The London School of Economics and Political Science

Beyond the Fine Print:

Water Sector Reform and Private Sector Participation.

Case Study Based on La Paz/El Alto PPP Concession

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Declaration

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Abstract

This dissertation sheds new light upon the complex interplay of factors (social, political and economic) that constrain the enabling environment for water sector reform and private sector participation (PSP) by analysing of the process of policy reform and the nature of stakeholder engagement in the provision of water and sanitation. Findings are based on an in depth case study of the La Paz/El Alto concession arrangement from 1997–2005, when the contract was abruptly terminated. The analysis is encompassed within the New Institutional Economics conceptual framework as it provides a holistic application of economic analysis on the role of incentives, institutions and behaviour, providing a common link in understanding between traditional economists and other social scientists, allowing for greater reflection as to the ways socio-political, cultural and historical contexts determine the behaviour of those involved in the water reform process.

The delicate nature of the water sector provides evidence of how under certain institutional constraints, and where optimum accumulation of information is virtually impossible, human behaviour can become motivated by a volatile set of preferences, making it particularly difficult for policy-makers to manage the reform process and accurately predict reform outcomes. Research findings conclude that the difficulties policy-makers faced in reforming the water sector and introducing PSP in the case of La Paz/El Alto, stemmed from three fundamental factors: (i) The reform process did not consider how race-based socio-political and economic hierarchies, endemic in Bolivian history and culture, would influence intended outcomes; (ii) stakeholders underestimated the transaction costs involved in the process of reform and PPP implementation due to information and bargaining asymmetries; (iii) systemic barriers, beyond the control of stakeholders involved, constrained the space for partnership innovation and flexibility in the provision of water and sanitation, debilitating the possibilities for future collaboration between civil society, government and the private sector.

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the dissertation is dedicated to all those working to improving access to clean water across the developing world.

Abbreviations and acronyms

AISA	*Aguas de Illimani. S.A.*
ANESAPA	*Asociacion Nacional de Entidades de Servicios de Agua Potable y Alcantarillado* (National Association of Water and Sanitation Service Entities)
DINASBA	National Basic Sanitation Directorate
FEJUVE	*Federación de Juntas Vecinales*
FNDR	*Fondo Nacional de Desarollow Regional* (National Fund for Regional Development
GOB	Government of Bolivia
IDB	Inter-American Development Bank
IMF	International Monetary Fund
INE	Instituto Nacional de Estadística (National Institute of Statistics)
LOM	Organic Law on Municipalities
MOC	Ministry of Capitalization
NAL	Neighbourhood Association Leaders
OBT	Territorial Organisations
PCP	*Ley de Participación y Crédito Público* (Popular Participation Law)
PPP	Public-Private-Partnership
PSP	Private Sector Participation
SAMAPA	*Servicio Municipal de Agua y Saneamiento Básico: La Paz y El Alto*
SEMAPA	*Servicio Municipal de Agua y Saneamiento Básico: Cochabamba*
SIRESE	*Sistema de Regulación Sector Financiero* (Financial Regulatiory

	System)
SIRESE	*Sistema de Regulación Sectorial* (Wider Sectoral Regulation System)
SISSAB	*Superintendencia de Aguay Saneamiento Basico* (Water and Sanitation Regulatory Supervisory Agency)
USO	Universal Service Obligation
WSS	Water and Sanitation Services
VMSB	*Vice-Ministerio de Servicios Basicos* (Vice Ministry of Basic Services)

Chapter 1. Introduction and Contextual Background: Polarisation and Misperception of Private Sector Participation in the Water Sector

1.1 Context

Use the words *privatisation* and *water* in the same sentence at a dinner party and you had better be prepared for a long night of heated, mostly uncompromising, debate. For some at the dinner table, "privatisation of water" echoes usurious prices and negative social outcomes, especially for the poor, who are either too vulnerable to handle price volatility of their water bills or simply cannot afford to pay for water at all. From this perspective, the suggestion that water should be treated as a commodity is criminal; the overwhelming health benefits of clean water and sanitation services coupled with the delicate environmental balance that must be assumed in sourcing and managing water resources responsibly, strengthens the belief that the entire sector must remain in the public domain, protected and overseen by the government. For others, the private sector is perceived to be better equipped than government to protect the water sector from misuse and inefficiency, inevitably providing more reliable and sustainable services to consumers, leading to the greater good of the public and positive social outcomes. By and large, these views fall into two opposite camps: (a) water as an economic good best provided through unfettered markets, and (b) water as a public good guaranteed as a human right.

Much of the confusion in the debate is directly related to the use of language and terminology—namely the misuse of the word "privatisation." Privatisation is the economic process of transferring property from public ownership to private ownership through the sale of government-owned equity (shares) in nationalised industries. However, less than 1 per cent of all developing countries experimenting with privatisation ever went so far as to bring in private sector operators under a full-divestiture model (complete ownership transfer) for water and sanitation provision. More commonly, what we observe in the developing (as well as the developed) world, is a variety of hybrid structures, mixing public and private functions; these are known as public-private-partnerships, or PPPs, and usually involve only partial ownership—or even no ownership—for the private sector. Irrespective of the type of role and the responsibility taken on by the private sector however, time and again this debate is reduced to a simplified and polarising conceptualisation of water privatisation.

Emotionally charged misunderstandings and ideological arguments between those who support the principle of treating water as an economic good and those who cannot concede that the profit motive might be intrinsic to the efficient distribution of water, are usually at the heart of every debate related to involving the private sector in the provision of water and sanitation services. Those who believe that people should have to pay for water services may maintain that prices charged should be based on the concept of "ability to pay." For drinking water and sewerage services, this ability is often measured by the ratio of the costs of such services relative to the overall household budget where the ratio should generally not exceed 5 per cent. Arguably, a below market price for water can give the impression that there is an inexhaustible availability of water and thereby sap the economic justification to curb consumption ultimately leading to the misallocation and misuse of the resource. At the same time, a price that is too high departs from the *pareto optimum* because it unduly limits consumption of an available resource, reduces user satisfaction and penalises the poorest segments of society.

For many, on both sides of the debate, the idea that all households should bare the full cost of water provision is simply not a realistic policy approach for all countries (Hall 2002), which is why many market proponents tend to support innovative subsidy arrangements and efficient tariff schemes that could potentially provide people with greater access. There are a range of subsidy arrangements that can be utilised to this effect and which also provide incentives for private firms to enter low-income areas. Unfortunately, however, these more complex discussions around subsidies often get lost in the more generalised economic vs. public good debate. In addition, the over-simplification of the provision of services is frequently coupled with fears and confusion (due to misleading crisis narratives) about global fresh water scarcity[1] that has also led many people to draw

[1] Some hydrological science is needed to understand this point. Fresh water is commonly believed to be a huge but finite resource, as due to constant and increasing contamination the resource base must be declining. However, this basic supply-demand assumption is not entirely correct. In the grand scheme of the planetary hydrological cycle, not a drop of water is lost. The amount of water even increases by very small amounts magmatic water. The hydrological cycle is the closest thing to a self-containing continuum. It is powered by the solar energy, which causes water to evaporate from the oceans. When carried into the atmosphere, evaporated water vapour condenses and forms droplets: it rains. Water that falls on land moves through the cycle by a number of different paths. It contributes to replenishing subsurface aquifers, lakes and rivers. Some of it evaporates, while some returns to the oceans though surface runoff or groundwater flow.

erroneous conclusions about why people lack access to adequate services.[2] As this dissertation will demonstrate, the *real* reasons why people lack access to clean water and sanitation have little to do with resource scarcity or the treatment of water as an economic good, but rather because of inadequate public policies, inaccurate assessments of the needs and preferences of consumers, a lack of trust in nascent regulatory institutions and arrangements, as well as, the excessive politicisation of the water sector.

A clear indication of this policy problem is that urban water coverage is actually better in countries with fewer resources per capita (McGranahan 2002; UN-Habitat 2003).[3] It is true that the problems of increasing access, improving service provision and managing water resources sustainably can be improved with the help of innovative technology and greater financial investment. But, what the sector most requires is a human commitment—a commitment not *only* from government but from all branches of civil society—to foster an environment where everyone plays an integral part in meeting the demand for this vital resource and where partnerships between the public and private sector are seen as "tools" rather than "artillery" in the pursuit of broader access to water. Sadly, however, discussions about the water sector are currently at a stalemate over the direction that should be taken to meet the UN Millennium Development Goal (MDG) of halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. In July of 2008, the World Health Organisation's Coordinator For Water, Sanitation and Health, stated that these MDGs remain "badly off track" with regard to improvements in sanitation, pointing out that an estimated 1.6 billion people will still need access to improved sanitation by 2015" mostly in sub-Saharan Africa (*Daily Times*, 21 July 2008). The outlook for drinking water is slightly more positive, but the two services have a co-dependent relationship at the policy level, as the sustainability of one service is invariably linked to the sustainability of the other's achievements.

Water may become scarce in some regions at any time. Other parts of the world may experience unusually heavy precipitations. However, the overall planetary water budget remains balanced.

[2] In the developing world, as much as 50 per cent of water is lost through leakages bad pipes. More importantly, wherever in the world water is most scarce (which is mostly in developing countries), irrigation for agriculture consumes up at least 75 per cent and sometimes as much as 90 per cent of the available water.

[3] This is the case, even when controlling for a countries' *per capita* income.

Over-simplification of the privatisation debate extends far beyond the average dinner party conversation as government policy-makers, the development aid community, academics, civil society organisations and advocacy groups also find themselves reducing intellectual discourse to raw ideology-driven rhetoric. Sadly, it is the developing world that is losing out the most from fearful emotion around treating water as an economic good. Most arguments over privatisation are based almost exclusively on deconstructing multinational involvement in the water sector through aggressive appeals from civil society organisations to stop the major water corporations of the world from profiteering off the poor. The last decade has been marked by a series of organised resistance movements by civil society organisations (at the local, national and international level), often with the support of some academics and development practioners, who believe that governments across the developing world are unprepared and ill-equipped to handle a market-based approach to water service provision. Their case, which is rooted in moral argumentation against private monopoly control of natural resources and vital services, has grown even more fervent in recent years because it has been enveloped within the much broader movement against globalisation and privatisation.

Meanwhile, institutional investors, lending banks and utility operators have grown increasingly wary of the risks involved in participating in infrastructure investments in developing countries. They have also come to realise that the water and sanitation sector is both more complex and less profitable than originally thought. A World Bank survey in 2002 of private power investors in emerging markets (Lamech and Saeed 2003) highlighted some discouraging facts regarding the future of private investment in infrastructure in emerging markets.[4] According to the survey, over 52 per cent of private investors were either "subdued" about infrastructure investment prospects or were retreating from emerging markets, with no new investors to replace them. The latest figures, specific to the water sector, are even more discouraging. According to the World Bank PPI database, water investment amounted to US$2.7 billion in 2009, well below the peak of 1997. Although it seems that the number of projects involving the private sector

[4] *Survey 2002 - Preliminary Findings, Private Power Investors in Developing Countries*, Ranjit Lamech & Kazim Saeed, The World Bank, Washington DC.

increased between 1995–2007, the much-needed *large-scale* investment commitments to the water sector are slowing down. The combination of these two forces—lack of local and international investor confidence coupled with the push against a market-based approach in the water sector by increasingly vocal and influential interest groups—is creating a very precarious environment for policy-makers to meet the needs of the poor.

We are currently at a crossroads in the debate over privatisation. By 2007, the number of cancelled and distressed water projects had reached a total of 55 world-wide, representing 9 per cent of all water projects and over 32 per cent of committed investment between 1990–2007 (some of these projects are currently undergoing international arbitration).[5] Even so, 84 per cent of the 220 contracts awarded for water utilities between 1990–2005 were still operational by 2005 (Marin and Izaguirre 2006). In fact, the failure rate of projects involving private sector participation (PSP) compares well, if one considers the large share of underperforming public water utilities across the developing world. Recently released data from the World Bank's Private Participation in Infrastructure (PPI) Project Database, show that 62 new water projects with PSP accounted for more than US$ 3.2 billion in investment commitments for 2007 across 14 developing countries. The majority of these investments, however, are concentrated in middle-income countries, with China and Georgia accounting for 63 per cent of that investment commitment and 76 per cent of the projects. Some of the other countries included in this list are Brazil, Chile, Mexico, Indonesia, India and Oman. Also, most of the newly reported projects are for water treatment plants and desalination initiatives, rather than much needed network utility upgrade and expansion.

This dissertation sets out a case for why it is essential, now more than ever, to understand the deep complexities of the water sector—complexities that go far beyond the highly publicised issue of tariff increases that hurt the poor. This understanding is necessary in order to improve the enabling environment required to meet the needs of low-income populations in lower-income countries. A case study is used to shed new light on some of these complexities, exploring the experiences of water sector reform in Bolivia and the failed PPP utility investment designed to expand and improve water and sanitation

[5] For further details see the PPI project database.

service provision in the adjoining cities of La Paz and El Alto. The intension is to provide evidence in support of why the water sector demands *greater* collaboration between civil society, government and the private sector, not less.

1.2 Informal Approaches to Water Provision

Across most of the developing world, certainly in rural areas, but also in low-income and more densely populated urban and peri-urban areas, residents (as opposed to commercial and government buildings) tend to be the last to receive adequate services from official municipal water and sanitation utilities. These residents without adequate access to such services must continue to find water for drinking, cooking, washing and bathing, and must search out for places to defecate and urinate on a daily basis. Even where piped water and sewerage networks do reach into poor neighbourhoods, home connections to utility networks are often unaffordable and/or unreliable, leaving residents dependent on alternative sources of clean water and alternative means of disposing waste. Municipally-operated public standpipes, public toilet facilities, and public baths tend to be scantily maintained, if not out of service entirely.

The World Health Organisation (WHO) reports that 1.6 million people continue to die every year from diseases resulting from a lack of access to safe drinking water and sanitation. In Africa, as many as 150 million urban residents representing up to 50 per cent of the urban population do not have adequate water supplies, while 180 million, or roughly 60 per cent of people in urban areas, lack adequate sanitation. In urban Asia, 700 million people, constituting half the population, do not have adequate water, while 800 million people, or 60 per cent of the urban population is without adequate sanitation. For Latin America and the Caribbean, 120 million, representing 30 per cent of the urban population, lack adequate water; those without adequate sanitation number as many as 150 million, or 40 per cent of the urban population.[6] It is very important to understand that due to the high accompanying concentration of human and other waste, a disproportionately higher number of people affected by waterborne diseases live in urban and peri-urban areas. The MDG targets refer to safe drinking water but measuring water safety indicators at the

[6] WHO/UNICEF Joint Monitoring Statistics (2010).

household level continue to be fraught by technical and logistical difficulties and high costs. Also, because of population growth, the number of people un-served has not changed substantially since 1990 (WHO/UNICEF Monitoring Program for Water Supply and Sanitation 2010). This is a situation that requires critical attention as it is estimated that the demand for water will rise by 40% globally and by 50% in developing countries by 2030.

For much of the last century, most governments believed that the best way to provide infrastructure services was through a state-owned monopoly utility network—a system mandated to provide "universal service" to residents often within a structure of uniform national tariffs. This approach was expected to take advantage of economies of scale and scope in what were thought to be "naturally" monopolistic activities, to ensure continuing access to funding for major investments, and to be able to meet the goal of universal access by way of cross-subsidising high and low-income users. Results have been disappointing. Having access to a water utility network has not necessarily guaranteed safe quality or reliability for consumers. With policy controls preventing utilities from charging the true cost of water provision, little money was available to make improvements to network pipes, while consumers had little incentive to conserve water, leading to a great deal of wastefulness. Without the financial resources required to expand and upgrade the network, progress in reaching rapidly growing urban populations has been very slow, particularly in the poorest countries. Oversight of water quality has tended to be inadequate, in part because of a lack of resources for monitoring utility performance, and in part because those running water utilities were often politically appointed bureaucrats rather than technically-savvy water sector professionals. Like many infrastructure services owned and operated through state monopoly, the water sector became synonymous with high levels of waste and inefficiency. According to one estimate, technical inefficiencies alone in power, roads, railways and water caused losses of over $55 billion a year in the early 1990s—equivalent to one percent of all developing countries' GDP, a quarter of annual infrastructure investment, and twice the annual development finance for infrastructure (UNDP 2003).[7] It is important to keep in mind that globally, around 95 per

[7] UNDP (2003), "Unleashing Entrepreneurship: Making Business Work for the Poor." (Chapter 2, p15).

cent of water supply and sanitation services continue to be provided by public authorities, by operators owned and controlled by the public sector (or in a few cases by cooperatives).

