

⁶⁷ This law was later extensively modified by Law 2066.

⁶⁸ The government would once again take that position under President Morales and prohibit privatization of water services, as will be explained in more detail later.

the provision of water and sanitation services, for regulating and supervising ...concession contracts, and for approving [water] tariffs. (Komives 2003, emphasis added).

After the above-referenced actions had been taken, the next step was to actually privatize. Bolivia opted for privatizing *productive* governmental agencies (Montaño and Villegas 1993). Based on this *productivity* analysis, the government identified 157 public agencies as possible candidates for privatization. Of these agencies, at least 100 were privatized, while 11 were simply restructured (Id.). SAMAPA was one of those agencies considered for restructure.

Phases of privatization

Bolivia privatized in very specific phases, as summarized in Table 5-8. It first determined which state entities it should privatize, and then made sure these entities were in solid financial condition before granting concessions or capitalizing them (Gobierno Nacional 2006).

In 1992, Bolivia began to actively privatize and transfer all of the assets of thirty four small state-owned, non-water companies (Capra et al. 2005). These companies included “hotels, bus terminals, milk-processing plants...” among others (Id.). The privatization program was considered to have been very successful by the World Bank in that it attracted foreign investment to Bolivia in unprecedented levels (Id.).

In 1994, and continuing with privatization, Bolivia also adopted another method of privatization: capitalization (Id.). The idea with capitalization was to obtain an influx of money that would improve the financial condition of the entity that was being capitalized (Id.). Capitalization was reserved for the electricity and, hydrocarbon companies, various railroad routes, telecommunications, etc. These were the largest state-owned companies

(Id.). In total, the government capitalized ten companies (Gobierno Nacional 2006 and see Table 5-8).

From 1998 on, however, the Bolivian government decided to return to “the classical approach to privatization.” As a result, Bolivia sold fourteen state-owned enterprises, “including a petroleum refinery, several mining firms, a cement factory, and other assorted enterprises...” (Id.).

Bolivia continued to pursue privatization of previously state-managed entities, with its leaders arguing it would greatly benefit the nation. Although investment in various sectors of the economy, including water, increased during this decade, this increase was neither uniform nor continuous (Tables 5-9 and 5-10).

Water privatization in La Paz and El Alto (“the highlands”)

Characteristics of La Paz and El Alto

La Paz and El Alto are two very different cities. The city of La Paz is the capital of the Department of La Paz, and the seat of Bolivia’s government. It is Bolivia’s largest city and the country’s center for finance and industry. Founded as a city in 1549 by the Spaniards, La Paz has always remained one of the most important cities in Bolivia (Library of Congress 2006). Since the 1850s, La Paz has been the largest urban center in the nation (Klein H. 2003). Located in a canyon and twelve thousand feet above sea-level, it is surrounded by steep slopes which rise lead to the “altiplano” or highlands. See Figure 5-4. “Development in La Paz initially was nestled in a steep river valley, but the city has since grown up the sides of the valley and into El Alto on the vast plain above” (Komives 2002).

El Alto was, in contrast, a mere village in the 1950s, with a population of around eleven thousand people. It became a municipality as late as 1985 and has since become one of the fastest growing cities in Latin America. In contrast to other cities in Bolivia,

such as La Paz or Santa Cruz, its economy is mainly an informal one, including craftsmen, street vendors and the like.

Because nearby La Paz has always been considered a city of economic opportunity, people from rural areas have been migrating to La Paz for decades in search of jobs and the benefits that cities can offer. When they arrive in the already crowded city of La Paz, they frequently settle in El Alto. For that reason, El Alto's population has steadily grown and is now estimated to be 858,716, surpassing that of La Paz (U.S. Department of State 2009). Middle class and wealthy families continue to live "deep in the valley" of La Paz, while poorer people live up the hillsides in the adjoining and impoverished city of El Alto (Komives 2002, Lewis 2003).

From an official governmental standpoint, El Alto's growth and development has lacked any kind of planning. This stands in great contrast to La Paz, which was planned by the Spaniards. Many of El Alto residents did not have access to electricity and other basic utilities for many decades (Pérez 2007). One of the services absent in El Alto has been a continuous supply of water.

Water management in La Paz and El Alto before

Privatization

As stated before, in La Paz/El Alto, the utility in charge of water from the late 1960s until 1997 was SAMAPA (Komives 200, 2003). SAMAPA was "a municipally owned, semiautonomous water utility" (Komives 2003). SAMAPA had some independent authority and managed most of its functions locally; however, some key functions, such as setting of tariffs, were controlled by the national government (the parent ministry) (*Id.*).

The existence of a parent water ministry, and therefore, the involvement of more than one agency in water management, had been common in Latin America (Foster 2002).

Bolivia's regulatory multi-agency framework was quite similar to other Latin American nations, such as Panamá. The existence of cross-sector agencies does not appear to have played a major role in the privatization process, at least in terms of creating a legal framework for privatization itself. In fact, Bolivia and other Latin American nations "...enacted water reforms [such as privatization] via cross-sector legislation, affecting all of the utilities" (*Id.*). Like most other Latin American nations, "... [t]he central concern of ...social policy in the water sector has been to ensure, or so it was argued, the affordability of the service to low-income households. (*Id.*). Bolivia chose privatization, arguing that it would improve water services. ⁶⁹

How did privatization become a reality in La Paz and El

Alto?

La Paz/El Alto's water management company, SAMAPA, was considered ready for privatization precisely *because* it was a profitable operation. As indicated before, being in solid financial condition was a pre-requisite for privatization. The arguments set forth in favor of privatizing water services in La Paz/El Alto were familiar ones: (1) state-run entities-like SAMAPA, although already efficient, could be run in a more efficient manner and with less corruption, and (2) the only way to provide adequate access to the poor-particularly in El Alto-was to allow privatization of water services (Pérez 2007). Underlying these arguments, however, was the acknowledgement that LA Paz/El Alto's SAMAPA's was in need of an influx of new money to be able to expand and provide additional connections, particularly to El Alto, to modernize its facilities and equipment,

⁶⁹ In recent years, Bolivia has reverted to pre-privatization water policy, and is now managing water services through state agencies.

etc. This could only take place if La Paz/El Alto privatized its water services, which was in any case a requirement of the World Bank before providing any financial assistance in the water sector.

The Privatization Contract

Bolivia entered into a concession contract (“AISA contract”) for water services for La Paz and El Alto with Aguas del Illimani (“AISA”, a subsidiary of Suez Lyonnaise des Eaux). AISA was a consortium of French, Spanish, Bolivian and Argentinean companies (Table 5-11). The AISA contract effectively placed all water management in the cities into AISA’s hands.

According to the World Bank and Bolivia’s governmental leaders, the AISA contract would allow Bolivia “to achieve the universal objectives articulated in the 1992 regulations by extending in-house water and sewer connections throughout the metropolitan area [La Paz/El Alto]” (Komives 2003). Simply stated, “[t]he Bolivian government ... expected that the private concessionaire ... [would] be more successful than SAMAPA at achieving these national coverage goals” (*Id.*). This belief was based on the premises that are part of my hypothesis: that private parties are better managers, that they have the necessary knowledge, that they are more efficient, and that they are less subject to corruption, among other considerations. The expected increased coverage was, for the most part, for the residents of El Alto. “[AISA] ... agreed to install 71,752 new in-house water connections in El Alto by ... [December 31, 2001]” (Komives 2003, Item 13.3.1, AISA Contract). In the areas of El Alto, Achachicala and Pampahasi, AISA guaranteed coverage of 100% for its residents by 2001. (Annex 6, AISA Contract). This was later amended to include additional connections in 2003 and 2004.

What happened after Privatization?

The view that it was a success

Many, including the World Bank, believe that the La Paz/El Alto AISA Contract was successful because it was a “pro-poor” venture (Crespo Flores 2004). As the term suggests, such a venture has the interests of the poor as the focus of the contract. As evidence of the contract’s “pro-poor” approach, Komives’ refers to, for instance, steps taken by the company which increased water connections for poor households (mainly those in El Alto), thereby exceeding its initial contractual mandates in terms of the number of connections it was to provide (Komives 2003, Finnegan 2002).⁷⁰ The matter of whether AISA exceeded or indeed failed to comply with its contractual mandates for each time-period has remained in dispute.

In addition, although AISA gradually increased water rates, the fact that the increases were gradual, unlike those of Cochabamba, allowed residents to adapt more easily (Pérez 2007). The increases were also more palatable because AISA did, in fact, improve and expand water services, particularly in poorer areas. Again, this was very different from the situation in Cochabamba where rates were immediately raised without any accompanying improvements, as will be explained in more detail later on in this chapter (Bechtel 2005).

Komives points to other positive actions taken by AISA. The company always remained interested and continued meeting with Bolivia’s Superintendent of Waters “to discuss and seek possible solutions to problems related to serving poor neighborhoods (e.g.

⁷⁰ As will be examined later, an audit by an independent accounting firm contested the conclusion that AISA had exceeded in contractual mandates

requirement to eliminate public stand posts, experimenting with alternative technologies for in-house connections, among others)” (Komives 2003).

AISA also entered into an agreement with the municipality to appease local concerns that the contract had been negotiated by the national government (*Id.*). AISA “agreed to take two measures to reduce the probability that lump-sum connection fees would discourage households from soliciting connections.” (*Id.*). The first measure provided for “paying a reduced fee in exchange for supplying labor during the connection process”. The second one offered the poorest segment of the population of the area “a 3 to 5 year financing plan to pay the connection fees.” (*Id.*).⁷¹ This allowed for financing schemes that would not have been available when water services were managed by a state entity.⁷²

AISA also met non-governmental organizations (NGOs) in the area with the objective of gaining a better understanding of the needs of the people it was servicing. As a water company, at the time that public demonstrations began for its ousting, AISA was ironically ranked as the top water provider in Bolivia (*Id.*).

In sum, the notion at the beginning of the privatization contract was that it had been quite successful. Eventually, however, contrary issues began to emerge.

⁷¹ In more affluent areas, AISA provided another financing deal but for a shorter term: one year (Komives 2003).

⁷² In theory, state agencies could have taken the same positive actions than AISA had. In practice, however, state agencies are often stifled by bureaucratic restrictions, political influence, and great resistance to espouse new ways to address problems. It would be difficult for a state water agency to suggest alternative ways to approach management considerations. Thus, a private party without those restrictions would be more likely to embark on such a path.

The view that the contract failed

In his analysis of AISA's performance and its apparent compliance with contractual mandates in terms of connections and expansion of service, Crespo Flores has a different perspective. He argues that although AISA admittedly increased water connections, it did so in a selective manner, purposely failing to serve the population that most needed it: i.e., the *poorest* people in El Alto and La Paz (Crespo Flores 2007). His criticisms of the AISA concession include the limited coverage of the poorer areas [of El Alto], the absence of worker participation in the decision-making process, the failure to recognize traditional water management and use arrangements, a lack of environmental awareness or practices, unreasonable tariff increases, little investment, poor auditing practices (the company hired its own auditors), secretive practices, and environmental pollution, among other charges (*Id.*, Crespo Flores 2004a). Some also argue that connection rates rose to four hundred and fifty dollars (Herraiz 2005). It is unclear, however, how these critics arrived at that conclusion as the author was unable to find any evidence that substantiated the critics' assertions. Other problems raised by critics included: (1) investment promises that were not fulfilled, (2) imposition of norms to inhibit the use of alternative means of access to water, (3) the deterioration of water quality, and (4) the gradual increase of connection and monthly rates (BoliPress 2005, Crespo Flores 2004a).

As stated in an audit of the AISA contract undertaken by a private contractor, AISA did not comply with the 1997-2001 terms set forth in the contract. (Pozo y Asociados 2006, BoliPress 2005). ⁷³AISA's efforts did not result in the agreed upon connections. The

⁷³ It is important to note that these auditors were hired by the government of Bolivia after the AISA contract ended and a legal dispute ensued between the government of Bolivia and AISA. Thus, the impartiality of these auditors could be considered compromised somewhat, as they were specifically hired in view of financial claims that AISA had already formulated.

connections were supposed to be 71,752, and instead were only 52,764(Id.).. In the 2002-2006 term, AISA did exceed its goals regarding sewer installations —but not drinking water.⁷⁴ By 2005, it had already exceeded the number of sewer installations it was scheduled to make by 2006⁷⁵; however, in terms of drinking water services, it had failed to comply with the established number of connections it was to make during that period, and it had taken longer than what was established under the terms of the concession contract (Id.).

In addition, the audit found that AISA consistently failed to keep adequate accounting records, and property transfer documentation, as well as had many unreconciled balances, concerning investments, consulting contracts, etc. AISA also submitted environmental records late, such as in the case of Achachicala, Pampahasi, and El Alto, including the treatment plant at Puchukullo; actions which failed to comply with environmental regulations in place at the time. For example, the filing for the plant at Achachicala was submitted late and did not comply with governmental requirements. As a result, the environmental agencies in charge of reviewing the filing (“Autoridad Ambiental Competente”), issued a resolution against AISA for repeatedly submitting incoherent and inadequate proposals with regard to final disposition of the sludge at the Achachicala plant. (Pozo y Asociados 2006).

⁷⁴ By extending the water network in El Alto, AISA undoubtedly greatly improved some residents’ access to water (Herraiz 2005, Finnegan 2002).

⁷⁵ The scheduled sewer installations by 2006 were to be 19,478; however, AISA had already made 28,622 by 2005 (Pozo y Asociados 2006). In terms of providing access to drinking water, AISA’s failure to comply with the goals established by the contract subjected it to penalties to be set in accordance with the concession contract (Id., Item 2.1, Annex 9 of the concession contract).

Issues emerged from AISA's perspective also. The foremost concern was *the use of too little* water by El Alto residents, thereby lowering revenues and rendering the company's investment unprofitable. The El Alto residents were essentially habitual conservationists (Table 5-12). AISA's representatives stated that limited water use created a problem in terms of profit for the consortium and, as a result, "those Indians needed to learn to use more water" (Finnegan 2002). As it became apparent to AISA that the residents of El Alto were not going to increase their rate of consumption, AISA proposed that the Indians "be taught to bathe twice a day and to wash their cars" (Pérez 2007). Given that few Indians had cars (a luxury unknown to most El Alto residents), this suggestion seemed devoid of any reasoning and unlikely to engender any increase the El Alto's residents' water consumption rate. In fact, consumption did not increase. AISA remained "disappointed in the return of its investment" (Finnegan 2002).

Regarding AISA's expenses in particular, later to become a contested issue when the contract was terminated, there are very different views on how much AISA truly invested. AISA was to spend seventy two million dollars in its first five years of the concession, according to the World Bank (Crespo Flores 2004a). Crespo Flores argues, however, that the vast majority of that money did not come from AISA itself, but from other sources. While AISA claims that it spent sixty three million dollars, Crespo Flores and others argue that it only spent between two and three million dollars, as additional monies came from either the World Bank (fifteen million dollars), or from "credits" granted and channeled by the Bolivian government at very low rates (Crespo Flores, 2004a, 2005, Herraiz 2005). (See Table 5-13).

Private auditors that reviewed AISA's investment allegations during the term of the contract, Pozo y Asociados, also question AISA's claims of the amount of their investments

(Pozo y Asociados 2006). In their auditing report, they state that issues with AISA's investment claims include the following:

- Absence of proof to substantiate investments, in particular regarding whether it was AISA or another entity which had provided the monies invested;
- Failure to provide auditing entities with numerous folders which included information concerning alleged investments;
- Investment costs presumably incurred in various projects in which AISA was involved were not adequately substantiated;
- Claims of many expenses for which AISA never provided any documentation;
- AISA hired consultants that never prepared final reports, as required; nor was their hiring approved by SISAB (also required); and, in addition, AISA failed to provide information concerning the hiring process with regard to these consultants;
- Certain consultants were favored and repeatedly hired, even though they failed to comply with the minimum legal requirements;
- Most of AISA's investments came from the amount collected from new connections thereby resulting in AISA itself investing only approximately 15 % of the monies

. (Id.). These irregularities violated the terms of the AISA Contract (Id.).

The afore-mentioned irregularities and issues violated Article 14 of the concession contract. This section established the requirement that AISA keep accurate records, provide sufficient and up-to-date information about its operations and expenses, provide

adequate records for audits, and follow accounting principles established in Bolivia, among others. In addition, Item 5.2, Annex 11 of the contract also required that AISA keep all necessary records and provide all pertinent information and evidence concerning its operations. Furthermore, this item established that SISAB would be the entity endowed with the regulation and control of the execution of the contract. AISA's conduct clearly violated the terms of the contract, as alleged by the government of Bolivia and others, when it failed to comply with all applicable regulations, particularly with regard to keeping adequate and complete records.

The end of the concession

There are different views on why the concession contract with AISA was brought to an end. There is no doubt, however, that eventually the people of La Paz and El Alto began to protest AISA's performance and demanded action from the government. Between 2000 and 2001, the thinking among the residents of both cities began to be influenced by the "water war" going on in Cochabamba (Crespo Flores 2004a). Complaints about increasing water rates and deteriorating water quality began to circulate. Nonetheless, a widespread movement against AISA had not yet developed (*Id.*).

Beginning in 2003, however, the situation changed. Mostly as a result of FEJUVE (Federation of Neighborhood Councils) and a number of other organizations from El Alto, "tens of thousands engaged in strikes and demonstrations from November through March ...[which took place] to break El Alto's contract with ... Aguas del Illimani..." (Lewis 2005). Slowly but surely, the protests became more prevalent (Pérez 2007).⁷⁶ In

⁷⁶ FEJUVE's leader was Abel Mamani, who later became the head of the Water Ministry when Evo Morales became president in 2006.

addition, a number of people also filed complaints against AISA in local courts, claiming irregularities in billing and collection processes (Crespo Flores 2004a). Although neither the protests nor any other actions rose to the level of those of Cochabamba, January 2005 was a turning point for AISA. Massive protests forced then president Sánchez de Lozada to agree to terminate the concession contract. On January 12, 2005, the government issued a decree ordering responsible state entities to take immediate action to end the concession contract with AISA (Crespo Flores 2007).

After the contract was rescinded, international organizations such as the World Bank argued that the failure of the concession was a direct result of dwindling profits, not people's claims of inadequate service or rate increases (Précis 2001). According to the financial entity, the main problem in AISA's concession rested squarely on the fact that, as water rates necessarily increased, albeit gradually, consumption decreased. As a result, the concessionaire's profits went down, undermining, again according to the World Bank, the success of the privatization project (*Id.*).

Water Privatization in Cochabamba

Characteristics of Cochabamba

Located in the center of Bolivia, Cochabamba is the capital of the Department of Cochabamba, and the nation's third largest city (Figure 5-5). Cochabamba's economy is centered in agriculture, cattle, mining and fishing (Cochabamba 2009). Cochabamba continues to be part of the triad of cities that "account for most of the economic activity of the nation" (Klein H. 2003).

As a semi-desert region, water is not abundant around Cochabamba and is thus considered "precious" (Shiva 2002). Cochabamba "[i]s one of the driest cities in Bolivia because the rainy season is so short and the dry season is long (Water for People 2006).

Some argue that “... water shortages have been historically used by politicians and business people to manipulate the population in pursuit of corporate interests and corporate power” (Olivera and Lewis 2004).

In 2001, Cochabamba city’s population was estimated to be 517,024, while the Department of Cochabamba’s was 1,455,711 (INE 2001). At this time, seventy three percent of the population had access to safe drinking water, while forty two percent had access to sanitation services (Water for People 2006).

Water management before Privatization

Before the approval of Law 2029 that led to the privatization of water services, SEMAPA had been managing water in Cochabamba since 1967 (Eizenga 2009). At that time, SEMAPA only served about half of the population of Cochabamba and the remaining residents relied on alternative sources for water. One such source was a cooperative water-house. Water-houses were located in different communities and attended to each community’s needs (Olivera and Lewis 2004). In addition, people obtained water from other sources, many presumably unsafe and relatively expensive, such as unregulated water vendors, as well as their own tanks and wells (Id., Précis 2001).

The Privatization Contract

To consider the matter of water privatization the government created a commission which was composed of government representatives. Among those appointed to the commission were: SEMAPA’s president, as well as its general manager; the superintendents of electricity and water, respectively; Cochabamba’s prefect, as well as its mayor; and the vice-minister of investments and privatization (Crespo Flores 2000). On August 8, 1999, the commission issued a report recommending that Bolivia enter into a contract with a private party to privatize water services. The commission determined that

water privatization was to benefit the nation as a whole, and in particular, the residents of Cochabamba (Id.). As a result, even after the initial bidding process did not result in a viable bid, the commission continued to search for a way to privatize water services. Eventually, the government reached an agreement with Aguas del Tunari and signed a contract for the provision of water services.

According to the World Bank, the objective of the privatization project was “to end the severe rationing of supplies in the area ...and to rehabilitate the existing production facilities” (Précis 2001). At the time, and as referenced above, SEMAPA had been unable to prevent rationing, something which had been prevalent for some time in Cochabamba, but also in terms of providing a service for a larger number of people (Eizenga 2009).⁷⁷ SEMAPA also had been enduring “...losses from illegal connections and leakage [which] reached levels of fifty percent.” (Id.).