Those urban/peri-urban residents either living without a water connection or those dissatisfied with the quality and/or reliability of service provided by the public utility, have tended to respond to their deprivation by relying on informal methods of collecting water, including a reliance on small-scale water providers (SSWPs). These providers, which continue to dominate much of the water service delivery market across the developing world, come in a variety of shapes and sizes: they range from larger more formalised providers, which might be independent, borehole-fed networks serving as many as 14,000 residents, to water providers that are much smaller in scale, such as mobile water tankers. Mobile water tankers obtain water from a variety of sources—surface water, bore wells, occasionally even from the piped utility network itself and then transport the water to customers using trucks, carts, bicycles, even hand-carried buckets. Households that rely on these vendors are usually unable or unwilling to invest in their own wells or household connections to a network, which makes this a relatively good alternative. There are actually a variety of factors that make SSWPs particularly attractive to low-income households: (i) SSWPs do not usually require their customers have any legal title to property or land; (ii) they do not require customers to pay upfront costs or joining fees and, in many instances; (iii) they offer greater flexibility in terms of bill collection/payment—i.e. households pay for water only when they most need it and when they can afford it. Low-income households may prefer to pay for water on a daily basis because it is often too difficult to budget for an estimated level of consumption on a monthly basis, or because they simply cannot handle fluctuations in billing amounts, especially when skills in savings are not sufficiently developed.

There are three main problems with SSWPs, however. The first is that they tend to operate in a highly unregulated environment, which makes it difficult to monitor the quality of the water they sell. Although some countries are beginning to improve the institutional environment in order to support these vendors (and are actually integrating them into formal water sector strategies to target those hard-to-reach households), the cost of regulating numerous vendors, each with its own, unique approach to sourcing and distributing water, is generally prohibitive for governments in the developing countries. The issue over how to best regulate SSWPs (if at all) and how to integrate them more

formally into the wider development strategy for the sector remains unclear. The second issue is that the real (per unit) cost of water they deliver tends to be consistently higher relative to water provided through networks—as much as 10–20 times higher. A study undertaken in Nigeria found that SSWPs operating in un-served areas charge the poor at least 33 times as much for water as those connected to the mains (Mustafa 1993). In Morocco, families unconnected to the network and dependent on informal SSWPs pay 7 per cent of their household budget on water, while those households connected to the utility pay only 0.7 per cent (Lahlou and Bahaj 2002).[8] Some case studies have shown that when SSWPs are formalised and legally allowed to operate, they are able to compete with state-run and private utilities on price, despite the fact that they are not assisted with subsidies and are often required to pay corporate taxes, while state companies and concessionaires are allowed more favourable tax incentives (Crane 1994; Komives and Brook Cowen 1998; Solo 2003), but there is also substantial literature discrediting this proposition (Kariuki and Schwartz 2005).[9] Lastly, although SSWPs are often able to reach communities that are sited in marginal areas of a city, such as on flood-prone land or steep hillsides or among informal and illegal squatter settlements, they simply cannot provide water on the scale that a well-functioning network should be able to.

In any case, recent studies indicate that SSWPs continue to serve about 25 per cent of the urban population in Latin America and East Asia, and 50 per cent of the urban population in Africa. Estimates are as high as 80 per cent for sanitation in urban Africa, and demand for these types of services is growing in excess of 3 per cent per year on average (Solo 2003). There is a strong argument to be made that in order to achieve the targets set out in the MDGs, we may have to continue to rely on SSWPs in the short to medium term, especially in situations where utilities cannot afford to expand their systems. In fact, various studies suggest the need to maintain informal, private and community infrastructure solutions in parallel with formalised utility provision (Komives 2001; Albu

[8] It is often argued that the price of water for consumers should be based on the concept of "ability to pay." For drinking water and sewerage services, this ability is often measured by the ratio of the costs of such services relative to the overall household budget, where the ratio is generally meant to stay below 5 per cent. More will be discussed with regard to "user ability to pay" in subsequent chapters.

[9] Kariuki and Schwartz (2005) review of over 400 documents on SSWP in water supply and electricity.

and Njiru 2002; Satterthwaite 2005). But examples of institutional frameworks that support partnership arrangements between SSWPs, utility operators and government are not yet commonplace and the changing roles of SSWPs will require some rethinking among policy-makers as well as donors. While in some situations SSWPs prove to be an inferior service, there may be other situations in which they provide a service that leads to a satisfied customer base.

1.3 The Panacea of the 1990s: Replacing SOEs with Public-Private-Partnerships

Many people are unaware of the fact that private sector initiatives were instrumental in establishing modern water supply systems across Europe and North America during the mid-nineteenth century. Much like the developing world today, most Europeans at that time relied on wells, private water vendors and rivers for their water supply, while governments were reluctant to invest in public works. This is why the private sector was called upon and a framework, based on the business profit incentive, was designed (Prasad 2007). The private sector answered the demands of these industrialised countries by increasing water and sanitation network expansion and improving water quality, while the government focused on improving water sector legislation (Juuti and Katko 2005). However, by the late nineteenth century, as a result of unsatisfactory performance (inefficiency, high costs and, in some cases, corruption) and public health concerns in numerous European countries, many of these services were transferred to public or municipal ownership, where they remained until the early 1980s. There were three main justifications for the public provision of services: (i) the conviction that markets could not take into account the positive externalities enjoyed by society through the provision of these goods, but rather assigned value purely according to economic gains by companies; (ii) the belief that the opportunities to "free-ride," presented by the non-excludable nature of many public services, were a disincentive for individual investment in their provision; and (iii) the observation that the market could not guarantee any minimal level of consumption necessary to maintain good health or the fair and egalitarian treatment of all citizens (Besley and Ghatak 2003).

In general, because the water industry did not fit properly into the standard economic theory of competitive markets given its significant externalities attached to it (positive as well as negative social costs and benefits), and because it was largely regarded as a natural monopoly, international development assistance throughout the 1970s and 80s

focused almost exclusively on reforming and upgrading state-owned-enterprises (SOEs) in the urban water sector. Meanwhile, donor grants were channelled to support poorer peri-urban neighbourhoods, where residents were involved in community-based service provision; buzz phrases of this era included: "user choice", "felt need", "bottom-up management" and "community-based management". Although grants were provided for community-based service provision, the initiatives involving SSWPs were considered a temporary phenomenon and they tended to be ignored rather than supported at the policy-level, as they ran counter to the SOE monopoly service provision model preferred by most Governments (Solo 2003). Most policy-makers and development practitioners, were adamant in their belief that only the public sector was capable of aligning the private and social incentives of water provision.

It was not until 1987 that the OECD publicly recognised that scarce economic resources (human, capital, knowledge) had to be applied to natural water resources in order to make water available in the form, quality, location and time users need it—that the sustainable provision of water and the preservation of hydrological and ecological systems came at an effort and a cost.[10] In other words, they introduced the notion that water should be conceived as an economic, as well as a public, good. The natural conclusion was that, as should be the case with any economic good, it is the user who should pay the cost of the provision of water. Throughout the 1970s and 1980s, however, there was little confidence that the market mechanisms could be relied upon to generate the correct price for water. In theory, markets are appropriate provision mechanisms under certain conditions, one of which is that the goods in question are *private* goods: economic goods that are *rival in consumption* and with excludable benefits or costs. Goods are *public in consumption* when either one of these properties (or both) are not met; public decisions about their provision are then deemed appropriate due to possible problems in resource provision. Water was typically seen as an impure public good: a common pool resource that is non-excludable but rival in consumption. However, even the non-excludability factor can easily be contested (through privatisation of sources) or by-passed (through separable access like

[10] See: OECD (1987); The OECD used this opportunity also to mention the need for pricing systems that would be easily understood and acceptable to the consumers of water services.

taps in homes, or provision in bottled form), making water as a consumption good take on aspects of a private good (Mehta 2003).

By the end of the 1980s, despite enormous investment, most public water utilities were underperforming catastrophically and the needs of consumers were not being satisfied. This was blamed on a combination of factors (common to most of the critical literature on SOEs): political interference and corruption, lack of managerial and technical know-how, overstaffing issues, distorted tariff structures, weak incentives and mechanisms to monitor performance. By and large, governments could not seem to help adopting paternalistic behaviour in seeking to protect underperforming utilities or in using them to increase employment (Shapiro and Willig 1990; Shleifer and Vishny 1996; Debande and Friebel 2003). The use of soft budget constraints by SOEs also provided an unsustainable environment whereby utility operators completely depended upon government for funding, which invariably provided them little incentive to maintain financial discipline and efficient management (Dewatripont and Maskin 1995; Kornai 2000; Kornai, Maskin and Roland 2002). All this made it difficult to conceive that public utilities would be capable of meeting expansion targets required to meet the needs of rapidly growing urban cities.

In response to these inefficiencies and investment losses, policy-makers in the 1990s began to move away from the strictly public model of service provision and began looking to the market for alternatives; a renewed hope emerged that a "governance-mix" among public and private functions, actors and resources could be developed for the sector. A new development-aid agenda was formulated (i) to tap into the culture and technical know-how of private sector business practices; (ii) to attract desperately needed capital to upgrade and expand utility networks; and (iii) as a means of introducing the principle of cost-recovery—a principle that until the 1990s had not been dealt with effectively at the policy level. As a result, institutional and regulatory reform, decentralisation, municipal capacity building and credit market development were rapidly pushed to the top of the development agenda as a means of encouraging PSP across all infrastructure sectors. This approach proved overwhelmingly successful in attracting foreign direct investment (FDI) to the developing world—Latin America alone recorded US$361 billion in private infrastructure investment from 1990—2001. Worldwide, enthusiasm over new opportunities in the water sector generated private investor commitments of approximately

US$50 billion for more than 380 water infrastructure projects from 1990—2005 (World Bank PPI Database).[11]

As noted above, the most common forms of PSP are so-called public-private-partnership (PPP) arrangements. Definitions of PPPs vary widely in the literature but for the most part they are considered to be a special form of hybrid cooperation between public and private sectors. However, some authors include all forms of cooperative interaction between public and private institutions as PPPs. In the latter case, the term PPP loses much of its analytical value because all kinds of buying from external sources would be treated as a PPP relationship. Beginning with a narrower definition, the US-based National Council for PPPs (NCPPP 2004) defines a PPP as "a contractual agreement between a public agency (federal, state or local) and a for-profit corporation. Through this agreement, the skills and assets of both the public and private sector are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility". This definition describes the general purpose of a PPP and provides a working definition that will be used throughout this dissertation. Because soft-budget constraints (associated with the paternalistic role of the state) were believed to be caused by the incompleteness of contracts between governments and SOEs, policy-makers and development practitioners were convinced that PPP contractual arrangements would allow for a hardening of firms' budget constraints, restoring the appropriate investment incentives and improving productive efficiency.[12] PPP arrangements in the water sector tend to include service contracts, management contracts, lease contracts and concessions—

[11] As noted above, it is important to keep in mind that globally, around 95per cent of water supply and sanitation services are still provided by public authorities, by operators owned and controlled by the public sector (or in a few cases by cooperatives).

[12] To be clear, a hard budget constraint is not a synonym for profit maximisation. A profit maximising firm, even if it is in the red will try to cut its losses. A hard budget constraint means that even if the firm tries hard to cut its losses, the environment will not tolerate a protracted deficit. The emphasis is on punishment. What is really important is the psychological effect of the constraint; with a hard budget constraint, a deficit causes fear because it may lead to extremely serious consequences. Profit maximisation on the other hand, refers to the internal goal setting of the decision maker of the firm. It follows from this line of reasoning that the stringency of the budget constraint is not simply a financial matter but reflects in financial form a deeper socio-economic phenomenon—a social relationship between the state and the firm.

arrangements where the public sector, more often than not, retains equal or greater ownership rights over the water utility than the private sector participant (see Box 1.1: Types of PPP Contractual Arrangements).

The constraints faced by SOEs are in some ways also applicable to utilities transitioned into PPP arrangements. Water and sewerage distribution networks continue to have natural monopoly characteristics due to economies of scale (because installing pipe networks in parallel is simply be too expensive) and scope (as co-ordination is cheaper within one organisation than two organisations), regardless of whether they are publicly or privately operated; this simply reduces the possibility for competition.[13] Second, compared to other public services, water supply and sanitation systems are exceptionally capital-intensive and contrary to the general public view on the sector, modern water treatment and wastewater purification constitute only a minor share of the total costs of the system—the bulk of the costs are due to the maintenance and expansion of networks. As previously mentioned, poorer areas of the city are often sited in places that are physically more difficult to reach with a piped network, and the legal constraints to servicing households without legal title to their property/land are a factor in the service provision equation. The difference between the two approaches, however, is that PPPs are believed to be capable of making more economically rational service provision calculations. PPPs are meant to strike a balance using the profit-motive incentive to generate improved efficiency coupled with public oversight to ensure improved social gains. The private sector is meant to leverage sources of finance that are predominantly out of reach to the public sector, while the public sector is meant to attract support from the development community to provide additional risk and guarantee instruments to protect all parties involved in the transaction (consumers, government and private investors).

Although many developing countries began opening up their water sector to a more market-based approach during the 1990s, it is important to clarify that most SOEs in the water sector were a long way from attracting private sector interest. People sometimes

[13] Noll (2002) discusses the possibility of introducing competition for the supply of bulk water in multi-reservoir systems or for sewerage treatment. Although in theory competition is possible within the sector, the expense and impracticality of transporting water and sewerage over long distances reduces the potential for competition.

mistakenly conjure up images of large multinational water companies, circling the globe like vultures waiting to prey upon poor, unsuspecting public utilities. The reality is that, even two decades after utilities began their transition to operating on a commercial basis, most public utilities in the developing world continue to be a long way from attracting international investor interest. Although policy-makers are striving to reform water sector laws and regulations, and are pushing public water utilities to operate as commercial, financially autonomous entities, most SOEs continue to lack the necessary capital investment required to expand fast enough to meet the enormous demands of rapidly growing urban populations. Although public utilities are making some strides in reforming tariffs to reflect the true cost of the water, such policies require long-term political will, while most politicians continue to fear losing favour with the populace. Even when politicians are able to design progressive tariff schemes, covering the operational costs of service provision is not enough. This creates opportunities for local private investors in the water market—for example, local institutional investors such as pension funds, rather than multinational water companies—to help support water utility upgrade and expansion. Unfortunately, however, these types of local institutional investors in many developing countries are not yet as available (or are only just beginning to emerge) as those of the US and Europe.

Figure 1-1: Types of PPP Contractual Arrangements

SERVICE CONTRACTS	Usually short term (6month-2years), competitively bid and legally binding agreements between a government and a private sector partner to perform specific, non-core tasks of an enterprise in exchange for a fee, including information technology management, equipment maintenance, meter reading for example. General control and any capital investment remains with government. It is an attractive form of PPP where there is strong political or community opposition to private investment in the sector.
MANAGEMENT CONTRACTS	Transfer of responsibility for the day-to-day management, including operation and maintenance to the private sector, but ownership and legal responsibility remains with the government. These contracts are usually 3─5 years in duration and compensation either takes the form of fixed fee or it may be linked to performance indicators. The bulk of the commercial risk and all the capital investment risk, remains with the

	public authority. These contracts are very attractive for governments that face resistance to PSP, but they are not recommended for governments that wish to access private finance for new investments given that they do not transfer the risk to the contractor, providing little incentive for the private operator to reduce costs and improve quality of service.
LEASE CONTRACTS	Sometimes considered a stepping-stone toward deeper forms of PPPs, such as concessions. Under a lease agreement, the government retains title to an enterprise's assets and bears the responsibility for financing and planning capital investments/rehabilitation, but it leases out the public company to the private sector, which then assumes responsibility for operations, maintenance and a limited degree of capital investment for a period of 10─15 years.
BOO/BOT CONTRACTS	Build-Own-Transfer (BOT) contractual arrangements are usually implemented over a period of 15─30 years, during which period the private sector designs, constructs and operates facilities and after which, it relinquishes all rights or title back to the government. Build-own-operate (BOO) arrangements have only one difference, in that the assets remain indefinitely with the private firm. Many BOTs have failed to deliver optimal outcomes for governments and consumers because often the government agency responsible retains too much risk, especially where foreign exchange guarantees are provided or take-or-pay contracts are signed.[14] These contracts are in many ways similar to concessions except that BOTs entail building of something new while concessions entail the assumption of responsibility for an existing facility. A take-or-pay contract is an arrangement whereby the BOT customer agreed to pay for a pre-determined amount of output (power, treated water, etc.) whether they actually use it or not.
CONCESSION CONTRACTS	Contracts awarded through a competitive bidding process based on the lowest price proposed to meet government objectives. The private sector bears overall responsibility for the services, including operation, maintenance and management, as well as capital investments for rehabilitation, renewal, and the expansion of services for a period of 20 – 30 years depending on the level of investment and the period required for

[14] Take-or-pay contracts is an arrangement whereby the BOT customer agrees to pay for a pre-determined amount of output (power, treated water etc.) whether they actually use it or not.

	the concessionaire to recover its investments plus a reasonable rate of return. The return on this investment is usually paid back through tariffs collected from consumers. The concession is governed by the contract which details an array of conditions as well as penalties for non-compliance. The main advantage of a concession is that it passes full responsibility for operations, maintenance, rehabilitation, renewal and system expansion onto the private sector and so creates incentives for efficiency in all the utility's activities. Concessions become an attractive option when large investments are required to expand coverage and upgrade quality. Administratively, they are complex because they confer a long-term monopoly on the concessionaire and thus require rigorous monitoring and enforcement, making the role of the regulator crucial to the success of the project.