The Misicuni project, a dam which had long been considered as being the ultimate solution to Cochabamba’s water shortages by some, had been heralded as an essential project to be included in the privatization contract. The Misicuni dam (which was incomplete at the time) was to pipe water through the mountains to Cochabamba (Finnegan 2002). The World Bank, who had demanded that the Bolivian government espouse water privatization as a means to address Cochabamba’s water issues, did not support the Misicuni project. The basis for the World Bank’s position was that it argued that it would be “two and a half times more expensive than the \$70 million Corani project [the one

⁷⁷ As will be shown later, SEMAPA’s service after privatization ended continues to be limited as, once again, SEMAPA is only able to provide services for about the same number of people as before privatization (Eizenga 2009). In addition, even those who do have water connections continue to struggle with “...intermittent service ... for as little as three hours per day” (Id.).

proposed by the World Bank], and take twice as long to bring online—five to seven years” (*Id.*). The Corani project involved using water from an already existing hydroelectric reservoir, clearly a simpler and more cost-effective project (Précis 2002). ⁷⁸

After the above-mentioned commission wrangled with pressure from various governmental agencies, local and federal, to include the Misicuni project in the contract, the World Bank agreed to the government’s request. The essential terms of the contract were: 1) that the contract would last forty years; 2) that Aguas del Tunari would bring in and treat water from the Misicuni project; 3) that Aguas del Tunari would be authorized to effectuate an immediate water rate increase of thirty eight percent, plus another twenty percent increase when it “came on line”; 4) that Aguas del Tunari would invest eighty five million dollars during the first five years of the concession, and one hundred and twenty nine additional millions during the duration of the concession; 5) that Aguas del Tunari would pay SEMAPA’s outstanding debt; and 6) that Aguas del Tunari would provide twenty four hour service after the first year (*Id.*).

After Privatization: Cochabamba’s “Water War”

The contract began to unravel almost immediately, although the reasons given for the failure vary. Protests, barricades and demonstrations of all sorts began to take place in Cochabamba, even before the contract went into effect. ⁷⁹ Soon after the contract began

⁷⁸ The length of time for the completion of the project and projected expansion of water service was of great concern for the World Bank. An important reason for this concern may have been the fact that the World Bank knew that a main clause in the privatization contract was that there would be an immediate rate increase without any accompanying improvement of water services. Thus, a longer wait for improved water services, which would undoubtedly be the case if the Misicuni project went forward, would be less palatable to the Cochabamba residents.

⁷⁹ Anticipating water hikes, a number of people and entities began protesting water privatization. In fact, candidates of at least six political parties signed a protest against foreseen rate increases (Eizenga 1999).

its tenure, many rebelled (Foro Boliviano 2005). Those protesting included housewives, students, agricultural workers, entire indigenous communities, and representatives from many walks of life (*Id.*). Women who worked in irrigation, as well as urban women, played a major role in the water war (Peredo Beltrán 2004). The causes for their resistance varied: 1) high rate increases; 2) lack of any improvement in the service; 3) prohibition of centuries' old community water associations; 4) financial "losses for alternative and small scale water providers" (Eizenga 2009); and many others, as will be detailed later in this chapter.

After a November 1999 protest by irrigation farmers, the organizers of the protest/blockade called for a meeting with other groups. The "Coordinadora" (Coalition in Defense of Water and Life), emerged from a coalition formed by a number of entities, including a union ("Fabriles"), environmentalists ("Pueblo en Marcha"), irrigation farmers, and blue and white-collar farmers, among others (Peredo Beltrán 2004, Olivera and Lewis 2004). The Coordinadora promptly attracted numerous supporters and became, in many ways, the main voice of many groups that opposed water privatization in Cochabamba.

The Coordinadora began to take action immediately. By December 1, 1999, it was already mobilizing urban and rural workers on the subject of water. Thousands of people participated in these protests (*Id.*). Such massive support led the participants to demand an end to the contract by January 2000, as well as to demand a reverse of the water rate increases (*Id.*). The members of the Coordinadora threatened the government "with an indefinite blockade of regional highways and roads." Although not entirely successful at the time, the Coordinadora was able to obtain a commitment from the government regarding privatization and changes in water laws, but not regarding the water rates. The lack of success on the water rates issue led to the continuation of the conflict (*Id.*).

In February 2002, la Coordinadora escalated its protests, engaging in more and more marches and road blockages in Cochabamba. They were led by Oscar Olivera, a union leader who became the spokesperson for the organization (Lewis 2005).⁸⁰ As the protests gained momentum, “the government’s response escalated steadily” (Finnegan 2002). First, the government sent a delegation to discuss matters with representatives from la Coordinadora. This eventually resulted in the roll back of the increased water rates (*Id.*). But, given that all of the Coordinadora’s demands had not been met, protests continued.

The government responded to the ongoing protests with police interventions, tear gas and other forms of repression (Olivera and Lewis 2004). It sent troops to Cochabamba from nearby cities, and arrested many demonstrators (Finnegan 2002). There were numerous injuries among the demonstrators, as well as the government troops. Concerned about the escalation of the violence, the Archbishop of the Catholic Church of Cochabamba attempted to mediate between the protesters and the government. The government refused to negotiate with him or anyone else (*Id.*).

Eventually, as recognized by the World Bank, “[o]pposition to the tariff increase, as well as to the national water legislation generally, quickly built, and rioting broke out and spread to the other towns [and cities like Oruro, Potosí and La Paz]” (Précis 2001). Most of the nation’s major highways [and there are not very many], were blocked by protestors (Finnegan 2002).

⁸⁰ The author arranged an interview with Marcela Olivera, Oscar Olivera’s sister and a frequent collaborator in the water war. Upon arrival at Ms. Olivera’s office in Cochabamba, per a previous agreement between us to meet there, Ms. Olivera refused to meet with me and asked me to immediately leave her office saying that the Coordinadora “was tired of researchers and despised them”. Carlos Crespo Flores, a frequent researcher and commentator on water issues in Bolivia, and who I met later, had urged me to contact Ms. Olivera, unaware of her expressions about researchers. When I explained the situation, he was dismayed and stressed the need for more researchers to become involved with water issues in Bolivia.

In April of the same year, President Hugo Bánzer declared a state of siege and, as a result, imposed martial law. This was of crucial importance for the government as it allowed President Bánzer to engage in mass arrests of the protesters (Finnegan 2002). And so he did. The day the siege was declared the, protesters had filled the central plaza in Cochabamba. The Army fired tear gas at the protesters, while the government cut off power to television and radio stations (*Id.*). In the midst of this protest, a member of the military police fired into the crowd, killing a seventeen year-old student- protestor (*Id.*). When the shooting of this young man was caught on camera by a television crew, there was little that the government could do to defend its actions and the imposition of martial law. This was the beginning of the end for the contract with Aguas del Tunari. Public outcry led to the government relenting to the Coordinadora's demands (which included an end to the state of emergency and ensuing martial law) and thereby effectively ended the concession (Olivera and Lewis 2004).⁸¹

Who bears responsibility for the concession's failure

Was Aguas del Tunari the responsible party?

Those that blame Aguas del Tunari for the failure of privatization point to the company's substantial rate increases, as well as the prohibition of time-honored traditional water-management systems in the city. These two items were included in the concession

⁸¹ Although Aguas del Tunari's executives left, it is unclear, from a legal perspective, whether they abandoned the concession (as the government of Bolivia claims), or whether they were forced to leave the country. Once the government informed Aguas del Tunari's representatives that the government would be unable to provide them any support or protection during the turbulent times, they may have been inclined to leave.

contract, and were factors that immediately led to major opposition from many residents of Cochabamba (Id.).

In accordance with the terms of the contract, water rates initially increased “thirty five percent, in addition to a further rate increase of twenty percent” (Eizenga 2009). Researchers from the Democracy Center argue that rates immediately went up fifty percent (Democracy Center 2002), while others argue that it increased as much as two hundred percent (Hall and Lobina 2002). “These increases forced some of the poorest families in South America to literally choose between food and water” (Democracy Center 2002).⁸² (See Table 5-14 for an analysis of evidence offered concerning the increase in water bills during Cochabamba’s water privatization, and Table 5-15 for the decrease in the same bills after the concession ended.) Still others claim the rate hikes were only 10 percent, at least for the poor (Bechtel 2005, a/k/a Aguas del Tunari.)

Yet, as Finnegan points out, these rate increases were “not as arbitrary as they seemed. The consortium had agreed, in its contract, to expand the city’s water system, as well as increase its water rates. The expansion was going to be expensive, as was the large-scale repair job required by the deterioration of the city’s water system” (Finnegan 2002).⁸³ As stated by the managing director of International Water... “[w]e had to reflect

⁸² The author cannot verify the rate of increase or the variation in the rate of increase across society. Nonetheless, the World Bank and Aguas del Tunari have readily admitted that there were immediate increases in water rates after privatization; however, they argue that these were inevitable, given the need for monies to complete all projects included in the concession contract, and the fact that there had not been any rate increase for years (Finnegan 2002).

⁸³ It is not clear if there was to be indeed a large scale repair job of SEMAPA’s infrastructure. On the one hand, Crespo Flores, for instance, argues that Aguas del Tunari’s lack of interest in anything but expanding connections and increasing revenues did not suggest that any reparations of existing infrastructure were to take place (Crespo Flores 2004b). He argues that the contract did not provide for any investments that were not profitable, and that repairing pre-existing infrastructure or designing structures that would alleviate flooding in the area were simply not

in the tariff increase all of the increases that had never been implemented before.” (*Id.*).⁸⁴

Aguas del Tunari was to address many outstanding problems that SEMAPA had been unable to resolve as mentioned earlier, including an inadequate infrastructure and increasing capacity.

In addition, completing the Misicuni project greatly increased the cost of Aguas del Tunari’s endeavor. Long hailed by many as a panacea, and by others as anathema to successful water management, the Misicuni project was, more than anything, a political endeavor and demand by the Bolivian government. One of the strongest supporters of the Misicuni project was Manfred Reyes Villa, Cochabamba’s mayor, previously a real estate developer. Reyes Villa was also a member of President Bánzer’s coalition, and a very wealthy and popular man in Bolivia (Finnegan 2002). When Reyes Villa learned that the project was *not* going to be part of the concession, it is believed he exerted the necessary pressure so that it was included again. This was important to him as “some of his main financial backers stood to profit fabulously from the ... Dam’s construction” (*Id.*). The project was included in the concession contract even after the World Bank and Aguas del Tunari itself repeatedly stated that the project would be too expensive and unproductive (*Id.*). Aguas del Tunari insists, as will be shown later in this chapter, that the inclusion of the Misicuni project led, in great measure, to a need to increase water rates at such a rapid

objectives of the privatization project. On the other hand, it would not have made any sense for Aguas del Tunari not to repair infrastructure, thereby preventing water losses and theft which, as previously indicated, amounted to large financial losses (Bechtel 2005).

⁸⁴ This seems to be a problem being faced around the world, as water entities, public or private, attempt to increase water rates to attend to deteriorating infrastructures, as has been the case of Puerto Rico in recent years, where water rates tripled years after both privatization ventures ended.

pace. It places the blame on political pressure from the Bolivian government, and those from its inner circles, such as Reyes Villa (Bechtel 2005).

Another issue of concern that contributed to the rebellion was the prohibition included in the contract regarding the use of alternative water sources, such as water associations or people's own wells. The water associations were composed of members of the communities they served and they allowed these members reliable access to water. The prohibition included in the contract, forced associations to stop providing water to their neighbors and/or pay fees to Aguas del Tunari. This requirement prevented the delivery of water mostly to poor people, but also affected rural peoples at other levels. These people perceived water as something sacred, and something that no one could actually own (Olivera and Lewis 2004). As to people being unable to use their own wells, it is logical that they would resent having to pay for something that they were obtaining from their own wells.

In addition, the fact that the water rates were *dollarized* was also an issue. This *dollarization*, according to some, caused prices in local currency (Bolivianos) to increase (Foro Boliviano 2005, Peredo Beltrán 2004). Together the increase in water rates and prohibition of alternative or personal water sources, were to prove fatal to the concession contract, according to la "Coordinadora" and its many supporters.

The World Bank?

Crespo Flores believes that the main problem with water privatization in Bolivia, including Cochabamba, was that it was not a choice of the Bolivian people, but rather that it was imposed by international organizations such as the World Bank and the International Monetary Fund. To provide credence to his argument, Crespo Flores references what transpired during the water privatization process in Cochabamba.

He first points to the World Bank's approval of a 14.4 million dollar loan to the Bolivian government in 1997, before privatization in Cochabamba, as evidence of the influence of the World Bank. Eighty seven percent of the loan had already been provided to Bolivia by the time the bidding process for the concession had begun (Crespo Flores 2000). The loan was part of a plan entitled "Plan Nacional de Saneamiento Básico" (National Plan for Basic Plumbing), which was part of a national strategy for "structural adjustment", promoted by the International Monetary Fund, as noted earlier (Pérez 2007). Crespo also argues that the loan was granted with the objective of "institutionally strengthening" SEMAPA, so as to assure a successful privatization venture which would greatly benefit from inheriting "an efficient and solid" SEMAPA (Crespo Flores 2000). Said another way, he suggests that the loan was awarded to facilitate the upcoming privatization process. Had privatization not taken place, the World Bank loan would not have been extended another two years (Précis 2001).

To support his theory, Crespo Flores relies on the sharp differences between what the Misicuni Project was supposed to be when the Bank first awarded the loan to Bolivia, and what it became after the concession contract was awarded.⁸⁵ The Misicuni project had several components, including the construction of a dam, a tunnel, a hydroelectric power plant, and a water treatment facility (Olivera and Lewis 2004). See Table 16, which provides a description of the differences between what the project was to be originally, and what it became. For instance, while the size of the dam was to originally be 120 meters, at

⁸⁵ It is important to note that the Misicuni Project "... has been 'opened' by three different presidents, each saying that, unlike the others, they would bring the project to fruition" (Olivera and Lewis 2004). The project has been widely supported, as well as sharply criticized. While many politicians supported the project, both the World Bank and Aguas del Tunari always argued that the project was impractical and too costly, and not cost-effective (Précis 2001, Bechtel 2005).

the end it was 95 meters; water production was reduced from 6.6 m³/s to 2 m³/s; electricity production was reduced from 425 GWh/yearly to 40 Mw; and while 5 municipalities were to originally benefit from the distribution of water, in the end only the Cercado province in Cochabamba was to be the beneficiary of the increased distribution.

Crespo Flores also points to irregularities in the bidding process itself as evidence of the intent to privatize water services, regardless of whether the process was fraudulent or not and/or legally flawed. Although unsuccessful as stated before, since no one was able to conform to the initial bidding requirements, the government still began negotiations to award a contract to a private party: Aguas del Tunari. Aguas del Tunari's members included International Water Limited (a Great Britain company owned by Bechtel) ⁸⁶, Edison (Italy), Bechtel (United States), Abengoa (Spain), and two Bolivian companies, ICE and SOBOCE (Olivera and Lewis 2004, Finnegan 2002).

The World Bank recognizes the problems that ensued and that led to the water war, but only in a very cursory manner. They refer to the increase in water rates as being allowed by the terms of the contract, which is certainly true. (Précis 2001). They do not address, however, the issue of how such a rate increase, even assuming that it was defined in the contract as an average of thirty five percent initially and an additional twenty percent later, as stated before, would have proven acceptable to the average Bolivian. This seems even more implausible when one considers that Bolivians were not to obtain any improvement in the delivery of their services in the foreseeable future. At the time, the

⁸⁶ Bechtel indicates that it owned "50 percent of International Water, and International Water ...[owned] 55 percent of Aguas del Tunari; hence Bechtel's 27.5 percent interest in Aguas del Tunari." (Bechtel 2005). Others believe that International Water was wholly owned by Bechtel (Finnegan 2002).

minimum wage in Bolivia was less than one hundred dollars a month (Hall and Lobina 2002).⁸⁷ The notion that Bolivians would be willing or able to spend part of those meager wages to pay much more for their water is simply difficult to justify. Why would anyone be content with a steep increase in water rates when one's service was to remain the same as before, and when they already struggle to survive paying the current rates or procuring water in some other manner? A total of fifty five percent rate increase would simply be beyond the reach of many of Cochabamba's residents.

In addressing the issue, the World Bank merely refers to people's dissatisfaction due to their belief that they were paying more for the same deficient service as the reason why people resented and fought the rate hikes (Précis 2001). It does not seem to have merely been a belief but rather a fact. The Bank also argues that Aguas del Tunari might have been successful, even if it raised its rates up to thirty five and eventually fifty five percent, had the residents of Cochabamba seen some tangible improvements in their service prior to the rate hike.⁸⁸ The World Bank believes that public participation in the decision to privatize could increase the likelihood of success for any privatization project (*Id.*).

The local and national government?

Bechtel (representing Aguas del Tunari) suggests that it was limited in what it was able to achieve in Cochabamba by restrictions insisted upon by the government itself, and

⁸⁷ Estimates on income vary greatly. "Extremes exist at both the rich and poor ends, and in many rural areas, the average family income [was] only one hundred fifty dollars per year [in 2006]" (Water for People 2006).

⁸⁸ This seems implausible as, even before privatization was implemented, and as stated before, many residents of Cochabamba were protesting the possibility of privatization, concerned about increasing rate hikes—not whether there would have been improvements of water service.

by a lack of awareness of the complexity of providing water services in Cochabamba (Bechtel 2005). According to Bechtel, when it inherited SEMAPA's duties, it had to completely reorganize how the services were provided. SEMAPA was "never able to fully serve the population. What water [it] ... supplied did not meet public health standards. Service was irregular. [Its] revenues were not covering the costs of operating the system thereby forcing SEMAPA into a downward spiral of declining services" (Id.)

In addition, Bechtel also argues that SEMAPA's tariff structure did not follow internationally accepted standards as it rewarded larger users with lower rates, and punished smaller users with higher rates. This stood in great contrast to traditional water rate structures (Id.).

Another important concern for Bechtel was how the national and local government forced Aguas del Tunari to include and implement the Misicuni project as an objective of the privatization contract. Including the Misicuni project led to the need for higher increases in water rates than that which Aguas del Tunari was originally suggesting. In the end, according to Aguas del Tunari, the one issue it was able to succeed in including in the contract concerned the water tariff structure. Contrary to what SEMAPA had done, the new structure was supposed to limit or prevent any increases among the poor, and impose larger increases among the large users, traditionally the business sector and the wealthy (Id.). In sum, Aguas del Tunari argues that it was not the culprit and that the failure of the project was the result of the government's position, and the inability to implement water services in its own terms.

Were the objectives of the Privatization contract met in
Bolivia?

I reviewed the performance of the two water privatization contracts in Bolivia, in accordance with the premises in which I based my hypothesis. Although the demise of the two concessions came about for very different reasons, both eventually failed. Said another way, neither one attained the objectives for which privatization had been pursued. In that same vein, an analysis of the premises underlying my hypothesis on concession-type privatization, provided evidence that explains the reasons for those failures. Below is an examination of said premises.

That a private company will be more efficient than a governmental entity in managing water services; and that a private company has developed expertise that will allow it to better manage and successfully improve water services, even if unfamiliar with local characteristics and practices

Neither of these premises held with regard to either concession. In terms of efficiency or better expertise to manage water services, the concession contract in La Paz and El Alto appears to have indeed initially been successful, in the sense that the company had a substantial number of additional connections installed, particularly in some areas of El Alto (Komives 2003). This was one of the main objectives of the concession contract (*Id.*). But the success was short lived as a number of issues began to emerge, both from the residents and critics' perspective, as well as the company's. For the former, one such issue was that the company failed to make the agreed-upon connections to the poorest sectors of El Alto, and service in areas already connected began to deteriorate, that is, there were interruptions with the service, among other things (Crespo Flores 2004a, 2007). For the latter, an issue was its claim that its profits were dwindling as the poorest residents of El

Alto used little water, in an effort to pay less (Finnegan 2002). Other concerns later surfaced for the government of Bolivia when it hired auditors to review the company's performance, who concluded that there had not been adequate management of the contract (Pozo y Asociados 2006). Thus, AISA does not appear to have been successful in managing water, or at least not more successful than the governmental entity that previously managed it, and although initially its performance was deemed a success, AISA was unable to sustain its success over time.

That a private company will have access to monies and resources that a public entity may not have, which in turn will lead to investments that will improve water services

It is difficult to analyze this premise in the case of La Paz-El Alto in light of the fact that the *only* apparent reason why the Bolivian government entered into the concession contract with AISA was precisely because it was the only way in which the World Bank was willing to loan Bolivia any money to improve the delivery of water services. It is undoubtedly true that given that exigency, had Bolivia would not have had access to monies that the private company would obtain through the privatization arrangement sponsored by the World Bank.

That a private company will not be affected or influenced by local political considerations

In the case of La Paz and El Alto, there is no evidence that the concession was influence by local, political considerations. There is also no indication, however, that this was an issue *before* privatization. Thus, it does not seem a point of contention with or without privatization. In the case of Cochabamba, however, the situation was entirely different. Local politics played a major role in how water was managed before as well as after privatization, as is evident from the fact that the Misicuni project was imposed by

what appears to be local politicians' interest in the same (Finnegan 2002). As stated previously in this chapter, AISA and the World Bank argued that they had had no choice but to include the Misicuni project in the contract as it yielded to pressure from the Bolivian government, who in turn were protecting a local politician (Manfred Reyes Villa) with connections to President Hugo Bánzer and local businesses. (*Id.*, Bechtel 2005)

That a private company will be able to generate greater profits, while improving the delivery of water services

In terms of profits, it is clear that AISA expected, as any private company would, that its profits would increase once they added connections to the system, as they were unaware of the conservationist nature of the residents of El Alto. AISA's expression of frustration and the allegations that connections to the poorest sections of El Alto were never fulfilled, suggests that AISA was not able to generate the profits as expected and suggested by supporters of the concession, thereby failing to validate the above-referenced premise that a private party will be able to generate greater profits than a public entity.⁸⁹

⁸⁹ Underlying this premise concerning a private party's ability to generate greater profits is the notion that greater profits will lead to more monies available for improvement of water service. The author, however, was unable to find any terms in the contract or elsewhere that placed a legal obligation on AISA to separate those profits into an account that was to be solely used for the improvement of services. AISA did indeed have obligations it had to fulfill in accordance with the terms of the contract, but there was no language anywhere in the contract that made the amount of money spent on improvements contingent on AISA's profits. It follows that AISA's profits would not necessarily be of importance to the people served, as the quality of their service depended on the terms of the contract and not profits gained. AISA was to spend seventy two million in its first five years of the concession, but that expense was not to come from AISA itself, according to Crespo Flores (Crespo Flores 2004a). In fact, he suggests that the money AISA did spend while in Bolivia came from outside sources, such as the World Bank (*Id.*). One could argue that if SAMAPA could have had access to the same monies, perhaps it could have improved the delivery of water services.