1.4 The Problem of Transitioning to a Market-Based Approach to Water

The Washington Consensus—whereby recommendations were made to governments to buoy neo-liberal development policies and engage in a more decentralised, participatory style of governance, and to 'roll-back the state' by embracing newer models of co-provision with the private sector—is usually blamed for pushing governments to regard water as a commodity. However, this is a completely misconstrued interpretation of developments within the water sector. Although the principle of cost-recovery for network utility provision might have emerged within the formal institutional environment only in the 1990s, it is important to emphasise that water has been treated as a commodity by informal SSWPs for many decades prior. In Marxist political economy, commodification takes place when economic value is assigned to something not previously considered in economic terms, while according to classical economic theory this occurs as a goods and services market loses differentiation across its supply base; this often happens when the intellectual capital necessary for efficient acquisition or production is lacking.

Critics of private sector participation (PSP) argue that by treating water as a commodity we run the risk of pricing certain segments of the population out of access to clean water. But the treatment of water as a commodity, in and of itself, does not translate into an extortionate price regime—on the contrary, it has the potential to provide a more formalised and transparent framework for the exchange of a good and/or a service. Behind the policy of transitioning to a market-based approach to the provision of water was an intention to create more efficiencies in the distribution of water services via utility

networks because the unregulated supply of drinking water through private water vendors, were deemed to expensive for the poor—not only in terms of financial cost but in terms of health cost as there were few guarantees that the water provided by SSWP was consistently fit for consumption. Still, despite the fact that water provided by SSWPs were recognised as a commodity, many low-income users have had more difficulty recognising that the water provisioned via utility networks was also a commodity. There are various reasons for this. Ideally, commodification should follow from the stage when a market changes from one of *monopolistic competition* to one of *perfect competition* but the natural monopoly characteristics of network provision to not allow for this. This rationalisation may be at the heart of much of the academic argument in favour of public provision of water services but there are other, more complex, reasons that will be addressed throughout this dissertation that explain why water on tap takes on a very different meaning for certain segments of a population.

Countries that succeeded in attracting international private sector investment in the provision of water and sanitation services continued to face myriad challenges during the period of transition to market-based utility service provision. For those early PPPs of the mid to late 1990s, the literature suggests that governments did not take the time to thoughtfully develop a social policy strategy to ease the transition for low-income users, unaccustomed to being serviced by a utility operator. A strategy to mitigate the social impact of reform requires a great deal of understanding of the needs and preferences of both current and future low-income customers (both current customers and future customers), but this is not as straightforward as it may seem. There is often little available information clarifying the specific demands and/or preferences of these low-income consumer groups. Gathering census data on household consumption patterns and monitoring urban migration trends is a costly undertaking that many local governments simply cannot afford in the developing country context. Potentially interested private sector investors/operators, across sectors far more lucrative than water and sanitation, also find the cost of gathering accurate data on the demands and preferences of low-income groups too high to make the transaction viable. This is exacerbated by the fact that in many of these cities, GIS maps (and even printed road maps), detailing the physical and legal attributes of properties, are usually unavailable or out dated. Underdeveloped property rights systems—comprised of laws, institutions and information systems—and the lack of

legal records for informal/extra-legal land entitlements make urban planning for service delivery an overwhelming challenge for water utilities.

Another challenge of reform is related to public outreach. Some PPP arrangements were designed and negotiated behind closed doors and without public consultation and although many PPPs were meant to have undergone a competitive bidding process, this did not always take place. Some PPPs were won by offering governments the best possible price and some by promising the greatest number of new connections, but most PPPs were won for reasons unbeknownst to the majority of the population being served. Often, residents were left simply to put their trust in policy-makers, but with little information clarifying exactly how reform measures would affect their lives on day-to-day basis. Reaching out to communities with information programmes is of course another costly endeavour, but not doing enough to communicate with low-income groups may leave the door open to other interest groups and political opposition parties to exploit reform efforts and play on the vulnerabilities of low-income users for political gain.

As this research will explain, many of the social policy schemes designed to help low-income residents afford new connection charges and/or appliances (e.g. sinks, toilets, etc.) were well intentioned but did not give sufficient attention *ex-ante* to the implementation of water reform involving PSP. In the case of La Paz/El Alto, this aroused suspicion among a population who felt the government was bent on subsidising the private sector through social policies such as out-put based aid schemes, (discussed in greater detail in Chapter 6). Little attention and/or funding was directed towards providing information transfer to low-income households related to billing practices, nor was there sufficient support for skill-building around the practice of saving—many new (and old) customers were forced to acquire skills in saving almost over-night. These consumers, unfamiliar with billing statements generally, were in some cases illiterate and simply did not know what billing statements actually required them to do, let alone understand the meaning of penalty statements or what fines for non-payment would ultimately mean in practice. The other side of this, more often than not, was that consumers had little idea what their new consumer rights meant; this was evident in the case of La Paz/El Alto even five years after reform measures had been put in place. Another issue, relating to the disconnect between consumers, policy makers and service providers, was that consumers were in many cases forced to begin paying increased tariff charges before their service had

actually been improved. Also, as seen in the case of Bolivia, the private sector was sometimes used as a scapegoat to initiate other public sector reform policies, such as land and housing reform. For example, by making in-house water connections a legal requirement in the La Paz/El Alto case, policy-makers simultaneously forced residents to seek out titles to their properties.

It has been the case that many governments lacked experience in negotiating and drafting contracts with private operators. In many instances, regulatory institutions (theoretically meant to monitor the performance of PPPs) were either non-existent or extremely nascent at the time contracts were negotiated. Due to a lack of qualified professionals experienced in water and sanitation service provision, regulatory agencies were often staffed with former employees of the public utility—experienced perhaps in technical operations, but not necessarily experienced in regulation and/or supervision. Laws and regulations relating to tariffs, water quality, environmental resource management and the like, were often unformulated when contracts with private operators were agreed. This, in some cases, led to awkward situations where regulations were being drafted, negotiated, and redrafted dozens of times over, together with new private sector operators. Other institutional weaknesses were due to the multiplicity of agencies, which sometimes had overlapping jurisdictions and competing political interests. Inter-governmental turf wars between more politically-driven government ministries and autonomous regulatory authorities were not uncommon either; these fragmented bureaucracies often made decisions according to individual agency mandates rather than through a consensual approach to the sector. These institutional impediments all invariably contributed to a distorted public sector message about the mandate of many PPP arrangements, destabilising the day-today management of the utility and causing a great deal of confusion for susceptible consumers.

1.5 Bolivia's Water Wars

One of the major events that marked the beginning of the social movement against PSP in the water sector was the so-called Water War, which took place in Cochabamba—Bolivia's third-largest city—during the spring and early summer of 2000. Thousands of people took to the streets to protest against tariff increases that had been imposed in conjunction with the signing of a PPP concession arrangement with a company called Aguas del Tunari. Protesters fought pitched battles with police in the streets; the national

government reacted with force, declaring a state of siege and, during the disturbances, several people were killed and dozens wounded. Nonetheless, by the end of the summer, the protestors had won: tariff increases were rescinded, the concession agreement cancelled, and water provision was put back in the hands of the public utility. Bolivia instantly became a poster child for the anti-privatisation movement.

Meanwhile, in the capital city of La Paz, a different type of PPP story was unfolding. A concession led by Suez-Lyonnaise des Eaux (now Ondeo Services), called Aguas del Illimani (AISA) had been fully operational since 1997, providing and expanding water and sanitation services to the adjoining cities of El Alto and La Paz. At the time, the contract was widely regarded as an example of "pro-poor" private sector participation in the water sector because the concession had been awarded to the investor that promised to deliver the greatest number of new connections to households in the poorest areas of the city. The PPP was also known for having implemented an innovative technological solution in partnership with development agencies and the local community, which enabled the new utility to build part of the piped network at a significantly lower cost—this was known as a "condominial system". Given that this concession contract was widely regarded to be superior to others in the region and because it presented a sharp contrast to the failed PPP in the city of Cochabamba, it was selected as the basis of the research in this dissertation.

The research began in early 2002, with the primary objective of gaining insight into how people were feeling about the "privatisation process" in La Paz/El Alto. The starting point was to carry out a basic consumer satisfaction survey in six (out of nine) districts of El Alto, which is La Paz's poorer neighbour. El Alto's population is made up of migrants from mining districts, where employment had fallen drastically with the collapse of the tin market,[15] and from rural areas, where a prolonged drought had caused many to look beyond farming for their livelihoods. Many of these migrants continue to have close ties with the countryside and tend to think of themselves as rural. Life in the city, which is located at 4,100 meters above sea level, is quite tough. Residents primarily make their

[15] In October 1985, the price of tin fell by half and collapse of the international tin market sent shock waves across the world, causing many of Bolivia's mines to close.

living in the informal sector selling merchandise or small services on the streets of La Paz. The average household income in El Alto is estimated at US$122 per month. La Paz is also poor, but its average monthly household income is more than double that of El Alto ($256).[16] Some of the households surveyed had only recently acquired a household connection to the utility network for the very first time, while other households had an existing household connection and were previously serviced by SAMAPA, the public utility.

Over 300 households were asked two simple questions. The first: "Did they feel happier or unhappier today being serviced by AISA, than by their previous service provider (public network provision/self-provision/private water vendor)." The results of the initial survey were surprising. Virtually all the households that had been interviewed during the first stage of the research claimed that they had cleaner and more reliable service provision provided to them currently under AISA than they had before the utility was "privatised". In this way, they claimed to be "happier" serviced by AISA. However, when asked the second question: "Did they believe that the provision of water and sanitation services should be in the hands of the private sector", virtually all respondents asserted that their water resources should not be in the hands of the private sector and most respondents explained that it was important to them and that these services should be returned to public provision. The second stage of the research involved in-depth interviews with 60 additional households in El Alto, as well as focus group discussions with community members and neighbourhood association leaders, community based organisations (such as labour unions), journalists, non-profit advocacy organisations, development agencies as well as with government officials and management from AISA. This second stage was deemed important to further explore the seemingly conflictive sentiment toward the PPP arrangement.

Again, for the most part, nearly all of the household respondents in El Alto interviewed during the second stage of this research also said that their services had improved under AISA. Although most concurred that water had become more expensive, this was *not* their primary complaint about AISA. The primary complaint from households,

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[16] Ministerio de Vivienda y Servicio Básicos (October 2002).

as well as from community/neighbourhood associations, was an ideological estrangement towards the government's policy of placing a public good in the hands of a private multinational company.

Below are examples of some of the statements made by respondents during the interviews:

> "The government sold our water to the French and to the Americans and to the World Bank."

> "The privatisation thing is bad"; "the globalisation thing is too"; "they're stealing everything from us: our water, our gas, our mines, our land, our culture."

> "How can these companies make us pay for something that is free? That is from God."

> "I am ready to fight for what is right. And what is right is that our water and our gas are ours and we will fight for them. We always have to fight for everything here and against those neo-liberals."

From a purely classical decision-making perspective, it was difficult to rationalise that although respondents could speak with praise of the service provided by AISA, they were nonetheless prepared to go back to public provision given the choice and opportunity. Their ardent belief in the idea that water should *not* be in the hands of the private sector, took precedence over quality and reliability of service. Consumers were willing to risk a return to the inadequate and unreliable services provided in the past.

In January 2004, less than two years after this research endeavour began, members of more than 600 neighbourhood organisations in El Alto mobilised a peaceful open-ended civic strike and pressed for a series of demands, including the cancellation of the contract with AISA. The platform for the protest, organised by Federation of Neighbourhood Boards (FEJUVE), was that AISA was charging rates that put water and sewer service out of reach for a majority of El Alto residents. The protesters also used this opportunity to demand that the government reverse a decree instituting price increases of 10 per cent for

gasoline and 23 per cent for diesel[17] and they claimed that AISA had failed to expand water service to the outlying areas of the municipality, leaving 52 per cent of El Alto residents without basic water and sanitation services. These protests, which continued to take place over the course of the year, eventually succeeded in bringing down AISA and returning water provision to public hands. However, it became increasingly apparent over the course of this research that AISA was being used as a weapon in a much larger ideological conflict. This ideological conflict, which emanated in the water sector, culminated in the election of the first-ever indigenous president in Bolivia, and ultimately, in the re-nationalisation of companies in nearly every sector including electricity, gas, transport, even telecoms.

The fate of the La Paz/El Alto concession is not dissimilar to what we are witnessing in various cases where water sector reform involving PSP is facing opposition. Despite some examples of outstanding achievement in terms of meeting expected targets, many governments have decided against renewing or extending seemingly successful PPP contracts with international water companies. According to the World Bank PPI database, between 1990–2011, 63 out of 743 water and sewerage PPP projects were cancelled or under distress. While this figure only represents 32 per cent of total investment in the sector, the figures do not include in their calculation the number of PPP arrangements whereby governments decided against renewing contractual relationship with private sector stakeholders. The fierce debate over PSP in the water sector is not isolated to developing countries alone; it is an international phenomenon. Even in countries such as the US, where water has long-since been accepted as an industry, we are witnessing flare-ups against PSP in the sector. For example, residents living in a small town outside of San Francisco recently won a case against American Water Works Co. to bring service provision back to local control (*Wall Street Journal*, 17 June 2008). In many cases, such as this US example, the backlash against PSP has been primarily centred on price increases. What makes the findings from this case study on the La Paz/El Alto concession particularly interesting, however, is the revelation that *price* was actually *not* at the heart of the conflict. Even though the issue of price was used as a weapon by the anti-privatisation

[17] Decree 27959 of 30 December.

movement, the research findings offer a more complex interpretation of the conflict that emerged. The insights gained from this research will shed light on the multifarious nature of the water sector and the amalgam of liberal and collectivist principles that encompass its institutional framework.

1.6 What the literature has to say about PSP

The textbook definition of *privatisation* is understood to refer to the introduction of market forces into the economy and, in a narrower sense, the transfer of public enterprises, activities or assets to private hands, whether wholly or as a majority or minority interest therein. The objectives of privatisation may include the rationalisation of public enterprises, increased efficiency, a broader distribution of ownership, the reduction of public-sector expenses, the conversion of external debt into equity and the generation of a public demonstration effect—that is, social welfare gains—regarding a government's economic policy (Vuylsteke 1988; Gerchunoff and Cánovas 1996). Ironically, there is no evidence in the literature to suggest that this definition is understood by the vast majority of people affected by it, and there is only one recently published empirical study that attempts to unravel this phenomenon from the perspective of consumers (Carrera, Checchi and Florio 2005)[18]. As McKenzie and Mookherjee (2003) explain, the "existing studies do not identify the reasons of the popular disenchantment with privatization" and do not address the question of whether consumers may sometimes act irrational or make choices because they are uninformed (Carrera *et al*. 2005). Studies do not tend to consider ideological or religious objections to privatisation or question whether consumer sentiment is driven by past unfavourable experience with PSP in other aspects their household economy. Equally frustrating is the fact that cause and effect linkages to social gains which access to clean water may provide through PSP—not just in terms of improving well-being within the health sector (there is significant research dedicated to this relationship) but rather in terms of how such reform may help to provide the urban poor with assets—social

[18] Working Paper, presented at The American University of Paris, April 2005. Using the Latinobarometro (2002) survey of a representative sample of 18501 individuals in 17 countries as dependent variable of perception, and a privatisation dataset on the same countries, they find that disagreement with privatization is more likely to occur when a respondent was poor, privatisation was large and quick, involved a high proportion of public services as water and electricity, and the country suffered adverse macroeconomic shocks in a condition of high inequality of incomes.

capital—that increase their capability to "be" and to "act" [19] by building an improved sense of consumer identity are not sufficiently articulated in the literature. Social capital relates to a shared knowledge and understanding of norms and social relations embedded in the social structures of society that enable people to coordinate action to achieve desired goals. Trust—or lack of trust—for example, is perhaps one of the most important components of social capital and yet there is very little research attention devoted to understanding the degree of trust between consumers and service providers (be they public or private service providers).