In the case of Cochabamba, the concession contract was ill received even before it was implemented, and failed in a matter of months (Foro Boliviano 2005). The notion that increasing the rates of already poor residents in such a drastic manner, and with absolutely no improvement in the services in the foreseeable future, among other things, would be a successful venture seems difficult to understand (Eizenga 2009). The concession in Cochabamba was destined to fail because it was never conceived in a manner which would have been palatable to the residents of Cochabamba. The people of Cochabamba were to continue to receive poor service, if any at all. In addition, their rates were to increase at least fifty percent by some accounts, and as high as 200 percent by other accounts (Eizenga 2009, Hall and Lobina 2002). Finally, the inclusion and cost of the Misicuni Project would have meant that any improvements in the delivery of their service would presumably be greatly delayed. As a matter of fact, in the brief tenure of the concession contract, there was not an iota of evidence that services improved in any way.

The above summary reveals that Aguas del Tunari was certainly not more efficient than the governmental water company in any measurable way. In point of fact, it can be argued that the fact that the contract with Aguas del Tunari led to the elimination of a source for water provision for a number of residents in the region, if anything contributed to less access to water. It would be hard to envision a situation in which the terms of a concession project that increased water rates to an already struggling and poor segment of the population, without any improvement in service in the foreseeable future, reducing access for some to other sources and water, and with the added cost of a project that was mainly to benefit a select few, could possibly support the notion that the concession was more efficient in its delivery of water services.

In addition, although Aguas del Tunari would presumably be able to maximize its profits with a rate increase, this would only occur if the population served was willing and able to pay for the increase, which was not the case in Cochabamba. In the absence of a “willing public”, the company could expect and attempt to increase its rates, but if no one would be able to or was willing to pay it, clearly the company’s profits would dwindle. Such was the case in Cochabamba, where in a number of months, the company was forced to leave as the contract was brought to an end (Olivera and Lewis 2004).

That a private company will be able to adequately regulate itself and, as a result, there is no need for a strong governmental regulatory presence

In the case of La Paz and El Alto, an auditing report reveals that there were many issues and irregularities with AISA’s performance under the contract (.Pozo y Asociados 2006). As previously stated, the absence of accountability and a regulatory or supervisory role by the government is revealed in that, only after the contract was brought to an end, did these irregularities surface. Could they have surfaced earlier as irregularities did in the case of Puerto Rico? If so, would such irregularities have been adequately addressed? They could have indeed surfaced earlier, had they somehow been identified. Nonetheless, in the absence of an effective regulatory and legal system that would have the ability to address such issues, it is likely that there would have been no repercussions for AISA.

It is difficult to imagine a justification for the absence of regulation, accountability and supervision of a company that manages a precious resource, such as water, barring the undeniable fact that in the case of Bolivia, the government had no choice but to privatize, and there was little or no interest evident in the establishment of an effective way to supervise and/or regulate the concession. The auditing company’s report undoubtedly lends credence to that notion by providing evidence that AISA failed to submit numerous

reports, failed to perform in accordance with the terms of the contract with regard to deadlines and objectives, etc. (Pozo y Asociados 2006). Yet this company was also engaged *after* the concession had failed, and when the Bolivian government found itself facing a law suit in an international forum.

That the government will be able to adequately supervise private water companies and resume management of the services if need be

In the case of La Paz and El Alto, and as was just stated, the fact that none of the issues concerning the management of the contract, including submission of accounting and environmental reports, surfaced until after the contract was in turmoil, reveals that the local government was ill-equipped to supervise the concession contract. As for its ability to resume management, however, it is clear that SEMAPA was in fact able to immediately resume management of water services. This was also the case of Cochabamba where SEMAPA also resumed immediate management of water services once the concession ended. Therefore, concerning the ability to resume management, that part of the premise was proven to be valid in the case of Bolivia. The success of that resumed management, however, may have been curtailed by the abrupt ending of the contracts in both cases but this is a matter that has not apparently been the subject of research at this time.

That a government will be able to negotiate and enter into concession-type contracts with private parties for the delivery of water services at “arms length”, that is, on an equal footing

This premise does not appear to be true. In the first place, the fact that both concession contracts in Bolivia were *imposed* by the World Bank, immediately placed Bolivia at a disadvantage. Both AISA and Aguas del Tunari knew that the World Bank had refused to loan the government any more money if it did not privatize its water services. It

follows that from the start, and from a legal and practical negotiation perspective, the government of Bolivia had not bargaining power, nor a real ability to walk out of negotiations. Even though Bechtel claims that, in the case of Cochabamba, it was forced to include the Misicuni project in the work to be performed under the concession, the fact is that this seems to have been the sole instance in which there is any evidence that Bolivia made any demands while negotiating the concession contracts with either AISA or Aguas.

Because the reasons for the failures in Cochabamba and La Paz/El Alto vary, as each privatization project failed under different scenarios and the La Paz/El Alto contract was in place for much longer than the one in Cochabamba, they provide two excellent scenarios in which to test my initial hypothesis. By the same token, however, they share similarities as in both cases management of water services was completely relinquished to an outside private company, under the aegis of the World Bank and other international financial institutions. In other words, neither project was developed and espoused freely by the government of Bolivia, nor were these projects adequately supervised by an unbiased, regulatory agency.

After Privatization

As will be shown in Chapter 6, Bolivia's experience has led its government to outlaw the privatization of water and to pursue the notion that water is a human right. Now President Evo Morales is an avid supporter of water as a human right and, to that end, has attended international conferences and meetings on water issues in his attempt to persuade other nations to espouse his views. Nonetheless, the question remains whether water services in Bolivia have indeed benefitted from the legalized prohibition of *all* privatization contracts, and from the return to the same or similar type of traditional water management.

Conclusion

Outlawing all forms of water privatization may, at first seem an excellent way to protect a precious resource by preventing its control by an outside, private, and necessarily profit-oriented company. But not all forms of privatization are the same. It is true that concession-type contracts can be all-encompassing contracts (as they were in both privatization projects in Bolivia). They may have lengthy tenures, and terms which may not prove suitable to a nation that, like Bolivia, struggles with a woefully inadequate system of water services, a large segment of society which cannot afford the real costs associated with water provision, and lacks the appropriate mechanisms to manage such a contract. But there can certainly be other instances in which a privatization contract with other characteristics (shorter, with only partial responsibilities or on a one time basis) could prove enormously helpful in the quest to improve water services. This is not a novel idea. Governments as well as private parties, routinely outsource specific tasks when facing a deadline, or lacking expertise in a particular matter (Saldaña 2006). Legally eliminating *all forms of privatization* prevents more limited privatization ventures, as in the case of the government of Puerto Rico where it has now limited privatization projects to the building component of their water infrastructure. This may not necessarily be in the best interest of the Bolivian people as there are perhaps instances in which some limited form of privatization could be useful.

In addition, there is evidence that, upon the return of water management to governmental control, the same problems still persist after privatization, that is, issues of interruption of service, poor water quality, deteriorating infrastructure, number of people not served, the Bolivian people's situation remains the same (Eizenga 2009). Perhaps it is time to consider other ways to best improve services in Bolivia, including: some form of

more regimented, supervised and limited privatization; other systems of water management, including more water vendors and water associations as alternative sources; gradual increases in water rates with compensation to the poor for the unavoidable and necessary increased water rates; and other possible approaches (Id.).

Bolivia, as many other nations, will continue to struggle with the issue of access to water, particularly with regard to the driest (and often poorest) regions of the nation. It must continue to search for ways to address what will continue to be difficult issues concerning water management in Bolivia. The solution will be difficult to find as Bolivia lacks the financial resources to address the outstanding and expensive problems associated with the provision of water services, while at the same time providing these services to all. Outlawing privatization as a whole may prevent access to an option which could prove useful in the future.

Figure 5-1 Plurinational State of Bolivia



Source: Hudson, Rex A. and Dennis M. Hanratty, eds. Bolivia: A Country Study. Washington: GPO for the Library of Congress, 1989. Available at: <http://countrystudies.us/bolivia/>

Figure 5-2 Bolivia's boundaries, rivers and political divisions



Source: Bolivia Satellite Image. Available at: geology.com, 2009.

Figure 5-3 Lake Titicaca: the Bolivian side



Figure 5-4 View of La Paz (valley) and El Alto (the altiplano)



Source: Barton E. Cramer

Figure 5-5 Cochabamba



Source: Bolivia bella 2009. Available at: <http://boliviabella.com/maps.html>

Table 5-1 Bolivian presidents from 1997 to present

Year and duration	President
1997-2001	Hugo Bánzer Suárez
2001-2002	Jorge Quiroga Ramírez
2002-2003	Gonzalo Sánchez de Lozada
2003-	Carlos Mesa Gisbert
2003-2006	Eduardo Rodríguez de Veltzé
2006 to present	Evo Morales Ayma

Table 5-2 Major Bolivian Basins

Basin	Major rivers
Amazonic or North	Madre de Dios, Orthon, Abuna, Beni, Grande, Mamoré and Itenez
La Plata or South	Pilcomayo, Bermejo, San Juan and Paraguay
Central or Altiplano	Desaguadero, Lago Titicaca, Poopó, Salares de Uyuni and Coipasa

Source: Adapted and translated from Aquastat. “Sistema de Información sobre el uso del Agua en la Agricultura de la FAO.” 2000 Version. Available at: <http://www.fao.org/ag/agl/aglw/aquastat/countries/bolivia/index.esp.htm> and Instituto Nacional de Estadísticas (INE). 2009. “Bolivia: Gastos en Medio Ambiente de Empresas de Inversión Extranjera Directa, según actividad económica, 2000 – 2007.” Available at: <http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC80701.HTM>

Table 5-3 Percentage of Poor People in Latin America and in Bolivia in urban and rural areas

Year	Latin America			Bolivia		
	Total	Urban	Rural	Total	Urban	Rural
1980	40.5	29.8	59.9	No data	No data	No data
1990	48.3	41.4	65.4	No data	55.8 *	No data
1997	43.5	36.5	63	63.6	54.5	78
1999	43.8	37.1	63.7	63.5	51.4	84
2000	42.5	35.9	62.5	66.4	54.5	87
2002	44	38.4	61.8	63.3	53.9	78.8

Source: Adapted from Gobierno Nacional de Bolivia. Plan Nacional de Desarrollo. Available at: <http://www.planificacion.gov.bo/BANNER/PARA%20PAG%20WEB/pnd1.html>

Note: * Does not include data for major cities except El Alto

Table 5-4 Public and Private Investment from 1976 to 1989

Year	Public percent	Private percent
1976	49.1	50.9
1976	59.4	40.6
1978	59.4	40.6
1981	55.6	44.4
1983	63.6	36.4
1985	39.3	60.7
1987	60.4	39.6
1989	48.0	52.0

Source: Adapted from Chávez Álvarez, Gonzalo. "Privatización y descentralización en la Reforma del Estado en Bolivia." Documento de Trabajo No. 07/92, October 1992. Instituto de Investigaciones Económicas. Available at: www.iisec.ucb.edu.bo/papers/1991-2000/iisec-dt-1992-07.pdf

Table 5-5 Foreign Investment in the Environmental Field in Bolivia, according to economic activity from 2000-2007 (Thousands spent in U.S. dollars)

Economic Activity	2000	2001	2002	2003	2004	2005	2006	2007
Development and exploration of Crude Oil and Natural Gas	2,339	928	0	1,255	205	91	0	159
Development and Exploration Mines and Quarries	22	19	5	0	64	60	21	3
Manufacturing	7	0	5	27	122	255	0	0
Production & Distribution Electricity, Gas & Water	87	17	0	0	228	428	99	0
Construction	0	0	0	0	69	173	212	281
Transportation, Storage and Communications	552	722	0	0	662	34	0	0
Total	3,008	1,685	10	1,282	1,364	1,041	384	443

Source: Adapted from INE, Instituto Nacional de Estadísticas. 2009. "Bolivia: Gastos en Medio Ambiente de Empresas de Inversión Extranjera Directa, según actividad económica, 2000 – 2007." Available at: <http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC80701.HTM>

Table 5-6 Residential Access to water in Urban and Rural Areas

RESIDENTIAL WATER	1997	1998	1999	2001	2005	2006	2007
WATER SOURCE							
Urban Area	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Piped water	88.77	87.32	90.54	87.23	89.25	91.84	94.83
Public water source	4.89	5.67	2.03	1.55	1.59	1.07	0.65
Well or hydraulic water wheel with pump	3.17	2.96	1.36	1.12	2.70	0.77	0.63
Well or hydraulic water wheel without pump			2.24	3.72	2.84	2.25	1.49
River, runoff or channel	0.37	0.37	1.31	0.66	0.39	0.14	0.67
Lake, lagoon or small lagoon					0.09		
Water cart	1.90	2.59	1.44	3.08	2.33	2.47	1.60
Other	0.90	1.09	1.07	2.65	0.81	1.45	0.12
Rural Area	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Piped water	29.13	30.34	22.96	33.56	38.83	42.92	39.38
Public water source	8.10	13.56	9.98	9.01	5.16	3.97	7.89
Well or hydraulic water wheel with pump	23.99	23.53	5.82	7.56	4.47	4.75	3.84
Well or water wheel without pump			18.12	19.89	15.99	12.79	13.29
River, runoff or channel	36.68	30.35	39.70	26.86	32.81	31.48	34.98
Lake, lagoon or small lagoon			1.35	0.53	2.00	0.94	0.43
Water cart	0.28	0.07	0.16	0.23	0.12	0.05	0.07
Other	1.81	2.15	1.91	2.36	0.62	3.10	0.11

Source: Adapted from Instituto Nacional de Estadísticas (INE). 2009. "Bolivia: Gastos en Medio Ambiente de Empresas de Inversión Extranjera Directa, según actividad económica, 2000 – 2007." Available at: http://www.ine.gov.bo/indice_visualizador.aspx?ah=PC80701.HTM

Table 5-7 Important laws and decrees paving the way for privatization

Supreme Decree 21060	1985	Arguably issued to curb inflation while pursuing stabilization measures, as part of the privatization process. It also led to the disintegration of Bolivian unions
Law 1178	1990	To improve the condition of the public sector by providing a legal framework that would lead to efficiency, transparency and legality
Investments Law	1991	Liberalized foreign investments
Supreme Decree 22836	1991	Provided a broad definition of privatization and listed state companies which could potentially be privatized.
Privatization Law No. 1330	1992	Reinforced the legal framework necessary to implement privatization. Among its cited objectives; (1) transfer profitable state companies to the private sector, (2) reduction of the deficit, (3) promote investment.
Supreme Decree 22047	1993	Created the Commission for Evaluation of Private Industry. Its function was to assess the possibility of partial or total transfer of state assets to the private sector.
Capitalization Law	1994	Capitalization of top public companies (telecommunications, transportation, electricity, and hydrocarbons).
Law 1600	1994	Changed the state's role from participant to regulator, through the creation of a superintendent's state office for management of sectors targeted for privatization (SIRESE).
Supreme Decree 24716	1997	Regulations that further delineated SIRESE's responsibilities and provided a framework for water privatization and, specifically, concessions
Supreme Decree 24663	1997	Established the norms for the bidding process, granting the Ministry of Capitalization the ability to modify and/or amend bidding and granting concessions.
Law 2029	1999	This law ended government subsidies for water and allowed for the privatization of water services.
Law 2066	2000	This law essentially revoked Law 2029, as it modified it extensively.

Source: Gobierno Nacional 2006, Montañó and Villegas 1993, Crespo Flores 2004a, Komives 2003, Bustamante 2003, Contraloría 2006, Olivera and Lewis 2004

Table 5-8 Privatization Phases

Phases of privatization of public companies in Bolivia	Number of privatized companies
First phase	70
Second phase	10 companies are capitalized
Third phase	14
Total	94

Source: Adapted from Gobierno Nacional de Bolivia. Plan Nacional de Desarrollo.
 Available at: <http://www.planificacion.gov.bo/BANNER/PARA%20PAG%20WEB/pnd1.html>

Table 5-9 Private Participation in Infrastructure Database

Year of Investment	Energy	Telecom	Transportation	Water & sewage
1990	0	0	0	0
1991	0	1	0	0
1993	0	0	0	0
1995	5	1	0	0
1996	0	0	3	0
1997	2	0	1	1
1998	2	0	0	0
1999	1	0	0	1
Total	10	2	4	2

Source: Adapted from World Bank PPI Project Database. 2006. "Private participation in Infrastructure Database." May 2006. Available at: ppi.worldbank.org/book/246Izagu-071902.pdf

Table 5-10 Total Investment in Projects by Primary Sector (Billions spent in U.S. dollars)

Year of Investment	Energy	Telecom	Transportation	Water & sewage
1990	0	0	0	0
1991	0	0	0	0
1993	0	0	0	0
1995	252	18	0	0
1996	0	109	162	0
1997	117	213	7	362
1998	2,282	109	0	0
1999	127	79	0	320
2000	164*	142*	17	0

Source: Adapted from World Bank PPI Project Database. 2006. "Private participation in Infrastructure Database." May 2006. Available at: ppi.worldbank.org/book/246Izagu-071902.pdf

Note: *Investment in the energy and telecommunications industry continued until 2004, but ended for the transportation and water sectors

Table 5-11 AISA members from 1997 to 2001

Original Company 1997		Modified Company 2001	
Entity	percent		percent
Lyonnaise des Eaux	35	Lyonnaise des Eaux (now Ondina)	54*
Sociedad Comercial del Plata (Argentina)	18	Bolivian Investment Corp. (BICSA)	22
Bolivian Investment Corp. (BICSA)	20	Inversora en Servicios S.A.	9
Meller S.A. (Argentina)	12	CONNAL S.A.	5
Consultora Nacional (CONNAL S.R.L. Boliviana)	5	Trabajadores de Agua del Illimani (with more than 2 years of service)	2*
Arousa (filial of the Bank of Galicia [Spain] in Argentina)	10	International Finance Corp. (IFC)	8
Total	100	Total	100

Source: Adapted from Superintendencia de Aguas 1997, Attachment 8, cited in Crespo Flores, Carlos. 2004a. "Aguas del Illimani y Resistencia Social." Available at: <http://www.funsolon.org/Agua/El%20Alto/ElAlto-Crespo.htm> Crespo Flores

Table 5-12 High and low consumption rates in the AISA concession

Neighborhood or zone	Consumption m3/monthly
City of La Paz - high consumption	
San Sebastián	149.24 *
San Pedro Bajo	99.24
Belén	86.90
Calacoto	59.29
Sopocachi Bajo	53.97
City of La Paz - low consumption	
Tacagua	11.08
Alto Chijiri	11.29
City of El Alto – high consumption	None
City of El Alto – low consumption	7,03
Satellite City, Tejada Triangular, Tejada Alpacota, Santa Rosa, Exaltación, Rosas Pampa, Alto Lima, Villa Victoria, Said, Alto Lima, Tercera Sección, Huayna Potosí, Villa Esperanza, Tupac Katari, Villa Ingavi, German Busch, Tahuantiansuyu, Mercurio, Jerusalén, Zona Industrial, Urbanización Municipal, Romero Pampa	
Remaining zones of El Alto	ranging between 9.88 and 11.86


*Source: Adapted from Crespo Flores, Carlos. 2004a. “Aguas del Illimani y Resistencia Social.” Available at: <http://www.funsolon.org/Agua/El%20Alto/ElAlto-Crespo.htm>
Crespo Flores

Table 5-13 AISA's investments in La Paz and El Alto

Year	\$U.S.
1997	8,121,109
1998	15,142,868
1999	19,552,919
2000	8,616,975
2001	3,353,120
2002	3,360,000
2003	3,121,000
2004	3,370,000
Total	54,786,991

Source: Crespo Flores, Carlos. 2004b. "Campaña Internacional de presión sobre Abengoa, una empresa que se encuentra en el Consorcio Aguas del Tunari." Available at: <http://www.cedib.org>

Table 5-14 Increase in water bills in Cochabamba

WATER BILLS – TOTAL BY USER CATEGORY SEMAPA VS. BECHTEL (AGUAS DEL TUNARI)			
USER CATEGORY	SEMAPA		INCREASE\$ (percent)
Empty land	\$44,191	\$64,854	\$20,663 (47 percent)
The very poor	\$762,740	\$1,092,308	\$329,568 (43 percent)
The poor	\$1,415,454	\$1,976,697	\$561,243 (40 percent)
Middle class	\$1,363,547	\$2,145,621	\$782,074 (57 percent)
Commercial users	\$1,531,530	\$2,440,446	\$908,916 (59 percent)
TOTAL	\$5,117,462	\$7,719,926	\$2,602,464 (51 percent)

Source: SEMAPA computer records cited in Democracy Center 2002. “BECHTEL VS. BOLIVIA THE WATER RATE HIKES BY BECHTEL’S BOLIVIAN COMPANY (AGUAS DEL TUNARI) THE REAL NUMBERS ”. Available at: <http://democracyctr.org/bolivia/investigations/water/waterbills-global.htm>

Note: (Methodology: SEMAPA used its actual billing records for April-December 2001 for water use and charges and applied the rate hikes imposed by Aguas del Tunari in 2000, based on the same level of water consumption per customer. The water rates charged by SEMAPA during this time are the same used prior to Aguas Del Tunari’s price hikes.)