Meanwhile, most of the theoretical literature on PSP finds that privatisation improves the efficiency of firms, increases political accountability and reduces corruption, with empirical evidence supporting this result. Megginston and Netter (2001), for example, offer an extensive review of the literature on the subject, covering 61 empirical studies at the company level (both within and across countries), and they conclude that privately managed firms tend to be more productive and profitable than public firms in both developed and developing countries. In the developing country context, gains from PSP reportedly stem from better asset management and bill collection (Manibog *et al.* 2003*)* and because they lower levels of corruption by reducing the control of government over the rents offered by the operation of public services (Shapiro and Willig 1990). Various studies have also shown that PSP brings improvements in labour productivity, efficiency and product/service quality (Andres, Foster and Guash 2006).

There are a number of problems with much of this literature however. The first and most important issue is that very few cross-country studies focus on a single sector for purposes of data collection and analysis: electricity, water and telecommunications are, more often than not, bundled together for examination. Also, most cross-country studies tend to focus on only one particular aspect of reform and most studies fail to distinguish between regulated and unregulated industries (Chong and Lopez-de-Salines 2003; Bortolotti and Siniscalco 2004). Furthermore, although the relevance of corruption as a driver of success or failure has been considered in theoretical modelling, it is rarely

[19] Amartya Sen (1999) argues that economic development should be seen in terms of the activities that people value, their capability to achieve these activities that then enable them to rise above the forces that control their lives.

addressed in empirical studies (Estache 2006). Others argue that it is too soon, from the current empirical evidence available, to support the assumption that the public sector is less efficient that the private sector (Hall 1999, 2002; Lobina and Hall 2000) and some note that in all monopoly sectors, including water, political decision-making actually increases efficiency (Willner 2001).

Interestingly, much of the case-based and sector specific literature (although limited) does point to gains achieved through PSP. Blanc and Ghesquieres (2006), for example, provide evidence of a dramatic decrease in leakage and unaccounted-for-water losses that were made possible through a management contract between Suez and Johannesburg Water in 2001 to service the suburb of Soweto in South Africa. However, the problem with the study, as with other studies, is that it fails to address why, despite good results, government authorities chose not to renew their five-year contract with the firm. To state the problem simply, the literature either tends to treat the effects of privatisation too generally or it fails to address fully the relevance of myriad dimensions of performance. This gap in quantitative and qualitative cross-country evidence in the literature does not allow us to say for certain whether privatisation across the developing world has achieved what it was expected to have achieved. It is precisely because of this gap in the literature that this dissertation is focussed less on proving economic achievements and/or failures of PSP (although many of these are noted), but rather places its emphasis on the ways in which PSP is perceived by the various participants and the ultimate effect of these differing perceptions on PPP transaction costs and the sustainability of sector reform.

1.7 Contribution to Knowledge
Primary Research Question

Q: Why is there a disconnect between the positive perception that consumers have towards improvements made to their water and sanitation services under PSP arrangements and the negative perceptions that they have towards private sector participation in the provision of these services?

1.8 New Institutional Economic Applications: Unravelling the Challenges of Water Sector Reform and PPP Arrangements

There are a myriad ways to address this question and given the interdisciplinary nature of the Social Policy department at the LSE, it was possible to explore literature across a broad

spectrum of disciplines, including psychology, history, anthropology, political science, institutional economics and behavioural economics. The objective being to bridge the current divide in the water sector literature over PSP and demonstrate that the recent breakdown of water sector reform efforts is due to a mix of complex socio-economic, political, historical, cultural and financial factors that impede upon the ability of water sector stakeholders to trust one another, share information, negotiate fairly and innovate. Deepening our understanding of the interface between civil society, the private sector and government by incorporating theoretical insights across disciplines helped to reveal many of the mechanisms required to improve the enabling environment, providing a new layer of consideration to the partnership paradigm.

The analysis of the water sector in the case of Bolivia is structured within the New Institutional Economics (NIE) conceptual framework as this provides a more holistic and nuanced application of economic analysis on the role of incentives, institutions and behaviour, thus providing a common link between the understanding of traditional economists and other social scientists. Because NIE places importance on the processes that make up the formal and informal institutional environment—from international and national institutions to those operating within communities and at the household level—it allows for greater reflection on the ways in which social, cultural and historical contexts determine the behaviour of stakeholders involved in or affected by policy reform. The focus on *process* versus *outcomes* is also critical to adequately address the primary research question because focussing on the process of PSP reform allows us to consider pressures for, constraints on, and possible effects of institutional change on resource access, utilisation, productivity, as well as, individual household behaviour.

According to the NIE literature, when institutional analysis is used to discuss government action, two facts need to be recognised: (i) the efficiency of government depends not only on its internal organisation but also on its interaction with society as a whole, and (ii) institutions are the endogenous result of several processes through time. Given this setting, the credibility of any policy reform process is crucial to meeting desired sector-specific outcomes. While the economic analysis of social behaviour enlarges the scope of economics, socio-political analysis deepens its foundations, typically also drawing from sociology, social psychology and political sciences. This interdisciplinary approach is critical to improving our understanding of the undercurrents surrounding

policy reform in the water sector. Specifically, this approach helps to reveal the interface between incentives and economic outcomes by: (i) incorporating a holistic perspective of the sector (ii) placing greater emphasis on the ways institutions evolve over time, with (iii) a focus on the cost of information and bargaining asymmetries, and on (iv) the importance on social relationships, trust and reciprocity (social capital).

By taking into account how the behaviour of agents depends on the interactions between social beliefs, the rules of the game and formal organisational structures, this research presents new knowledge on how government authorities can adopt institutional strategies to suit the local context. The framework is also helpful for explaining the choice of possible contractual arrangements between different market participants, for analysing the type of institutional innovation needed to integrate additional players in the water market economy, and for understanding the role of government and the private sector in reducing the risk of exchange across the range of potential water market participants. Although much of the NIE literature tends to draw from empirical evidence found in more industrialised/developed countries, it still serves as an excellent conceptual framework for capturing the essence of policy reform processes and revealing the possibilities for building greater cooperation between institutions, the private sector/market and civil society.

1.9 Summary of Findings

The difficulties faced by development practioners and policy-makers in reforming the water sector and introducing PSP in the case of La Paz/El Alto, stemmed from three fundamental factors: (i) The reform process did not consider how race-based socio-political and economic hierarchies, endemic in Bolivian history and culture, would influence intended outcomes; (ii) stakeholders underestimated the transaction costs involved in the process of reform and PPP implementation due to information and bargaining asymmetries; (iii) systemic barriers, beyond the control of stakeholders involved, constrained the space for partnership innovation and flexibility in the provision of water and sanitation, debilitating the possibilities for future collaboration between civil society, government and the private sector.

1.10 Research Contribution

The contribution of this research to the current debate surrounding water sector reform and PSP in the provision of services is four-fold:

Current debates place very little emphasis on the socio-political forces that impede upon the water reform process, although interest is growing. There is also insufficient discourse about the mechanisms required to incorporate historical context and cultural nuances into the policy-making process. Broad-based comparisons of the impact of policy-reform and PSP across various countries and regions has led to a great deal of confusion in the sector and polarised much of the academic and policy-level debate. In recent years, greater attention has been placed on the interdependence of law, policy and organisations within the water services sector, and this interdependence has also become the central concern of many water resources management analyses (Bandaragoda and Firdausi 1992; Holmes 2000; Saleth and Dinar 2000). However, if institutional change is about how societies adapt to new demands, such analysis needs to go beyond what government bureaucracies, international agencies and legal and regulatory systems *do*, to incorporate the ways in which people, businesses, civil society institutions, religious organisations and social movements react to institutional change as well. We need to place more importance on the *processes* that make up the formal and informal institutional environment—from international and national institutions to those operating within communities and at the household level—and the *exchanges* that are exercised these myriad players, as it allows for greater reflection on the ways in which social, cultural and historical contexts determine the behaviour of stakeholders involved in or affected by policy reform.

The economic discussion around PSP in the water sector emerges from the classical assumption that people make rational choices based on their own set of preferences and budget constraints, invariably limiting the scope of the literature debate to price-related issues such as service affordability, tariff and subsidy structures, universal service obligations, connection targets and technological modifications that reduce costs. However, as these research findings demonstrate, when it comes to the water sector, people's choices and behaviours are conditioned not only by their own preferences and budget constraints, but also by social and cultural forces, moral influences, information asymmetry, media bias, manipulation by pressure groups and hierarchical perceptions of power. Invariably, these factors can severely impede the ways in which stakeholders react,

communicate, share information and negotiate during the reform process. This situation invariably leads to high transaction costs that will continue to constrain the future of water sector reform through PPP arrangements. In general, this research reveals new insights into the ways in which user groups, development practioners, civil society organisations, government and private sector players conceptualise privatisation. It reveals the diverse perceptions that stakeholders have of the policy-making process and their ability to influence the policy-making arena. More importantly, the research reveals how these conceptualisations affect voice, choice and market behaviour within the water sector.

There is a spectrum of stakeholders involved in at least some aspect of water sector reform. These include: un-served households/communities, consumers (individual, industrial and government), civil society representatives, local municipal authorities, non-governmental organisations (NGOs), community based organisations (CBOs), the media, central government ministries, regulatory agencies, international development lending agencies, bilateral donors, outsourced legal/technical advisors, independent/small-scale private water providers, and commercial utility operators as well as their respective investors/shareholders. Each of these stakeholders has the capacity to influence or disrupt the fragile web that binds them potentially undermining the process of water sector reform and the institutional framework that supports it. By placing a great deal of emphasis on the origins and consequences of trust between partners active in the process of water reform and the ways in which formal rules (constitutions, laws, regulations, contracts etc.) intersect with informal rules (values, customs, traditions, etc.) within the sector, new mechanisms/tools can hopefully be developed to improve the enabling environment for water sector reform, to generate consensus and greater partnership.

Some factors that constrain the water sector are more *systemic* in nature, beyond the control of the immediate partners involved in water sector reform. These systemic influences on the partnership paradigm might include: a country's general economic and/or political climate, its existing fiscal framework for decentralisation and municipal finance, past experiences with PSP in other sectors, the degree to which a country has developed its financial sector and/or whether a country is bound by certain borrowing constraints. It also includes factors such as the roles and influences of international donor and development agencies, the influence of the media, well as international interest and pressure groups.

This research highlights the relevance of these systemic constraints on the partnership paradigm.

1.11 Research Limitations

Conducting research during a time of political tension has positive as well as negative implications. There is no question that there was often a great deal of apprehension during discussions with households, neighbourhood leaders, and with government and water company officials, who were perhaps concerned that their words would be used for unethical purposes, such as generating sensationalist newspaper reports or serving the interests of political opponents. However, once confidence was built, the air of political uncertainty lent itself to a great deal of emotive (and therefore revealing) pontificating among those being interviewed. In fact, there was often a recklessness in the way personal anecdotes were used to expose issues around reform—it was almost as if I, the researcher, were being used as a sounding board for frustrations that would otherwise remain out of the public domain. The richness that such fervour provides is good fuel for a researcher working alone in the field for an extended period of time. However, the logistics of conducting research during a time of political turmoil was extremely challenging with daily street protests (and some ensuing riots) and a general sense of festering anger toward light-skinned people, made going into El Alto to conduct household interviews not only difficult, but sometimes unnerving. I quickly observed that it would be impossible to conduct the type of interviews that I wanted on my own, largely due to the whiteness of my skin and my blond hair. Although I speak Spanish fluently, the initial impression from households in El Alto was that I was a representative of the water company, AISA. It was only when I hired a local male counterpart (who also happened to speak Quechua and Aymara) that strained relationships between myself and the (otherwise very timid) residents were resolved.

Conducting research at such high altitudes of close to 4,000 meters above sea level also had its advantages and disadvantages. The complexity of servicing this area with water and sanitation services was fascinating, and being there for an extended period of time lent insights into factors that I might not have considered if I had not spent so much time in the field. During the daytime, temperatures in El Alto are very pleasant but in the evening, the cold is extreme and had I not been there so often at night, I would have never come to understand why water consumption was so low—after all, who wants to bathe

with freezing cold water at freezing cold temperatures? Gaining what would otherwise seem like common knowledge about the weather inspired the development of additional research questions relating to the bundling services (gas and water) and prompted a decision to look at the ways in which the development of other sectors (not only gas, but telecoms and financial sectors as well) affected the development of the water sector.

The biggest impediment to conducting research at such high altitudes was its effect on my health. During the period of research, I developed a deep vein thrombosis (DVT) and later a pulmonary embolism (PE), which severely delayed the completion of my data collection phase. I had also planned to go back and spend more time in the field during the analytical and writing-up phase of research, which I was prevented from doing. This was not the only reason for the delay in completion of my dissertation, however. Two complicated pregnancies in 2005 and 2007, which were deemed high risk on account of this medical history, created additional delays. The cost of childcare, whilst writing up in London, contributed to further delays.

However, although it is clear that the LSE has adopted a new policy to push PhD students to complete in less time, the extra time it has taken me to complete has had its benefits. Specifically, it has allowed enough detachment from the subject matter to observe the ways in which the theoretical framework used for this research applies to so many other areas of society. It is as though I can now see just about everything through an information and bargaining asymmetry perspective. I can also see the social problems and high transaction costs that arise from not fully understanding the demand-side of the economic equation across a huge range of sectors. Classical economic assumptions continue to govern the world around us and yet continue to fail at explaining the mismatch between supply and demand of certain products and services. The concept of a public-private partnership--regardless of whether the partnership is designed for the water sector, sanitation sector, health sector, housing sector, renewable energy, education sector--remains a contentious proposition for many societies because individuals (from North to South, East to West and from varied socio-economic backgrounds) continue to find it difficult to trust that public institutions have the capacity to properly regulate the "selfish" profit motive of private sector.

1.12 Summary of Chapters

Chapter 2 provides a general understanding of the theoretical concepts pulled from NIE that were used throughout the research process. These concepts helped to frame the way in which the existing water sector literature on PSP, regulation, and consumer preferences and such, as well as the data collected from the field, would ultimately be considered and dissected.

Chapter 3 is a description of the methodological approaches that were applied, and amended, in order to achieve research objectives. In summary, an initial household consumer satisfaction survey study was conducted in El Alto between November 2002 and January 2003. Over 300 households were interviewed and the results of this exploratory research phase provided significant insights and surprising results. The consumers first surveyed in November of 2002, predominantly indicated that they were generally "happier with their service under AISA in terms of water quality and reliability than they had been under SAMAPA". Nonetheless, regardless of how satisfied they were with the improved services they were currently receiving from AISA (as compared to their experience under public and informal service provision) most of those interviewed said that they were willing to participate or had participated in demonstrations against AISA. Despite improvements in terms of access and reliability, these residents were willing to risk a return to the public provision model because of a seemingly shared value and attitude that their water resources should not be in the hands of private, foreign, profit-seeking entities. Time boundaries were set to evaluate the La Paz/El Alto case from early 1994, when the sector reform process began, through to January 2005, when the reform measures proved unsustainable and the PPP contractual arrangement was terminated.[20] In August 2003 field work resumed and for the following three months, focus groups were conducted with community members and 60 households located in El Alto participated in in-depth interviews. Additionally, in-depth interviews with government, neighbourhood association leaders, AISA management, journalists, development aid agencies and NGOs were

[20] The original time period set for this research was meant to evaluate a 10-year period, from 1994–2004. This was extended because of the interesting turn of events that began to unfold in 2004.

conducted through to December 2004. Some of these interviews were carried out in person, others via telephone or email.

Chapter 4 provides a summary of the case study findings for the La Paz/El Alto PPP concession. Although the case is described in a sequential format, three distinct threads are woven together. The first strand is a socio-political interpretation of the sequence of events and conflicts in Bolivia, told as they unfolded, in a narrative style and include a necessary historical account of the pre-privatisation context. The second strand is more technical, as it relates to the story of the PPP contract, from bidding through to the termination of the contract; this thread highlights issues such as ill-conceived tariff structures, expansion mandates and other contract inefficiencies. The third strand focuses on the story of this research process and the way in which it was adapted in order to draw out new insights for understanding the PPP water sector paradigm.

Chapter 5 explores Bolivia's informal and formal institutional environment as it relates to the water sector and calls into question many of the assumptions currently circulating in the literature relating to the cause of Bolivia's water conflicts.

Chapter 6 focuses on a set of transaction costs that emerged primarily as a result of information and bargaining asymmetries and the implications that these costs had on the sustainability of the PPP contract.

Chapter 7 centres on the systemic constraints to water sector reform as identified through case findings.

In the final chapter, the significance of each of these areas on the future of the water sector is integrated and recommendations for policy-makers are further developed.