Table 5-15 Different versions of the Misicuni Project

Paribas Report			
Characteristic	Phase 1	Phase 2	Concession
Size of the dam	120 meters	105 meters	95 meters
Water Production	6.6. m ³ /s	3.9 m ³ /s	2 m ³ /s
Water level for individual use		2.5 m ³ /s	2 m ³ /s
Water level for irrigation		1.4 m ³ /s	0.5 m ³ /s
Electricity production	425 GWh/yearly	300 gWhh/yearly	40Mw
Transmission line (115 kv)		25 km long	13 km long (approximately)
Municipalities to benefit from distribution of potable water	5 municipalities in the Cochabamba Valley		Only the Cercado province in Cochabamba
Irrigated surface		6000 has.	2000

Source: Adapted from Crespo Flores, Carlos. 2000. "Aguas del Tunari, Go Home: Elementos Para Una Crítica Del Contrato de Concesión del Agua Potable en Cochabamba." Available at: www.aguabolivia.org/newcastle/contratos/ObsConCbb.htm

CHAPTER VI – WATER MANAGEMENT IS COMPLEX, AND CONCESSIONS- ARE NOT NECESSARILY THE ANSWER

Summary, conclusion, and contributions

Overview of the study

This chapter includes a description of the problems examined and set forth in Chapter 2, and the purpose of the research. I identify my key findings and discuss how these findings have allowed a better understanding of the complexities and divergence between what privatization contracts *are supposed to accomplish* (provide better management and improvement in delivery of water services) and what the results *have been*, in light of the privatization efforts of two Latin American nations. I also draw conclusions about the existence or absence of a legal, political, regulatory and social framework to manage privatization projects, and the consequences; and finally, I examine the practicality of an approach to privatizing a service imposed by an outside entity (such as the World Bank), under particular contractual terms seemingly favorable to only the private party, and with little, if any, participation by the local citizenry or local agencies, including in particular, regulators. These conclusions are based on the research reflected in the preceding chapters.

Statement of the problem

This dissertation examined the development of water privatization, and in particular, from a legal perspective, and the formulation and implementation of concession-type contracts with private parties in Latin America with the objective of improving water services. The concessions were purported to address and improve the delivery of water services by attending to recognized problems such as deteriorating infrastructures, water quality and quantity issues, as well as a prevalent lack of access for the poor. All

concession contracts relinquished most, if not all, control over the delivery of water services in each of the areas served. In the case of Puerto Rico, this meant that all of its residents' services were managed privately; in the case of Bolivia, it meant that each of the cities, La Paz/El Alto and Cochabamba, were the ones whose water services were managed by a private company. The origins, characteristics, implementation and results of concession ventures were analyzed on the basis of the premises previously stated (Table 1-1)), to shed light on the concept of whether water privatization, in the form of concession-type contracts, improved water services.

Chapters 1 through 3 described how privatization began to gain prominence as a means to address water issues in general. Privatization of water services in Latin America, as well as in much of the developing world, has often been promoted, and in many cases imposed, by the World Bank and other international financial institutions. Privatization, it is argued, is particularly relevant and necessary when the entity which provides water services is unable to adequately address water issues such as those indicated above. Concession contracts, the form of privatization pursued in the cases reviewed, has been championed as a tool to improve the efficiency of said services. Private companies are believed to be *inherently* more efficient, not subject to political pressure, and have the expertise to better manage water services, among other arguments. The concept of privatization has also been freely adopted by governments of some Latin American nations, as well as nations elsewhere *of their own accord* and not imposed by any outside entity, such as in the case of Puerto Rico, China and Cuba (Guerra Pujol 2009).

Privatization was championed as a mechanism that could effectively address different types of problems depending on the issues that each nation was dealing with at the time. For instance, the privatization contracts in Bolivia were designed to allow access

to water to a marginalized sector of society (the very poor), something which the government had had difficulty accomplishing for a myriad of reasons. Chapter 5 provides a description of how privatization took place in Bolivia in two major cities, the characteristics of each concession, and whether privatization improved the delivery of water services. In other concession contracts, such as the ones that were in place in Puerto Rico, the objective of privatization was to address water quality issues, in an island where access to water was already nearly universal. Chapter 4 provides a description of the two island-wide privatization projects and their characteristics.

Theoretical framework and research questions

A review of the data collected, as well as the literature in the fields of law ⁹⁰, political science, environmental science, economics and the like, revealed that most of the research done by academics and interest groups of all sorts was divided into two sides: those who unequivocally defended privatization, and those who strongly opposed it. There is hardly any “middle-ground”, nor any suggestion or interest in pursuing one. There have been very few researchers, citizen groups, or agency representatives who considered the issue on a “case by case basis”, or even considered alternative approaches. It was almost always an “all or nothing” analysis of privatization. Very little of the literature supports a pragmatic, unbiased and practical approach to water privatization of any sort, or the possibility of alternative privatization models, or even other management approaches. Those who oppose privatization, mostly academics as well as a great many human rights groups and NGOs, fail to include an examination of the many ways in which privatization

⁹⁰ To perform a thorough legal review, I examined laws and regulations; judicial complaints, decisions and settlements; auditing reports; as well as the constitutions of both nations.

(of a different sort) has *always* taken place and has proven successful, as in laboratory analyses of water or infrastructure construction work performed by private entities for water agencies and other governmental entities. They also fail to address the issue that management of water services was often inadequate before privatization, during, as well as after, suggesting that perhaps it is not safe or even reasonable to assume that governmental management will necessarily yield better results than would private management, or *vice-versa*.⁹¹ Other arrangements may warrant consideration, such as water management associations, water tribunals, and private-public arrangements that are better suited to the particular characteristics and needs of each region and culture, or the task at hand.

In contrast, those who support privatization consistently ignore the devastating consequences of water privatization failures, although there are numerous examples of these failures in the short time that the World Bank and other international lending institutions have been promoting and often imposing this approach throughout the world. Private companies with little supervision and an almost unlimited ability to act in an unregulated manner, have proven to be quite adept at failing to improve the services that are privatized, and often, in fact, have contributed to further deterioration of the same, as was the case in Puerto Rico. Supporters dismiss the obvious detrimental effects of raising prices for a population that cannot afford it (Cochabamba, Bolivia), unrealized promised investments (Puerto Rico and Bolivia), deteriorating water quality (Puerto Rico), failure to include the poorest sectors of society because it is not *profitable* (El Alto, Bolivia), and other similar devastating failures of concession-type contracts.

⁹¹ This was proven to be the case in three of the privatization projects reviewed: the two privatization ventures in Puerto Rico (as water quality issues continue to plague the island), and the city of Cochabamba, where service continues to be of very poor quality (Eizenga 2009).

Through a review of the literature from supporters and detractors, local publications in Bolivia and Puerto Rico (often difficult to find outside either nation), interviews of some key people involved in water privatization, reviews of the laws and regulations that led to and enabled privatization and the concession contracts, and a detailed examination of the terms of contracts themselves, the following questions emerge concerning water privatization:

1. What evidence is there that privatization *per se* will lead to an improvement in the delivery of water services?
2. Have national governments created an adequate legal, political, regulatory and social framework for successful privatization?
3. Can water privatization be successful when imposed by an outside entity, with little or no participation by local citizenry or agencies, including regulators, and with terms favorable to the private party?

Summary of the Findings

The concept of how water privatization through concession contracts will lead to improvement in the delivery of water services is essentially based on a number of premises, and these were the subject of my research. This research has led to findings that do *not* support most of these premises.

That a private company will be more efficient than a governmental entity in managing water services (efficiency defined as attaining the objective set forth in the privatization contract)

A private company is not inherently more efficient nor does it necessarily improve the financial condition of a water agency. This is supported by evidence that, not only did all privatization projects studied eventually end in failure (although not all had failed when

I began my research), but also because a large number of other water privatization projects have also resulted in failure and have been cancelled all around the world in the last decade alone. See Table 6-1. Many service-oriented private companies are successful in what they provide, but their success is contingent on factors such as the quality and demand for their services, as well as many other reasons. Many also fail. There is no evidence that supports the notion that privatizing any service *per se*, including water, through any kind of contract, a concession or otherwise, will lead to the delivery of better services.

Private companies are also not immune to political influence, as demonstrated in the case of Cochabamba, where local politicians played a role in the projects that the private company was to undertake, i.e., the Misicuni Project. Thus, although greatly disfavored by the lending bank (the World Bank) and the private contractor, the government of Bolivia, influenced by the local governor, demanded that the Misicuni Project be included in the privatization deal or the government would not agree to privatization.

That a private company will have access to monies and resources that a public entity may not have, which, in turn, will lead to investments that will improve water services (which will be evident in the number of improvement projects undertaken); and that a private company will be able to generate greater profits, while improving the delivery of water services (particularly for the poorer sectors of society)

The experiences of both Bolivia and Puerto Rico indicate that such premises are not supported by any available evidence. First of all, in two of the four privatization projects researched, i.e., the two ventures in Puerto Rico, there was no correlation between access to money for the private entity (whatever the source) and expenditure or improvement of services or profit increase. Both privatization projects in Puerto Rico failed to improve the

delivery of water services and instead, the service deteriorated. There also failed to be an increase of profits. In the case of Bolivia, the situation was more complex.

It has been amply documented that services to poorer people living in more remote areas in El Alto in El Alto, Bolivia, were indeed expanded and improved upon under the AISA contract. Nonetheless, it is hard to determine if the investment monies came about *because* of the expansion of the services or because of other considerations, including the conditional assistance from the World Bank.⁹² Had SAMAPA been awarded the loan it required to expand and improve water services, perhaps it too could have improved and expanded service in El Alto, and perhaps not. Furthermore, and unlike AISA, the governmental agency would not have been necessarily constrained in its expansion goals by a paramount objective for a profit-oriented venture: the need to generate profits, a difficult feat given the conservationist attitude of the poorer residents of El Alto. As indicated in Chapter 5, AISA was unhappy about how little water those residents were using, and eventually stopped expanding services for fear of not getting an adequate return on its investment. Presumably, SAMAPA would not have conditioned connections to increased use of water and larger profits.

In Cochabamba, the scenario was more complex. As stated in the concession contract, the private party did not effectuate any improvements in the delivery of water services, but it did increase its rates in accordance with what had been agreed upon “up front” by all involved in the negotiations. Although Aguas presumably would have eventually undertaken the task of improving services, in the absence of anything but a

⁹² The World Bank provided the loan only if Bolivia would privatize water services in La Paz and El Alto.

promise and the rescission of the contract, it is impossible to determine whether any improvements would have ever taken place nor that the quality of the water would have improved. In addition, the prohibition of the existence and use of water associations and other alternative ways of accessing water also would have resulted in more monies for the private water agency, but at a very steep cost for those relying *by choice* on those other sources. Since the terms of the contract effectively prevented improvement of water services for the indefinite future, and the rate hike brought an end to the contract in six months, one cannot see a correlation between private water management and an improvement of water services in Cochabamba

That a private company will not be affected or influenced by local political considerations (and thereby able to improve service)

Private companies are also not immune to political influence, as demonstrated in the case of Cochabamba, where local politicians played a role in the projects that the private company was to undertake, i.e., the Misicuni Project. Thus, although greatly disfavored by the lending bank (the World Bank) and the private contractor, the government of Bolivia, influenced by the local governor, demanded that the Misicuni Project be included in the privatization deal or the government would not agree to privatization.