Chapter 2. Unravelling the Constraints to Water Sector Reform In Developing Countries: A New Institutional Economics Approach

If we look at society as a game, in which various players interact and exchange goods or services, "institutions" make up the rules of the game in society. They can be created or emerge over time and consist of written rules and/or unwritten codes of conduct. Consider for a moment the history of football. Football as we know it today traces its lineage to games of folk football played in England since medieval days. Folk football had few rules. What rules there were, developed spontaneously: They rested on custom and varied from village to village. Any number of people could play. Spectators could join in and play spontaneously. There was no referee, just a kind of social control by the players themselves. The aim of the game was to get the ball, a stuffed pig's bladder, to the opponents' end of the field, using any means. For hundreds of years, folk football developed incrementally. Then quite suddenly it was reborn into what we know today to be football and rugby. These changes did not come, as in the proceeding centuries, from the local level but from the top down. National governing bodies, including the Football Association (1863) and the Rugby Football Union (1871), were formed to codify the rules. The players' skills, rather than brawn, received more emphasis and purposeful rule setting gave rise to more of a chess-like game between players. (McMillan 2003)

2.1 Introduction

Almost all users of water and sanitation services across Europe and North America have come to expect in-house service provision and are fully aware that volumetric supply and economic pricing are used to calculate cost-recovery and resource allocation. In these areas of the world we observe established, or *formalised*, water economies where the water sector has emerged and is accepted as an industry. As highlighted in the introductory chapter, however, most of the developing world is made up of predominantly *informal* water economies with long histories of heavy dependence on self-provision, informal exchange institutions, and community managed water sources. Most users in the developing world continue to perceive water as a *free good* rather than a *scarce economic good*[21] and/or perceive water as a sacred gift from God which should be available through

[21] In an influential 1932 essay, Lionel Robbins defined economics as "the science, which studies human behaviour as a relationship between ends and scarce means which have alternative uses." Goods (including services) that are scarce are

a system of natural rights and natural laws, rather than through the laws of the market. In many developing countries the "rules" that deal with how and by whom the water supply should be controlled, managed, treated, and distributed are often weak, and it is not uncommon to find water laws and regulations dating back to the nineteenth century. Reforming any institutional environment is an extraordinarily difficult task, but particularly so in the context of a developing country, where people have endured long histories of blatant political corruption and institutional instability. Such corruption is especially evident across infrastructure sectors, where there is immense opportunity, largely due to the weak rules that make up the legal and regulatory frameworks, for kickbacks and misappropriation of public funds. Analogous to the evolution of rules governing the game of football, policy-makers across the developing world have been striving, primarily taking a top-down approach, to quickly establish formalised water economies and to establish a new culture where citizens accept the water sector as an industry. The fact that so many governments have exhibited hasty responses to the imminent needs of the sector (responses both in terms of reforming water resource management and upgrading/expanding the provision of water and sanitation services), has invariably created a clash between two cultures. As Vandana Shiva (2002) explains, today's paradigm war is a conflict over how water is perceived, valued, and treated, and "the culture of commodification is at war with diverse cultures of sharing, of receiving and giving water as a free gift."[22]

During the last two decades economists have made much progress in understanding incentives, contracts, and organisations operating within the complexity of the water sector, but economic theory still tends to constrain their attention to a very narrow and sometimes empirically questionable view of human motivation. At present it is clear that economic development depends upon variables that have not been considered fully by traditional economic analysis, such as the institutional environment of societies. To understand institutional environments, one needs to know what they are, how and why they

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called "economic goods", while other goods are "free goods" if they are desired but in such abundance that they are not scarce, such as air or seawater.

[22] Dr Shiva is a physicist, ecologist, and activist whose recent book *Water Wars* (2002) is a synthesis of thirty years of engagement with communities defending their eco-systems and resources.

are crafted and sustained, and what consequences they generate in diverse settings. Broadly defined, the institutional environment is the prescriptions that humans use to organise all forms of repetitive and structured interactions, including those within families, neighbourhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales. This institutional environment can be interpreted through an understanding of the intersection between the *formal* "rules of the game" (constitutions, laws, regulations, contracts, etc.), and the *informal* "rules of the game" (values, customs, traditions, taboos, sanctions, common beliefs, and codes of behaviour) that encompass the perceptions, choices, and behaviour of a society. The opportunities and constraints individuals face in any particular situation, the information they obtain, the benefits they obtain or are excluded from, and how they reason about their situation, are thus all affected by structuring rules or the absence of such rules.

Individuals interacting within rule-structured situations face choices regarding the actions and strategies they take, leading to consequences for themselves and for others. Further, the rules affecting one situation are themselves crafted by individuals interacting in deeper-level situations. If the individuals who craft and modify rules do not understand how particular combinations of rules affect actions and outcomes in a particular cultural environment, rule changes may produce unexpected and, at times, disastrous outcomes; this can be seen in the many recent failed water sector reform strategies in developing countries, and it demands that we come to terms with the extreme complexity of the intersection between the formal and informal institutional environment governing this sector.

In order to address the primary research question, a thorough review of the New Institutional Economics literature was undertaken and consequently, a series of sub-questions and mini-hypothesis were created to deepen research analysis.

2.2 Sub-Questions and Sub-Hypotheses

Q1: How has the clash between the informal and formal institutional environment – those "rules" governing Bolivian society – influenced intended outcomes and perceptions of water sector reform over time?

H1: While today we may be witnessing a clash between the informal and formal institutions that support the provision of water, the real source of conflict that we must

confront in the water sector today is the *politicisation* of water provision rather than the *commodification* of water provision.

[This is addressed in Chapters 4 and 5]

Q2: How have those institutional arrangements—regulations, channels of communication, methods of negotiation and contractual specification—created tensions between stakeholders involved in the process of water sector reform and how does this affect the ability for policy-makers to accurately predict consumer preferences?

H2: The delicate nature of the water sector provides evidence of how under certain institutional constraints, where optimum accumulation of information is virtually impossible, human behaviour can become motivated by a volatile set of preferences, making it particularly difficult for policy-makers to manage the reform process and accurately predict reform outcomes. Stakeholders underestimate the transaction/transition costs involved in the process of reform and PPP implementation due to information and bargaining asymmetries, which manifests in poor institutional arrangements.

[This is addressed in Chapter 6]

Q3: Are there additional factors, which have otherwise not been considered within the literature on water sector reform and PSP, which may contribute to these rising tensions?

H3: Systemic barriers, beyond the control of stakeholders involved, constrained the space for partnership innovation and flexibility during the process of reform. These systemic barriers make it extremely challenging to align incentives between the various players involved in the process of reform.

[This is addressed in Chapter 7]

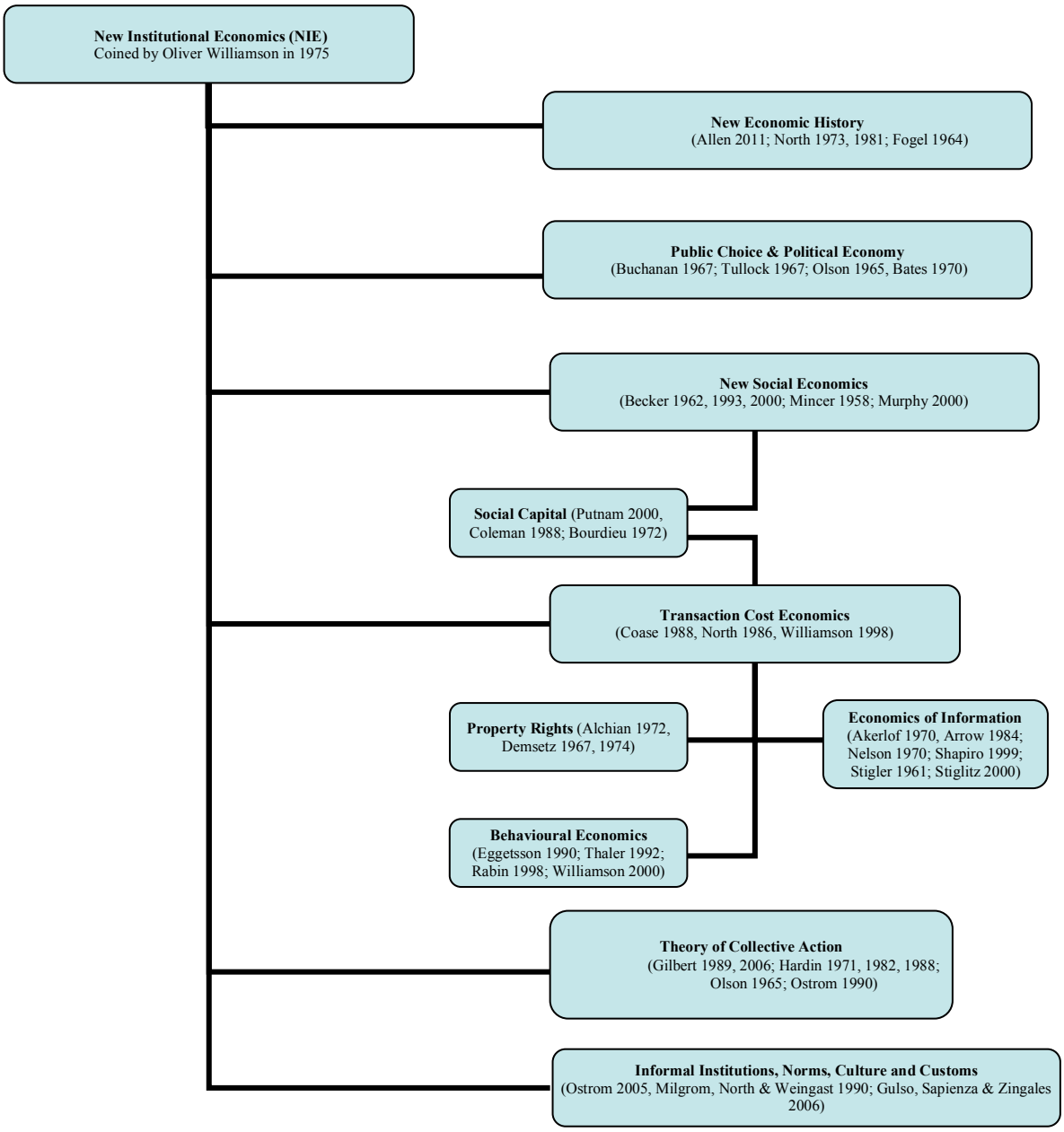
2.3 Introduction to the Conceptual Framework: New Institutional Economics (NIE)

New Institutional Economics (NIE) provides the theoretical tools that are used in this dissertation to assist in the analysis of the process of water sector reform and PSP in the delivery of water and sanitation services. NIE is a somewhat generic term used by different authors for different analytical purposes, but although there is no commonly agreed-upon definition, NIE is based on one basic premise: that institutions matter for economic performance. NIE's purpose is to help explain the determining factors in the development

and evolution of institutions, and to evaluate institutions' impact on economic performance, efficiency, and resource distribution. In NIE, economic and institutional perspectives converge into an integrated analytical approach that draws attention to the ways that institutions affect livelihood components, invariably placing emphasis on the links between the policy process, social capital, and the degree to which households/individuals are vulnerable to policy outcomes. People, rather than the resources they use or the institutions they serve, are the primary focus of concern in NIE analysis and this allows researchers to take into account how development decisions affect distinct groups. The NIE framework also integrates into a common analytical theme the influential roles that a much wider range of stakeholders play: state, civil, private, local, national, regional, and international.

Although NIE operates within the framework of neo-classical economics, it makes fewer assumptions. In particular, NIE does not assume the "institutional framework" to be a given, as is the case with classical economics, but incorporates institutions as an additional constraint and makes them the object of research. Also, researchers do not ask the neo-classical economic question "What would self-interested rational actors do?" but rather "How might rational actors be constrained (or constrain themselves) not to pursue their self interest?" The tendency to introduce greater institutional detail into economic models has come about gradually over time with the recognition that standard neo-classical analysis can be overly abstract and sometimes incapable of dealing effectively with problems of interest to policy-makers. Of particular importance for understanding the relationships between individuals and the formalisation of the water sector, the NIE-approach recognises that agents sometimes (i) pursue goals that go beyond the needs of individual welfare; (ii) suffer from limited cognitive capacity; (iii) have to choose on the basis of imperfect knowledge/information; and (iv) have their choices shaped by institutional (both formal and informal) arrangements. NIE encompasses within it a range of features that make it attractive for the purposes of water sector research (see Diagram 2.1) and in particular for the La Paz/El Alto case study.

Figure 2-1: Conceptual development



NIE makes an important distinction between the *institutional environment* and *institutional arrangements* within a given country context. The institutional environment encompasses those human-made constraints that structure the political, economic, and social context and the interactions that take place within that context, delineating the rules of the game within which the institutional arrangements/governance structures actually operate and prescribing the rules of conduct (both formal and informal) within which human actions take place. Institutional arrangements or governance structures, on the other hand, comprise the entire spectrum of co-ordination mechanisms, ranging from the

"market" at one end through to "centralised organisations" at the other. Within this spectrum we observe all sorts of hybrid arrangements of networks, associations, social policies, norms, regulations, partnerships, and contracts.

NIE also places a great deal of attention on the importance of *path dependence.* This term is often applied in different ways by economists and other social scientists to explain institutional choice, timing, and sequencing in the analysis of a specific sector. In *neo-classical economic theory* path dependency sometimes refers to problems of asymmetries in the reaction of some economic variables to changes in certain other economic variables; this is usually in relation to changes in price, with an increase or decrease having different effects on variables. The term is also used in the context of an investment in "lumpy" infrastructure. The high initial sunk costs create path dependency for subsequent decisions because of a high-fixed cost component.[23] For New Institutional Economists, however, path dependency refers to the historical dimension of institutional change, to irreversible self-enforcing tendencies resulting from network-externalities[24] and learning-by-using,[25] to cultural factors, and to time lags both in the adaptation of informal institutions to formal ones and in the adjustment of perceptions of stakeholders (Brandes and Kriwoken 2006; Eggertsson 1997; North 1992; Witt 1993). In cases where these adaptations and adjustments do not occur in the way it has been assumed they would, incentives and opportunities brought about by changes in formal institutions will not positively influence the behaviour of stakeholders but rather lead to adverse effects on efficiency, on the distribution of assets and income, and on economic growth. This in turn affects the social and political situations of the countries or sectors involved.

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[23] A lumpy decision entails trade-offs or compromises because realising a benefit from a choice necessitates accepting undesirable peripheral costs. Lumpy decisions almost always depend on indivisibilities; as when a good or policy cannot be broken down into tiny increments.

[24] A network effect is a characteristic that causes a good or service to have a value to a potential customer, which depends on the number of other customers who own the good or use the service. One consequence of a network effect is that the purchase of a good by one individual indirectly benefits others who own the good. This side effect in a transaction is known as an externality and externalities arising from network effects are known as network externalities.

[25] The concept of learning-by-doing has been used by Kenneth Arrow (1962) in his development of endogenous growth theory to explain effects of innovation and technical change. Robert Lucas (1988) adopted the concept to explain increasing returns to embodied human capital. Yang and Borland (1991) have shown learning-by-doing plays a role in the evolution of countries towards greater specialisation in production.

The *behavioural* strand of NIE (see Williamson 2000) exemplifies how bounded rationality[26] can operate as a constraint in minimising transaction costs, how it can prevent individuals from appreciating the benefits of consuming certain goods (Besley and Ghatak 2003), and how it can influence measures to resist reform (Fernandez and Rodrik 1991). Although this strand has not in the literature been applied to the water sector, this part of NIE can certainly help to identify and perhaps correct various types of demand-side anomalies originating from the behaviour of certain agents (in this study, the bounded rationality of consumers of water and sanitation services is addressed) which can potentially lead to sub-optimal outcomes in the water supply sector. These anomalies, which arise from a combination of *status quo* bias, perception bias, information asymmetry, cognitive capacity, sunk cost, and path dependency, are all very relevant to our understanding of water sector reform. By assessing the existence of these behavioural anomalies, NIE helps to identify how individuals are influenced by existing institutions (informal/formal) so that alternative approaches to water sector reform can ultimately be considered.

This then leads us to the hallmark of NIE: a concern with transaction costs. These are the costs of seeking information, conducting negotiations, writing up contracts, monitoring and enforcing contract compliance and administration (Barzel 1985), formulating new institutional rules within a given sector (Paavola 2002), and coordinating and pursuing cooperation to achieve mutually desired goals. Transaction costs have important implications for water sector governance. In the first instance, this is because governance institutions (e.g. water sector or environmental ministries and or regulatory and supervisory agencies) cannot be perfectly designed *ex ante.*[27] In other words, future contingencies may not all be foreseen at the time the government proposes a regulatory contract. The concept of interdependence is relevant here: interdependence prevails in an environment where the choices of one agent influence those of another. As an example, we

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[26] Bounded rationality should not be confused with "irrationality." The concept of bounded rationality attempts to take into account the cognitive capacity of a decision-maker (Simon 1962) and refers to the rational principals of non-optimising adaptive behaviour of real people.

[27] In economic models where there is uncertainty that is resolved during the course of events, the *ex antes* values (of expected gain) are those that are calculated in advance of the resolution of uncertainty.

can consider a PPP arrangement where there are multiple "agents" involved: the government, a private investor, and consumers. These agents cannot be expected simultaneously to realise which of their interests are incompatible (or even compatible), and the conflict between them must therefore be resolved by defining (or redefining) initial endowments (Coase 1960; Paavola and Adger 2006). This is done in the first instance by assigning private property rights[28] to one of the involved parties (Coase 1960); in this study that means determining the ownership and operational structure of the water resource. Once rights are assigned, regulations and regulatory agencies are established to oversee that this promotes the general good and encourages economic development and optimal utilisation of the property. Interdependencies between agents reveal themselves by way of the conflicts that emerge; in the context of water, this means conflicts over how water resources should be managed, water services provided, and the distributive consequences of reform measures. [29] These conflicts inevitably have to be addressed *ex post*, through the renegotiation of contracts in courts or in other social arenas.

The complexity of water sector governance, especially in situations where such governance institutions are being established for the very first time, means that they can be extremely costly endeavours. While the nature of interdependence sets up their basic requirements, transaction costs influence the choice of institutional responses, due to the issue of information asymmetry. Costs between a regulator and a firm will occur after the first period of the contractual relationship, as the regulator gains more private information about the firm and becomes eager to renegotiate the regulatory contract to improve second period efficiency. This search for increases in *ex post* efficiency may introduce some perverse incentives from an *ex ante* point of view: anticipating an increase in the power of incentives later on, efficient agents may behave sub-optimally in the earlier periods of a

[28] In common use, property is simply "one's own thing" and refers to the relationship between individuals and the objects which they see as being their own to dispense with as they see fit. Scholars in the social sciences frequently conceive of property as a "bundle of rights and obligations". They stress that property is not a relationship between people and things, but a relationship between people with *regard to things*. Modern property rights can be said to begin with the transition from regarding the primary form of property right as ownership by entities, to the perspective that property rights are to promote the general good, and specifically encourage economic development and utilisation of property.

[29] See Bromley (1991) and Paavola and Adger (2006) for discussions on the implications of environmental regulation and interdependence, specifically the way in which regulation can entail lower transaction costs.

relationship (Estache 2001). Although it is easier to understand this type of transaction cost in light of the relationship between the regulator and the firm, this dissertation (in chapter 6) will examine similar instances where information asymmetry *ex ante* increases transaction costs for consumers as well as the firm, inevitably constraining choice and optimal provision of services *ex post*.

Formalised institutional relationships and structures which enable water sector norms to develop, such as government, the political regime, the rule of law, the court system, and civil/political liberties, cannot be separated from the norms and social relations embedded in the social structure of a society. *Social capital*, the third entry point for understanding transaction costs, recognises those features of social organisations that facilitate coordination and cooperation for mutual benefit, including horizontal associations such as networks, norms, and social trust (Putnam 1995). Theoretically, social capital is meant to lower transaction costs, improve the diffusion of information and innovation, strengthen informal insurance mechanisms, increase the probability of trust-sensitive exchanges made by agents, and improve the authority of certain agents by drawing them into social networks. Using social capital theory helps us to capture the informal and formal institutional context so that we can more accurately predict how policies in the water sector are likely to have an impact on households and, in consequence, on the overall institutional arrangements that will either sustain or defy water sector reform efforts.

Oliver Williamson (2000) proposed a framework that identifies four interrelated levels of institutional analysis, which were adapted within the conceptual framework for the study of the La Paz-El Alto case.

Level 1: Embeddedness or Social/Cultural Foundations. The highest level of institutional hierarchy, this level includes those informal institutions, customs, traditions, social norms, religion, language and ethics. The institutional foundations at this level evolve very slowly over time.

Level 2: Basic Institutional Environment. This is the second level of institutional hierarchy, is what Williamson (2000) refers to as the "formal rules of the game." It is the basic institutional environment defined by the constitutions, laws, property rights and their allocations, basic political, legal and economic mechanisms that are meant to represent (or reflect) the attributes of a society's social and cultural foundations. Changes in the basic

institutional environment occur more quickly than in the social or cultural foundations but change is constrained by the adaption of the underlying informal institutions (Level 1).

Level 3: Institutions of Governance. At this level in the hierarchy, the "play of the game" is expressed. It is here that the institutional arrangements through which economic relationships with society are governed. The features of these arrangements determine the structure and boundaries of market exchanges. The choice of governance arrangements are meant to be influenced by the basic institutional environment and the macro-economic context.

Level 4: Short-term Resource Allocation. This is what Williamson (2000) refers to as the day-to-day operation of the economy given the institutional dynamic of Levels 1,2 and 3. This level of institutional analysis involves consideration of prices, wages, consequences of monopoly, information asymmetry, market imperfections and agency dilemmas.

From a classical economic approach, studying the effects of water sector reform might be reduced to a cost-benefit analysis of the dynamics of institutional change, but by using an NIE approach we can use the four levels of institutional analysis to explore *why* and *how* institutions in Bolivia changed at the micro, meso, and macro planes. At the micro plane this entails looking at the forces of individual interest that generated pressures for institutional innovation; at the meso level it means looking at the structures and dynamics of the actual process of institutional change and at the factors that facilitated or posed obstacles to innovation; and at the macro level it involves looking at the mix of indirect and direct pressures from other institutions and economic agents on the periphery of the water sector (see Table 2.1). The speed by which the basic institutional environment is expected to change or transition to a new institutional environment is a critical component to this conceptual framework.

Table 2-1: Informal and Formal Institutional Pressures

Planes	Informal Pressures	Formal Pressures
Micro	Social values Cultural norms/practices Trends in participation Lack of information Information asymmetry Bargaining asymmetry	Lack of access to clean water Lack of finance Equity considerations Household consumption patters Land entitlement issues
Meso	Information asymmetry Transaction costs Bargaining asymmetry	Lack of inter-ministerial coordination Urban migration patterns Nascent regulatory agencies
Macro	Information asymmetry Political instability Inchoate Party Systems and Populism Bargaining asymmetry	Macro economic instability Borrowing constraints Multilateral/Bilateral agreements Media

2.4 Transitioning to New Institutional Arrangements

The starting point for this research was an exploration of the historical interface between formal and informal institutions in Bolivia, providing the contextual backdrop for further investigation of the pressures for institutional change and the process by which institutional tools were adapted to reduce the political and regulatory risks faced by economic agents active in the provision of water and sanitation services (WSS). Understanding the pressures that historical antecedents, critical junctures, institutional evolution, and reactive sequences all have on the water sector can provide a more accurate picture of the sector and provide a broader conceptualisation of why reform measures involving PSP often fail. A number of studies provide insight into the historical context in which water sector formalisation occurred in Bolivia (Escobar and Alvarez 1992; Crabtree 2005; Klein 2003; Olivera 2004; Van Cott 2000), encompassing a great deal of information relating to the history of social movements, the dramatic struggle for democracy, participation, equal rights, and cultural recognition both across Latin America

in general and in the Bolivian context in particular. Although the treatment of water is not dealt with explicitly in this literature, the authors of these studies help us to consider how the increasing influence of urbanisation on social movements might have had an impact on the process of water sector reform. They also provide us with insights into the indigenous values and cultural norms and practices which ultimately form the basis of the informal rules governing this segment of the population, and which are critical to our interpretation of consumer behaviour in the La Paz/El Alto case. This literature also greatly enhances our conceptualisation of WSS provision in the urban context beyond the strict analysis of PPP contracts, and presents the essential background needed to understand not only the plurality of identities crusading for improved access to basic services, but also the type of conflict that originates in people's efforts to bring about a new institutional order. Even case-based literature on PSP in the water sector rarely takes into consideration the historical backdrop or looks to other socio-economic pressures and variables that affect the sector at the micro, meso, and macro levels.

Recently, there has been an increase of literature focusing on the changing role of government institutions with the introduction of PSP in infrastructure development.[30] PSP is not meant to mean "less government", but rather to establish a different governmental role and to facilitate a shift in institutional governance and regulatory structures. According to this literature, however, the virtual absence of regulatory systems to monitor the performance of private scale operators (Savedoff 1999) and ignorance about and/or indifference towards the local cultural, social, and political conditions (Laurie and Marvin 1999) are major impediments to PSP across various infrastructure sectors. Most authors stipulate the need for more experienced regulators to oversee PSP in infrastructure.

In general, it is assumed that regulation is necessary because either (i) the government is interested in overcoming information asymmetries with the operator, and in aligning the operator's interests with the government's interest; (ii) customers desire protection from market power when competition is non-existent or ineffective; (iii) operators desire protection from rivals; or (iv) operators desire protection from government

[30] See Bortolotti and Siniscalco (2004) for a recent survey on the world experience and Hirshausen (2002) for an insightful discussion of the interactions between institutional development and infrastructure reform in Eastern Europe.

opportunism. Normative theories of regulation generally conclude that regulators should encourage competition where feasible, minimise the cost of information asymmetries by obtaining information and providing operators with incentives to improve their performance, provide for price structures that improve economic efficiency, and establish regulatory processes that follow the law and that are characterised by independence, transparency, predictability, legitimacy, and credibility. Many authors recommend that autonomous regulatory agencies need to be created to supervise and ensure service quality, fair pricing, and protection from government arbitrage, and to provide overall monitoring that conditions and provisions in contracts are met. However, the responsibilities, powers, and degree of discretion that newly established regulatory agencies should assume to help mitigate PPP transaction-costs across infrastructure sectors are still heavily debated in the literature. In the developed-country context, rigid regulatory systems are often viewed as ill-equipped in the face of unforeseen circumstances (Smith 1997) and flexible prices and quality standards are believed to allow for more creative methods of expanding service to different consumer groups, especially for lower-income areas. In the developing-country context, by contrast, we find very tight controls on quality and inflexible quality standards.

Although the question remains open of how to guarantee that the private sector will yield the desired performance improvements, reference is usually made to contractual compliance (Rees 1998), and contracts negotiated by regulatory authorities could include specific provisions which oblige the private partner to take responsibility for implementing wider social policies, such as ensuring a benefit for the poor. Johnstone and Wood (1999), however, believe that this creates too much of a burden for regulatory authorities, who should not have this overarching responsibility for promoting the general good and for instituting social policies. However, if regulators are merely responsible for narrow contractual issues such as leakage targets or ensuring that a quota of new connections has been made, this leaves open the question of who should be responsible for dealing with unforeseen complex social and/or environmental consequences of a PPP; consequences that tend to have the greatest impact on the standard and level of provision to the poor. In practice, given the large number of low-income customers who are specifically meant to benefit from water reform involving the private sector, the responsibility of the regulator

inevitably extends far beyond monitoring contract compliance. To date there are still very few contracts involving the private sector that include explicit specifications for the benefit of low-income areas.[31] For example, specifications could be included to provide alternative distribution methods and more flexible payment arrangements, or to give explicit roles and responsibilities to community members in the construction, operation, and management of water service provision. However, determining the correct incentive structure within a contract to include low-income populations is often too difficult, and contracts are designed *ex ante* without sufficient foresight or understanding of the demands and preferences of low-income consumers. Also, inexperience of private sector regulation tends to inhibit flexibility and creativity.

2.5 Relevance for the Bolivian Case

The regulatory overhaul that took place in Bolivia in the early 1990s in many ways created parallel governing institutional frameworks to protect the interest of the public. This new system created what had hitherto never existed prior to the 1990s: a formal system of checks and balances and a mechanism for depoliticising government oversight of certain sectors. However, it also required a massive inter-governmental relationship adjustment for civil servants. Bolivia is not unique in its rapid approach to regulatory reform; across Latin America and Africa, regulatory reform has been perceived as a stepping-stone for PSP. Surprisingly, though, there is very little discussion in the literature about (i) the impact that these new institutions have on inter-governmental dynamics; (ii) the transaction costs that arise due to inter-governmental information asymmetries, power asymmetries, and/or bargaining asymmetries between newly created regulatory agencies and line ministries; or (iii) the particular issues that arise when newly created regulatory agencies are staffed by former water utility staff members.

The belief that an increased demand for good governance will spontaneously create its own supply of negotiating and supervisory capacities is dangerously misleading. Viable institutional solutions and the capacities to make them work have to be consciously designed and systematically developed (Keohane 2001); this takes time, and it does not

[31] The following PPPs included such specifications in their contracts: Buenos Aires, La Paz, Cartagena, and Nelspruit.

seem wise to fashion regulatory agencies impulsively simply for the sake of implementing a PPP. However, while it may seem obvious to many academics that government institutions should aim to evolve organically, patiently taking the time to build the internal capacity required to support long-term development objectives, in practice, patience and time are luxuries most politicians would argue they simply cannot afford. This is certainly the case in countries marked by long histories of political instability. Bolivia, for example, has endured 200 revolutions, coups, and counter coups since it gained independence; that is more than one government a year for the last 180 years. In such circumstances, politicians understandably assume they have only short windows of opportunity to carry reform processes through and are, therefore, willing to take on the extra risks of rushing reform.

Much of the literature on PSP in infrastructure is very accusatory of government institutions. In particular, there is discussion of the indifference of regulators towards local cultural, social, and political conditions (Laurie and Marvin 1999), and a significant amount of the literature suggests that corruption and the unreliability of government authorities prevent regulators from negotiating and supervising private sector stakeholders appropriately (Bortolotti and Siniscalco 2004).[32] While corruption has certainly proven to be at the heart of some PPP transactions, this seems to be an overly simplistic explanation for PPP failings. Given the tremendous institutional overhaul governments must go through in what is usually a very limited period of time in order to prepare for PSP, it is no small miracle when these institutions succeed in establishing themselves as legitimate governing bodies, respected (or even known to exist) by the public. To achieve the level of institutional capacity required to ensure transparency, strong negotiation techniques, and to supervise PSP, is an extraordinary feat. Certainly, even developed countries, with much longer histories of institutional stability and decades of experience dealing with PSP across various infrastructure sectors, may struggle to meet these challenges.

[32] They provide a recent survey on the world experience; see also von Hirshausen (2002) for an insightful discussion of the interactions between institutional development and infrastructure reform in Eastern Europe.

2.6 Negotiating and Sustaining PPPs

Foster (1999) believes that strong government lies at the heart of sustaining PPP arrangements. Bately (1997), however, highlights the difficulty of the public sector in adjusting to new and different roles under PPP arrangements, and the likelihood that the public sector almost always has a lower level of bargaining power, depending on the circumstances underlying its decision to involve the private sector. The question of how to ensure that government officials retain their bargaining power when negotiating with the private sector is not addressed sufficiently in the literature; there seems to be a general consensus, especially in recent discussions, that the public sector is always at a regulatory disadvantage in relation to the private sector. As this dissertation demonstrates, this assumption is extremely misleading. Also, there is only brief mention in the literature of the role that outsourced advisors play in public sector negotiation techniques and bargaining positions, even though this can be pivotal to the design, sustainability, and productive outcomes of a contractual partnership.

Two other relevant areas that have received only minimal treatment are changes in bargaining positions between the public and private sector over the life of a PPP contract (although recent research on contract renegotiation by Estache (2004) delves deeper into this issue), and the multitude of ways by which the public sector could make use of significant information held by local CBOs/NGOs (which often have better access to user preferences and needs) when negotiating with the private sector and/or when designing plans for network expansion. While many believe that the public sector is always at an informational disadvantage and lacking both in capacity and shrewdness when negotiating with the private sector, this assumption is unsubstantiated. Ironically, most renegotiations of PPP contracts have been initiated by the private sector rather than the government, which could mean that the private sector is in fact at a disadvantage during the first stage of contract negotiation, both in terms of the information it has at its disposal and in estimating the leverage it will have during future phases of the PPP process.

In a similar vein, there is little discussion in the literature relating to the ways in which cultural differences between international private sector stakeholders and government stakeholders affect PPP sustainability. There is some research that details cultural differences in contract negotiation between the private and public sector more generally (Lewicki, Lewin and Weisee 1992); although there is nothing that focuses on this

issue specifically in relation to the water sector, the growing literature base documenting international negotiation styles can be used in our analysis. Laurent (1983), for example, documents a wide range of cultural differences in work-related values, attitudes, and behaviour, and determines that employees usually maintain their culturally specific ways of working even when employed by multinational companies. Hofstede (1981) and Trompenaars and Hampden-Turner (1999), building upon Laurant's conclusions, also highlight important cultural dimensions influencing organisations in their ability to negotiate. They categorise cultures as either *particularist*, where the nature of the relationship between given stakeholders determines how someone will act in a particular situation, or as *universalistic*, in which decisions are made based upon what is legally appropriate. Examples of the former are South Korea, Brazil, and Venezuela, while the latter describes countries in Western Europe and North America (Laurent 1983).