That a private company has developed the expertise that will allow it to better manage and successfully improve water services, even if unfamiliar with local characteristics and practices (of the society where it is to manage those water services);

As for the “know-how” or expertise that a private company may have in terms of managing water, this is one of those premises which holds somewhat true, but with

caveats. It is true that a company or a person that specializes in an area such as water management, and that has been involved in hundreds of water projects for many years, is likely to have developed an expertise on how to manage that service. This is certainly the case of many of the European companies, as is the case of a French water company, like Veolia. But, as is evident from the many failures of privately-run water projects in the developing world, such expertise does not *necessarily* translate into success *outside France*, at least not with regard to concession-type contracts. It is not enough to know *how* to manage the delivery of water services, when your expertise is only in Europe and elsewhere in the first world, and where there is an established legal and regulatory system set up to supervise and monitor the provision of those services. Said expertise may fall short of what is needed to manage water in a developing nation, with problems that are complex and rooted in cultural and economic characteristics that are not readily apparent or understood by outsiders. In the projects reviewed, it does not appear that the private companies were very successful at becoming part of the society in which they were managing water services, either in Latin America or in some other nations in the developing world.⁹³

That a private company will adequately regulate itself and, as a result, there is no need for a strong governmental regulatory presence, and that governmental entities will be able to adequately supervise private water companies and resume management of services if need be);

The issue of who was going to supervise the management of the concession contracts themselves was at best sketchy in both Bolivia and Puerto Rico. In Puerto Rico,

⁹³ This may be the result of a combination of factors that lie outside the scope of this research.

PRASA and the Office of the Comptroller seem to have played the largest role in supervising the contracts. But as indicated in Chapter 4, the Comptroller was frequently at odds with PRASA and other government agencies, complaining about the absence of adequate supervision. PRASA itself also found irregularities in the management of the contracts. In the end, it does not seem that there were adequate mechanisms set up to supervise the contracts in Puerto Rico, and that led to friction between the government and the private parties.

As to any evidence pointing to both operators in Puerto Rico aptly regulating their performance of the contract, it is clear that the private parties and the government of Puerto Rico differed in their view of compliance with the terms of the contract, which is certainly a measure to be used in assessing performance. The fact that both contracts were brought to an end over allegations of failure to comply with the terms of the contracts themselves, as well as irregularities in billing, water quality control, etc., illustrates that there is no evidence that supports the notion that a private party can adequately regulate itself.

In the case of Bolivia, the situation was even worse. Auditing reports undertaken after the La Paz/El Alto contract ended revealed all sorts of irregularities in AISA's performance. These irregularities, however, were not addressed during the tenure of the contract. Therefore, unless proven to be false, the allegations made by the auditing company reveal a pattern whereby AISA did not self-regulate adequately (Pozo y Asociados 2006). There was no indication that a similar report was undertaken with regard to the Cochabamba concession so the premise cannot be analyzed with regard to this city.

Regarding government supervision, there were very few institutionalized mechanisms to supervise and take action concerning either privatization contract. Each private operator essentially acted independently of government supervision. The role of

the Office of the Comptroller in Bolivia was in no way nearly as involved as that of the Comptroller in Puerto Rico, who published one report after another concerning the serious issues and discrepancies concerning the management of both privatization contracts (Saldaña 2006).⁹⁴

In hindsight, it would seem that the interest in privatizing water seems to have taken precedence over everything else, including the development of an adequate regulatory system that would assure conformance with the terms of the contracts and all applicable laws. Contract modifications always took place as a result of pressure from the private company, although it sometimes complained (perhaps legitimately) that the governments of both Puerto Rico and Bolivia had failed to disclose crucial data when the parties had entered into the respective contracts. But in the world of business, it is incumbent on the signatories of a contract, particularly those with vast experience in the field and particularly in the case of the two multinational corporations that were the parties in all of the contracts, to avail themselves of the necessary information concerning the service they are to deliver before signing. Only information which is hidden or deliberately misrepresented could possibly qualify for a legal claim of deception by one of the signatories. The allegations were certainly made but there is no evidence that they were proven by the private parties.

That government will be able to negotiate and enter into concession-type contracts with private parties for the delivery of water services (reflected in the fairness and adequacy of the terms of the privatization contract).

It is abundantly clear that, precisely because private water companies have been

⁹⁴ Nonetheless, even in the case of Puerto Rico, it does not seem that the Comptroller was successful in obtaining resolution of the complaints that his office had raised.

negotiating concession contracts for many years and around the globe, that they are much better suited to negotiate for terms in a contract that is *favorable to them*. As a result, the terms of the concession contracts seem to be markedly in favor of the private parties, and devoid of adequate mechanisms for the governments of each nation to enforce either the terms of the contract, or other regulatory measures. Nonetheless, each government could have, in theory, hired knowledgeable counsel to negotiate the terms of the contracts. This could be said with regard to the Puerto Rican concession contracts—but not for the Bolivian ones. Contrary to the case of Puerto Rico, the Bolivian government had to enter into a concession contract with a private party if it wanted to receive a loan from the World Bank for the improvement of its water services. Therefore, and as discussed in great length in Chapter 5, Bolivia was in the untenable position of having to settle, with very little leeway for bargaining or ability to be able to “walk away” if the terms of the contract seemed unfavorable to the government. In such a situation, there could never been any discussions at “arms’ length” as Bolivia had virtually no bargaining power whatsoever.

Conclusion and Contributions

The findings of my research may not be applicable to *all* water privatization projects, particularly since the terms of water concessions have the potential to vary and indeed do. My findings, however, are consistent with the results of many privatization projects around the world, particularly those in the developing world. Moreover, the findings lead to an indication that hastily imposed or adopted water privatization projects that are not adequately managed, regulated and tailored to local needs are very likely to fail. Such a conclusion can be applied elsewhere. The research also illustrates the complexity of the problems inherent to water management, and the need to consider alternative water management arrangements that are adapted to the particular situation of

each nation, city or region, and that do not necessarily follow those usually espoused in the privatization debate, that either abhor or support privatization. My legal background afforded me a unique opportunity to examine privatization from that vantage point, as I was able to examine the legal issues of the concession projects. This type of perspective is not prevalent among supporters and detractors of privatization.

Could privatization ventures have succeeded if they had followed the principles suggested by the Office of the Comptroller of Puerto Rico? Said another way, given an adequate legal and management structure, which includes transparency in the bidding and informational processes, and other steps suggested, would water privatization efforts have succeeded? One can only speculate with regard to an answer to this question, given the many unknown variables that would have to be analyzed. But if, indeed, all those elements of effective management, adequate legal and pricing structure, efficiency and transparency, to name a few, were present in the government's management of a water privatization contract, why would there be any need to privatize? If the government was able to effectively manage water services, why would it pay a private party to do what it was already doing well? Privatization of the scale encompassed in a long-term, all-encompassing concession contract seems to be geared towards addressing the *inadequacies* of public water management. Given the previous statement, could any government, adequately supervise a private entity that is carrying out *all* of its previous duties, when it is hiring a private party *precisely* because it was unable to manage these services adequately? It is doubtful. Such a proposition defies all logic. The situation would be different if a company would perform *some of the tasks* that the government previously managed, and for a much more limited time. It would also be different if the privatized service did not concern something as essential as water, in a situation like that of

Cochabamba, where residents were even prevented from having access to their own water wells after privatization.

The answer may be that it is simply unadvisable to enter into a concession-type contract where a private company is to manage *all* services of a good as essential as water, and *because* the government cannot do so adequately; for a very long period of time. This does not mean, however, that all concession-type contracts should be deemed inherently bad. The breadth, objectives, and terms of the contracts, among other factors, would determine whether such contracts could be successful. Privatization ventures of many sorts, and of much more limited capacity, such as providing advice on how to best manage a service, how to minimize financial losses, or how to take advantage of new technology or approaches to water management, are successful and viable and take place on an everyday basis. These limited services are indeed ones that a private company could provide, and readily does for all sorts of governmental entities. In the field of water management, the government could retain control of water management, while engaging private companies on a short-term basis and for limited tasks.

It is important to note that the research also revealed that there was no evidence that the government was inherently better at managing water services than private parties were after privatization. In the case of Puerto Rico, PRASA continued to receive steep fines for water quality issues *after* privatization ended. In the case of Bolivia, there is no indication that water services have indeed improved in either La Paz/El Alto or Cochabamba after the demise of both concession contracts.

Neither governmental management nor privatization has led to improvement of water services per se. It is clear that neither one is necessarily a solution to the problems inherent in water management. Such a conclusion leads to a need to reconsider the

continuation of an “all or nothing” approach to water management. Perhaps it is also time for those who support or oppose privatization to consider that there is not steadfast rule on how best to manage water, and that other approaches, such as decentralization of water management, or small scale privatization with adequate regulation, should be considered on a case by case basis.

Table 6-1 Failed Concession and BOT Contracts 2000-2010

Argentina	Mendoza	2009	Enron, Saur	The city council took over the company on a temporary basis, after failure to negotiate. SAUR filed a compensation claim for 200-300 million dollars. Council conducted an investigation into the matter and may file compensation claims against SAUR, as well as criminal charges.
Argentina	Buenos Aires	2006	Suez	Compensation claim at ICSID was launched by Suez, then dropped for the sale of its shares and later resumed. Individuals, civil organizations, and local authorities have filed lawsuits against Suez in Argentinean courts.
Bolivia	La Paz/El Alto	2007	Suez	The contract was ended after negotiations which led Bolivia to assume responsibility for 9.6 million dollars in loans, and pay 5.5 million dollars in compensation to Suez.
Bolivia	Cochabamba	2000	Bechtel	Concession ended as part of the demands made by la Coordinadora and other organizations. Although Bechtel filed a claim for 50 million dollars before the ICSID, it later withdrew its claim in response to international pressure.
Brazil	Limeira	2006	Suez	Suez left and the company is now owned by a Brazilian operator. No reports of compensation.
Central African Republic	Bangui	2001	SAUR	The contract was terminated 5 years before its expiration date. No reports of compensation.
China	Da Chang (Shanghai)	2004	Thames	BOT. The company abandoned the plant after the government declared the municipal guarantee of a 16 % profit invalid. No reports of compensation.
Malaysia	Bamako	2005	SAUR	Malaysian government decided to renationalize all water assets and revise or terminate existing concession contracts.
Turkey	Antalya	2002	Suez	Suez subsidiary bankrupt after price increase refused. Municipality then took over.
Uruguay	Uragua	2006	Urbaser	After contract terminated, compensation claim filed before the ICSID.
US	Atlanta	2003	Suez	Settlement which includes requirement that Atlanta mayors and city councilors cannot criticize Suez in public, and payment of 13.3 million dollars to Suez.

Source: Adapted from Hall, David, Emanuele Lobina and Violeta Corral. January 2010. "Replacing failed private water contracts." Available at: www.psim.org

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