This is extremely interesting when it comes to PPP contract negotiation in the water sector, because universalistic cultures tend to rely primarily upon extensive and specific contracts to document the "rules" of doing business together, whereas particularist cultures use written agreements much more loosely and rely on the strength of personal relationships to maintain a commitment. Particularists view detailed contracts and penalty clauses (which embody most PPP agreements in the water sector) as signs that they are not to be trusted; therefore, no relationship exists and they consequently feel little obligation to adhere to a contract (Adler and Kwon 2002). As many Asian, Latin American and Middle Eastern cultures have shown, personal relationships can, at times, be more durable than contracts, as well as more flexible. In a case study of a particularist culture in negotiation, a team of Brazilian negotiators explained that they only tell the truth once they have got to know the other party; that is, once they have developed a personal relationship with the other stakeholder (Adler and Kwon 2002). They described American negotiators as naïve for not understanding how negotiating really works. The Americans, on the other hand, for whom truth is an absolute "universal" that is unrelated to particular negotiations or the particular people involved, accused the Brazilians of acting deceitfully.

According to negotiation experts,[33] negotiating is not always the best approach to building a business partnership. Sometimes the best strategy is "take-it-or-leave-it", at other times it is bargaining, and on some occasions the most effective and appropriate route is negotiations focusing on problem solving (Katz 2005). Negotiating, compared with the other approaches, demands more time, which is why it is often assumed to be too costly in formulating PPP contracts, although it is generally the preferred strategy for creating win-win solutions (from a management perspective) in global business. However, the three areas in which the success of a negotiation depends—individual characteristics, situational contingencies, and strategic and tactful processes—vary considerably across cultures (Fisher 1980; George 1998). Another factor crucial to understanding how negotiating styles differ across cultures is the hierarchical relationship between buyers and sellers (which one could say PPPs emulate). In Japan, for example, the group that is higher in the hierarchy of a negotiation takes care of the group immediately below it: management takes care of workers, government takes care of industry, and buyers take care of sellers (Graham 1983). In the USA, by contrast, the buyer–seller relationship is viewed as being more equal, and there is consequently a different set of expectations and pattern of negotiating behaviour.

It is very important to unravel some of the individual characteristics of those involved in the PSP process and/or the negotiation of PPP contractual arrangements, including their capacity to manage the negotiation process skilfully and their own *personal* stake in the sustainability of a PPP initiative. There is a general consensus among most negotiation theorists that the best way to approach bargaining problems is to search for synergistic solutions, in which both sides win. They argue that the art of negotiation lies in developing creative options and alternatives, not in using persuasive tactics that more often result in giving offence than in gaining agreement. What we observe in many PPP arrangements in the water sector, though, is a lack of synergy and major constraints on stakeholders (both public and private) to come up with creative solutions, especially when attempting to find solutions to meet the demands of lower-income consumer groups. It is

[33] Various negotiation resources have been considered; the review of the literature is not limited to PPP negotiation specifically.

not novel to suggest that history, path dependence, the cultural make-up of the formal and informal institutional environment, or the capacity of stakeholders to negotiate skilfully, might affect the process of PSP in the water sector, but for unexplained reasons these issues are currently not at the forefront of relevant debates. This is why it this dissertation treats as critical the need to focus analytically on the intersection of these dynamic forces. Bolivia is here the case study, but there is also a need for more in-depth research into these issues across other countries and regions.

2.7 Consequences of Trust, Norms, and Networks in the Process of Water Reform

> *What seems clear is that the sustainability of PPP arrangements depends largely on the degree of commitment on the part of the partners and the willingness of all stakeholders to play mutually agreed roles in the allocated activities. (Bennett 1998)*

There have been some attempts to analyse water sector reform from a consumer perspective (Komives 2001; Nickson and Vargas 2002), but the focus of analysis is almost always on measurable welfare outcomes or affordability, rather than on consumer choice and the degree to which consumers are satisfied with the process of reform, and/or satisfied with their quality of service. Nor does the literature extend its analysis to uncover how negative perceptions of reform influence consumer behaviour, regardless of how affordable/unaffordable connection charges and tariffs turn out to be. Also, long-standing explanations for why different individuals from low-income backgrounds face different costs of exchange tend to highlight transportation costs and/or the opportunity cost of time. However, there are other factors that clearly affect the cost of exchange, especially for low-income individuals; these include: (i) specialisation and frequency in conducting a certain type of exchange (familiarity and know-how); (ii) negotiating skill; (iii) local knowledge/belief system; (iv) personal networks; (v) trust; (vi) social capital; (vii) political connections; and (viii) ethnicity/race.

An individual makes a choice based on budget constraints in relation to a particular set of prices. The full opportunity costs associated with that choice includes the price of the goods themselves, plus the transaction costs of obtaining the goods. Even if the money price of a particular good varies little across individuals, the opportunity cost of engaging in the transaction to obtain the good often varies substantially. The cost will be affected by the individual's personal knowledge, personal network, transaction skills, time costs, location, organisation, institutional setting, and so on. Only in very exceptional situations

will all active participants in a transaction face identical opportunity costs. As mentioned previously, most of the economic discussion around PSP in the water sector emerges from the classical assumption that people make choices based on their own set of preferences and budget constraints, which is why the debate is centred primarily on price-related issues such as service affordability, tariff and subsidy structures, competition, and risk.

Some attention has been given to the ways in which local cultural practices influence consumer behaviour in the water sector, but the issue is usually raised only briefly in studies with a broader focus. A few studies, for example, suggest that Andean cultural practices of water conservation in La Paz/El Alto impacted household consumption levels. This is argued by Foster (2001), Komives (2001), as well as, Barry and Sohail (2003), although the later studies rely on Foster's 2001 data. None of the authors determine whether the practice actually stemmed from cultural habit, from a lack of information about the availability of water, and/or from the amount of water available for consumption, nor do they consider whether consumers' behaviour is simply due to the fact that most households in El Alto suffer from bitterly cold temperatures with no access to gas/electricity; consumption of water will surely be low in such circumstances and this has very little do due with conservation values. It is also unclear from where data on cultural practices in El Alto was derived; specifically, whether findings were based on primary research including household interviews, or whether conclusions were drawn from secondary research and data collected from government authorities.

These considerations are important because individual consumption behaviour, such as the conservation practices described above, might also indicate that the amount of water that users choose to consume is not necessarily dictated by price. Yet almost all of the economic literature attempts to correlate consumer behaviour with price; willingness-to-pay surveys, often complemented by cost comparisons of what low-income users traditionally pay to informal water vendors, are abundant. These studies tend to demonstrate that it is usually more affordable for these targeted user groups to be served by a formal network utility. However, there is only a handful of studies that highlight the difficulties that low-income users face when adapting to new water sector reform payment arrangements; these studies focus specifically on how consumers shift from the daily payment arrangements of informal water provision to monthly payment arrangements, which require the acquisition of skills in saving (Komives 2001; Nickson 2002; Nickson

and Franceys 2003). Nor is there sufficient discussion of the challenges low-income consumer groups face in acquiring additional sources of finance (in the form of loans or grants) to pay not only for the cost of new network connections, but also to finance the cost of appliances such as taps, shower heads, sinks, toilets, etc.

The research that forms the backbone of this dissertation draws particular attention not only to local cultural influences on consumer behaviour but also to the issue of choice—or rather the lack of choice—at the household level and the way in which this can affect user perceptions of the reform process. This thesis argues that from consumers' perspective, belief in the long-term gains of improved access may be outweighed by fears over potential short term risks and/or losses accrued through the reform process. The findings make clear that this is not simply a question of *price*, but rather a question of *trust*. There is no reason to expect that societies in the developing-country context, many of which have never felt comfortable placing their trust in government policy-makers and have long histories of inadequate public service provision, will simply have faith in and support reform, regardless of how progressive a policy measure appears to be. Even when users agree to connect to the network they will have to feel confident that the water is indeed potable in order to feel their investment has been worthwhile. Again, research findings on the La Paz/El Alto case suggest that this degree of trust cannot be expected to emerge easily or spontaneously

The minimal treatment of social and cultural constraints to PSP in the literature, including the minimal treatment of the ways in which unexpected preferences and values influence the economic paradigm of WSS provision, are not sufficient for an accurate reading of the sector. It is, therefore, imperative that we move beyond rational choice theory to dissect how (i) habits and routines can bypass cognitive deliberation (procedural rationality); (ii) moral influences can over-ride self interest and the cost-benefit calculus; (iii) social factors can shape and influence individual preferences; and (iv) emotional responses (expressive rationality) can confound cognitive deliberation. Williamson (1996, 2000) combines the concepts of bounded rationality and opportunistic behaviour to explain challenges in contractual relationships and in the ownership structure of firms, while Putnam's (2000) focus on the role of social capital (trust, norms, and networks) in the realm of policy-making underpins the structure of much of the analysis of this dissertation. Substantial analytical attention is given to the institutional environment and to the ways in

which social capital can facilitate (or impede) co-operation, as well as to the ways in which social capital can be used to reduce transaction costs. Arguments are presented that suggest trust in people (behavioural trust), trust in the institutional environment (confidence), and trust in organisations (and government) are paramount to the success of water sector reform, especially where the private sector is an active participant.

2.8 Information Asymmetry and the Application of Principal–Agent Theory

The literature relating to information asymmetries in water sector reform seems to begin and end with the issue of contract negotiation and compliance; while contract negotiation has more to do with balancing incentives, compliance relates directly to regulation. The treatment of information asymmetries in the literature is concentrated almost exclusively on regulation in relation to PPP contracts, and is not concerned with the water reform "process" more generally. Overall, the literature raises the question of how we should deal with the imbalance of information that is likely to exist between regulators and the utility operators they are meant to supervise; the assumption is that operators are likely to have more information about the technical and commercial performance of the services system than the regulator, inevitably making it challenging for the regulator to oversee contract compliance.

The literature on regulation has weaknesses for two main reasons: (i) it treats information asymmetry as if it were a fixed phenomenon, when in fact a policy environment may be far from static; and (ii) it fails to consider insider information that former technical and managerial staff from the utility bring with them if/when they become responsible for regulation. In many developing countries where PPP arrangements have been introduced, former utility managers and technical staff are offered positions within newly established regulatory bodies; while they may lack regulatory experience (Baker and Tremolt 2000), it seems highly probable that these professionals may actually have a deeper understanding of their complex consumer base (not to mention the internal organisational/human resource constraints of the utility) than an incoming international management team of a new utility company. There seems to be no research addressing specifically this issue.

The provision of water and sanitation services should be understood in terms of *interactive processes* with a variety of contributors. *Multiple actors* have to invest money, time, physical and mental effort, and lend political support to a process that eventually

generates a mutually desirable result. If we look at water and sanitation services as an interactive process of provision and exchange, it becomes easier to understand why some processes do well while others struggle. A useful starting point for understanding this interactive process is to explore deficiencies relating to contracts and agreements between exchange partners, making use of a Principal–Agent (P–A) framework. According to P–A framework theory, a "principal" enters into a contractual relationship with an "agent", who is expected to carry out the actions needed to produce the outcome desired by the principal. However, there are two fundamental problems with contracting: (i) adverse selection, meaning picking the wrong contractor (that is, one who is unable to produce the desired outcomes); and (ii) moral hazard; since an agent's behaviour cannot be observed at all times it is possible that even a capable organisation will shirk its responsibilities and divert resources to other tasks in order to profit. As discussed below, these two factors are identified with hidden information and hidden actions (Arrow 1984).

P–A models have been employed in many different academic fields in order to explain relationships, especially those in which an agent does not take actions that are in the best interest of a principal. This problem is thought to be particularly severe if the principal's preferred action cannot be contractually enforced, and such agency problems have been a major subject of economic theorising (Grossman and Hart 1983; Hart and Holstrom 1987; Holmstrom 1979; Shavell 1979). The classical examples of principal–agent relationships include the patient–doctor, the client–lawyer, the insurer–insured, and the landlord–tenant, and typical P–A interactions mentioned in the literature include those in the commercial–economic–managerial realm (Arrow 1985; Bowie and Freeman 1992; Moe 1984; Pratt and Zeckhauser 1985; Sen 1999; Stiglitz 1987; Westphal and Zajac 1998) and scholars have typically applied agency theory to problems such as compensation, acquisition and diversification, financial structures, employer–employee relations, buyer–seller relations, vertical integration, regulation, and innovation (Donahue 1991; Eisenhardt 1989; Laffont and Martimort 2001; Sappington 1991). P–A models usually aim to investigate the contractual relationship between parties, and the issue of incentives is crucial, especially in situations where the activities of one or more of the parties affects the welfare of the group, and where these activities are either unobservable (and hence cannot be bound by the contract), or the motivation of the activities is affected by private information (and is thus unverifiable). P–A theory then studies the allocations (for example, compensation schemes) that optimal contracts prescribe given the degree of

asymmetric information that exists between the principal and agent. Principal–agent interaction is especially interesting and difficult to analyse when the interaction focuses on the production of a qualified good or service where the skill and knowledge of the agent plays a crucial role in the outcome.

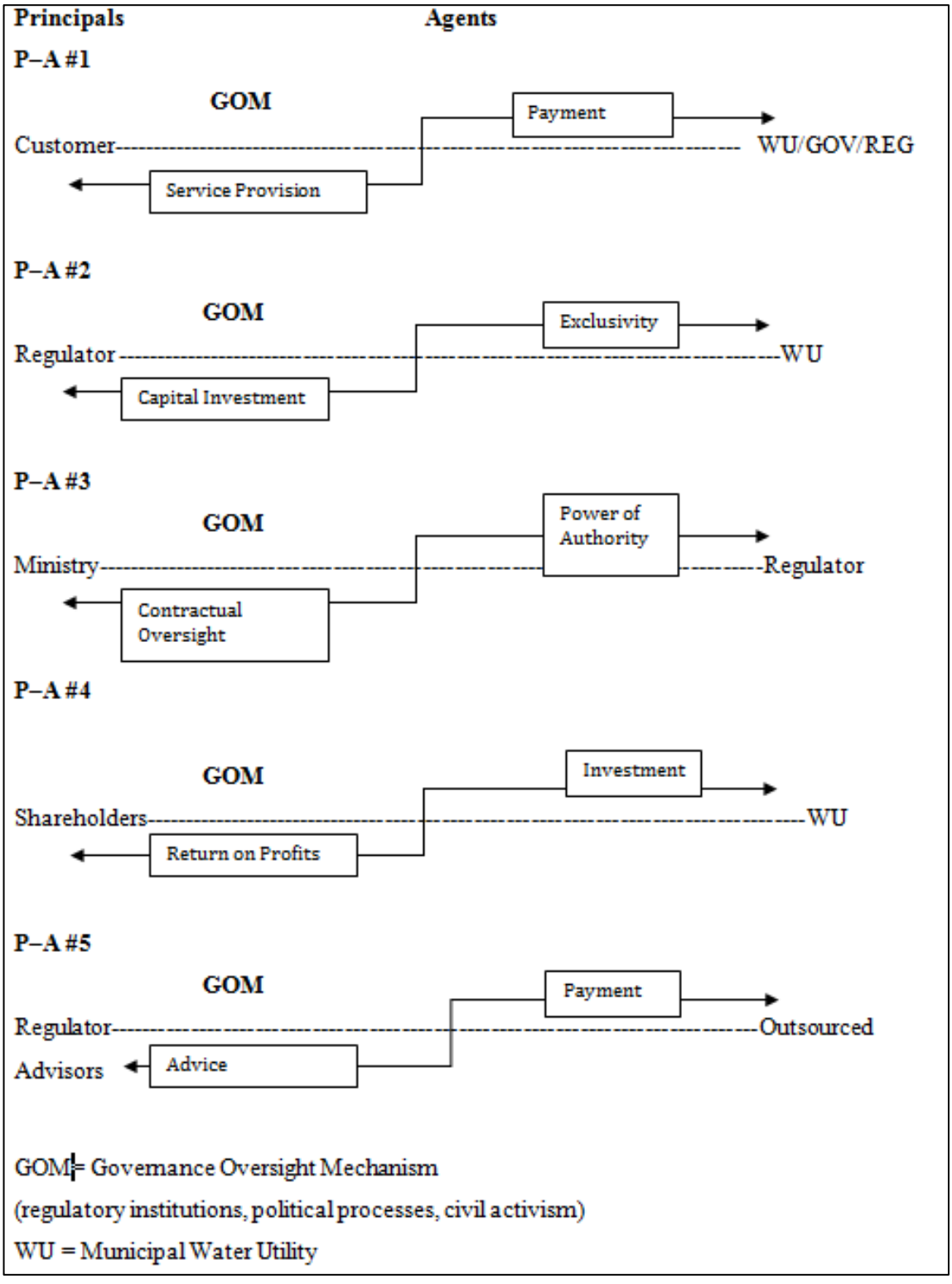
In the context of the water sector, the most common P–A problem observed relates to the relationship between the regulator and the utility operator. Given that government action takes place in a world of uncertainty and imperfect information, it is not surprising that regulatory imperfections may arise when the actions of agents are not observed by a principal. As mentioned above, the literature consistently assumes that a regulator has access to less information than a private utility operator. Such a situation weakens the system of incentives that regulates the P–A relationship, increasing discrepancies between social and private objectives. As this thesis emphasises, however, there is a variety of deeper-level P–A relationships that encompass the water sector beyond the relationship between the regulator and the firm, in which asymmetric information, coupled with a lack of well-established governance mechanisms, inhibits the process and sustainability of reform.

In the case of Bolivia, we observe a relationship between the government as principal and the regulator as agent. There is also a relationship between the government as principal and out-sourced technical advisors as agents during the information gathering phase, the bidding process, and/or the negotiation of the contract,[34] as well as between utility shareholders as principals and utility operators/management as agents. Further, of course, there is the P–A relationship between customers as principals and three different agents: the government, the regulator, and the utility operator—through this relationship, customers are meant to regulate these three agents through political processes, regulatory processes, and/or consumer activism. P–A modelling has not been used to analyse these relationships in the water sector, perhaps in part because P–A modelling was designed to specifically analyse *contracting* interactions and outcomes.

[34] There is insufficient literature relating to time and other process-related constraints faced by potential investors, and there is inadequate insight into the role of outsourced technical advisors (Reese 1998).

As indicated above, adverse selection and moral hazard can be associated with hidden actions and hidden information (Arrow 1984). *Hidden actions* refer to unobservable acts when information is unavailable as to the quality of a service, or as to efforts being undertaken to improve a service by a utility operator. The principal cannot observe the "actions" of the agent he or she has commissioned, only the "results" of these actions. It is important to note that the results of an agent's activities in themselves often do not give much indication of the effort or the means by which an agent has achieved an outcome. In other words, the performance improvements of a utility may be due to the involvement of supplementary assistance such as the efforts that users or other stakeholders have made in helping the utility to meet its targets. *Hidden information*, meanwhile, refers to when a utility operator (or any other agent) claims that there are influences beyond their control that have impacted on performance levels, and that they should not, therefore, be held accountable for any shortcomings in output. In such an exchange relationship, as Box 2.1 illustrates, the transactions concerned involve an exchange of goods/services that are "determinable" in the sense that it is possible *ex ante* to specify clearly which services and returns will be provided by each stakeholder.

Figure 2-2: Exchange relationships



Ideally, a *governance oversight mechanism* acts as a third party instrument to ensure mutual accountability and transparency. When all of the contractual provisions can be specified in advance, monitored, verified, and enforced, this situation is known as a

"complete contract". However, given the high level of complexity and uncertainty surrounding PPPs, it is often impossible to establish every specification necessary in advance, so as to be able to include it within a contract. In New Institutional Economics, one speaks of "incomplete contracting": situations in which unpredictable factors mean that a complete detailing of future exchange dynamics is not possible within a contract. For example, in some of the P–A relationships described above, a contract could take the form of new sector-specific regulations, and be meant to be interpreted in a broad sense. Incomplete contracting is quite commonplace across both the developed and developing world whenever expected benefits are anticipated to outweigh the expected costs of an exchange. When drafting such contracts, provisions are usually made to allow for adjustments to the contract at a future date (*ex post*) if required by changing circumstances. However, in order to anticipate possible changes and estimate their likelihood, a substantial degree of information must be shared between parties. Obviously, this practice of *information sharing* is not easily undertaken. The Governance Oversight Mechanism (GOM) is meant to deal with the issue of information asymmetry between a principal and its agents and to prevent agents from engaging in opportunistic behaviour, thus solving the P–A dilemma. This dissertation provides a critical assessment of the ways in which the GOM is used by the range of Principal–Agent relationships across the water sector.

As discussed above, information asymmetry is also a factor when it comes to interpreting—or rather misinterpreting—consumer behaviour in the water sector. However, it is only marginally addressed in the literature on cost recovery and subsidy design policies, even though many of the problems inherent to the introduction of new tariff schemes often relate to the fact that policy-makers and utility operators lack sufficient household data about the consumers they serve (or intend to serve). Without this data, innovative structures for targeting the poor are obviously much more difficult to develop and implement, and certainly to sustain. As illustrated in much of the case-based literature, the process by which consumers are classified into tariff/subsidy brackets is often ambiguous, highly politicised, and lacking in transparency (Nickson 2001). Again, greater importance must be given to the collection of household consumption patterns, cultural norms, and overall livelihood frameworks that support this consumer group. This would ultimately help government and utility operators to have a better sense of future demand, and reduce some of the risk to the private sector inherent in upgrading and

expanding networks to lower-income areas. The analysis in this dissertation gives a great deal of attention to the impact of misinterpreting consumer behaviour.

2.9 Limitations to P–A Theory

Although an extremely useful starting point, the P–A approach only captures some of the interactions, behaviours, and overall relationship dynamics of actors involved in the process of water reform. Findings from the research suggest that that the typical model of a bilateral relationship between principals and agents can be overly simplistic, and that there is a multiplicity of actors involved in sustaining the partnership relationship. Also, although P–A theory is an interesting entry point to understanding the relationships between stakeholders, it falls short of helping us to understand fully the changing dynamics of the relationships that exist between the stakeholders *ex post* pre-bidding, bidding, and contract negotiation. Given the sunk nature of assets in the water and sewerage sector, the bargaining power between the private sector and the government radically changes after the initial investments are made. This feature, which Williamson (1996) calls the "fundamental transformation", introduces the possibility of opportunistic renegotiations (for example, creeping expropriation, in which a government squeezes a project by taxes, regulation, access, or changes in law), which, as mentioned previously, can ultimately affect incentives to invest further. In the context of service provision, the relationships between the different agents and principals has the possibility to *transform* at various intervals throughout the 25–40 year span of a concession contract, due to the fact that informational and/or bargaining asymmetries may sway in either direction. Also, the P–A approach does not address the *systemic* barriers that affect stakeholders' ability to cooperate and/or reciprocate. Systemic constraints to a PPP are external factors beyond the control of partners who actually share mutually desirable goals.

There have been a variety of empirical observations made in the last decade in experimental research dealing with people's social motivations in bargaining contexts and cooperation games. Such research has shown that *reciprocity* can be a powerful contract enforcement device (Fehr, Gachter and Kirchsteiger 1997), and the observation of reciprocity is important for understanding how to improve the sustainability of PPPs in the water sector. This is because (i) it shows that under certain conditions the problem of shirking can be less severe than predicted; and (ii) there may be important *interaction effects* of reciprocity and *incentive-compatibility* (Fehr and Gachter 2000). Reciprocal

behaviour is not restricted to laboratory experiments and, as the findings of this dissertation explain, contracts between private water companies and governments can be *reciprocity-compatible* when principals and agents both recognise the agency problem and react accordingly, and/or when systemic impediments affecting the partnerships are identified and mitigated.

Overall, the literature relating to information asymmetries in water sector reform seems to begin and end with the issue of contract negotiation and compliance, and this raises the question of how we should deal with the imbalance of information that is likely to exist between regulators and the utility operators they are meant to supervise. Borrowing analytical techniques from Williamson (1975 and 1984) and Moe (1984) and from Miller and Whitford (2002), who contributed to the inclusion of P–A theorising within the NIE framework, this dissertation will go further and interpret the ways in which formal and informal institutions can constrain choices between principals and agents, thus making the link between transaction costs and information asymmetry across the range of P–A relationships that exist within the sector. The intention of this research is also to introduce the idea that *systemic constraints* or *external rules* can undermine the success of PPP arrangements, and thereby to contribute to the theoretical discussion around what constitutes "institutional rules" within the NIE framework.

2.10 Systemic Constraints to PPP Sustainability

The current study introduces several additional dynamic forces that play a critical role in unravelling the constraints on sector reform, and so provides a fuller conceptualisation of the rules governing the institutional environment and particular institutional arrangements that support the water sector. The dissertation refers to these as *external rules*, and they are the systemic constraints to water sector institutional reform. The current partnership literature places a great deal of emphasis on the need to create more compliant, transparent, responsive, and flexible partners (Caplan, Evans, and McMahon 2005), but systemic barriers may exist at the local, national, or global level that weaken the capacity of partners to meet these objectives in the water sector. Referring once again to Table 2.1 above, the analytical framework categorises its areas of focus into the micro, meso, and macro levels. The micro and meso categories are primarily characterised by *behavioural* constraints to partnership building; these include: a willingness between partners to communicate and the capacity to share information; divergent perceptions of power and willingness to trust;

and/or a limited capacity to engage in conflict resolution with partners. Macro factors, on the other hand, are more *systemic* in nature; these constraints are often beyond the control of the immediate partners involved in water sector reform.

Macro or systemic influences on the partnership paradigm might include a country's general economic and/or political climate, its existing fiscal framework for decentralisation and municipal finance, its past experiences with PSP in other sectors, the degree to which it has developed its financial sector, and/or whether it is bound by certain borrowing constraints. It also includes factors such as the roles and influences of international donor and development agencies, the influence of the media, the existence and capacity of local NGOs and CBOs, and the roles and influences of international interest and pressure groups. Another way to think about systemic constraints using the language of NIE is to think of these constraints as the "external rules" governing the sector. Both behavioural and systemic characteristics have the ability to present additional challenges to the successful implementation of a partnership initiative in the water sector, but by differentiating systemic constraints from behavioural constraints we are then better equipped to create the tools necessary for tackling these challenges. Although there is a great deal of reflection in the PPP literature on the potential efficiency gains of forging an alliance between civil society, government, and the private sector, including the plethora of social and political benefits to the partnership process, the literature fails to incorporate fully the impact that systemic constraints have on PPP arrangements.

2.11 The Shift Toward Multi-Sector Partnerships

In order to deal with some of the setbacks to water sector reform involving PSP, some policy-makers and development practitioners have begun to move beyond typical PPP arrangements between the public and private sectors towards partnerships that explicitly involve civil society. In other words, there has recently been a shift in focus away from bi-sector partnerships to multi-sector partnerships (MSPs): that is, a public–private–civil society. Policy-makers, development practitioners, and academics are re-evaluating the integral role that civil society (users, communities, community-based organisations, non-governmental organisations, labour unions) have played and the enormous contribution they have made in the provision of water, especially in rural and peri-urban areas, through community-based initiatives and/or in partnership with local government authorities. Although civil society has rarely been referred to as a strategic *partner* in the

implementation of PPP projects, increasingly we find PPP initiatives that have created off-shoot partnership arrangements (often informal) with civil society to serve the poorest segment of the population being targeted by reform efforts.[35] For the most part, analysis relating to the outcomes of such partnerships tends to emphasise the social value-add of civil society participation in water sector initiatives involving the private sector. Unfortunately, however, the interface between civil society, the private sector, and government is not presented as a *formal* alliance between these stakeholders but rather as a mechanism to compensate for inadequacies in original PPP designs. Most MSPs are set up only through the support of external agents, such as international NGOs, donors, and development agencies, rather than by government and private sector stakeholders directly.[36]

While many academics and development practitioners have long since recognised the importance of creating the right enabling environment to nurture multi-sector partnerships as a development tool, government and private sector stakeholders have rarely relied on civil society as a partner to help raise awareness and disseminate information about PPP initiatives, let alone provided civil society with an opportunity to participate actively in the construction, operation, and maintenance of projects. In fact, more often than not, civil society continues to be perceived simply as a hurdle to PSP; a hurdle often navigated through public relations campaigns or simply by ignoring stakeholder demands altogether. However, the commercial case for involving civil society organisations has grown strong, centring primarily on the reduction of risk and cost to the private sector. Given the limited understanding of local culture and business practices, and limited access to important local household data (including accurate information on demand, preferences, and willingness to pay), it is clear that operating risks in developing countries tend to be very high. Working with communities not only provides greater access to information and promotes collaboration, but it can also facilitate the integration of innovative, lower-cost service delivery solutions. Civil society partnership responsibilities can include a range of activities, from contributing to the actual design of contracts, to raising awareness and

[35] See Alaba (2002), reflecting on the Philippine experience; Foster (2002), reflecting on the Bolivian experience; and Hardoy (2005) reflecting on the Argentine experience.

[36] For more on the role that mediators play on partnerships, see Brinkerhoff (2002); Fiszbein and Lowden (1999).

disseminating information about the benefits of the partnership, providing labour for network installation and revenue collection, and providing temporary and alternative water supply to certain user groups.[37]

As this thesis shows, within a partnership framework, NGOs and CBOs can have a very important role to play, not only as advocates for poor user groups, but also by helping to organise civil society and to establish more structured alliances with both the private and government sectors to meet mutually favourable goals. There is ample evidence pointing to the fact that a greater understanding of socio-economic conditions will lead to higher rates of return on development projects,[38] and that this type of information is often more readily facilitated through local NGOs/CBOs. Again and again, academics, development practitioners, and policy-makers have made linkages between partnerships and poverty reduction (Beal, Crankshaw, and Parnell 2000; Fiszbein and Lowden 1998; Mitlin 1999; Rakodi 1993; Satterthwaite 1997). In fact, many also argue that when the NGO community is involved in projects on the ground, partnerships tend to be more flexible—whether dealing with local or central government authorities, global institutions, private businesses, or communities—creating an advantage when undertaking activities that promote coordination and collaboration among various partners (Mitlin 2001).

[37] For further details regarding partnership typologies, see: Adegoke, Boss, Figueres, and Grass (2007). For further reading on the range of ways in which partnerships can be structured in practice, see: Evans, Kaplan Devas and McMahon (2004).

[38] IDB studies show that programs designed to be compatible with local socioeconomic conditions average a rate of return of 18.3 per cent, compared to only 8 per cent for other projects (Sustainable Development Department 2000).

Chapter 3. Research Methodology

3.1 Introduction

Methodological design can be thought of as the *logic* or *master plan* of a research endeavour—that which pulls together and structures how the various parts of inquiry and analysis address the given research questions. A case study is one of several social research methods that aim to understand human beings in their social context by interpreting the actions of a single group or single event. It is particularly useful in situations where the researcher has no control over the events as they unfold. In line with Yin (1984 and 1994) and Lewis Richie (2003), the case study of La Paz-El Alto is focused on a particular phenomenon within a real-life context. Data was collected from multiple sources and carried out within a defined time frame: 2002-2005. Stake (1995) identifies three different types of case studies: (i) intrinsic, (ii) instrumental and (iii) collective. Intrinsic case studies are carried out in situations where a case is extremely unique; the objective of studying these types of cases is not the pursuit of building a theory but simply the intrinsic, deep-seated, value of the case itself. Instrumental case studies on the other hand, are selected because they provide insights into an existing theory (or help to develop a new theory). Lastly, the collective case study is carried out much like the instrumental case study, but extends to multiple cases.

Like Stake, Yin (1993) also makes a distinction among three different types of case-based research but focuses instead on their theoretical objectives: exploratory, causal and descriptive. In order to understand the experiences and challenges of PSP in the provision of water services in La Paz-El Alto, exploratory as well as descriptive methodological approaches were used. In exploratory case studies the collection of data occurs before theories or specific research questions are formulated. The causal case study on the other hand, aims to find cause-and-effect relationships and explanatory theories of phenomena. Lastly, to carry out the descriptive case study, a theory must be formulated in advance and it needs to be the subject of review and debate. According to Yin, case studies can be single or multiple, embedded (where sub-units of study are more than one) or holistic (in circumstances where the case contemplates a global programme) and the design of the case should link evidence with research questions. The design should have clearly stated objectives linked to research questions, sub-questions and units of analysis. It should also identify critical evidence, interviews and documents that support the data.

Galliers (1991) and Yin (1994) point to various limitations of the case study approach, which were carefully considered for this research endeavour. Their primary issue of concern is the potential bias of the researcher, particularly in circumstances where case studies have not been carried out with sufficient rigour—that is, without triangulation and a disregard for the chain of evidence. The other main criticism of case studies is that it is often difficult to extract generalisations from findings and apply them to wider populations. In response to the generalisation criticism, however, Walsham (1995) maintains that the validity of the case does not depend on statistical generalisation but rather on the plausibility and cogency of the logical reasoning used to describe the results and to draw conclusions from these results. Also, as Yin (1994) points out, case studies can be generalisable to theories even when not generalisable to populations.

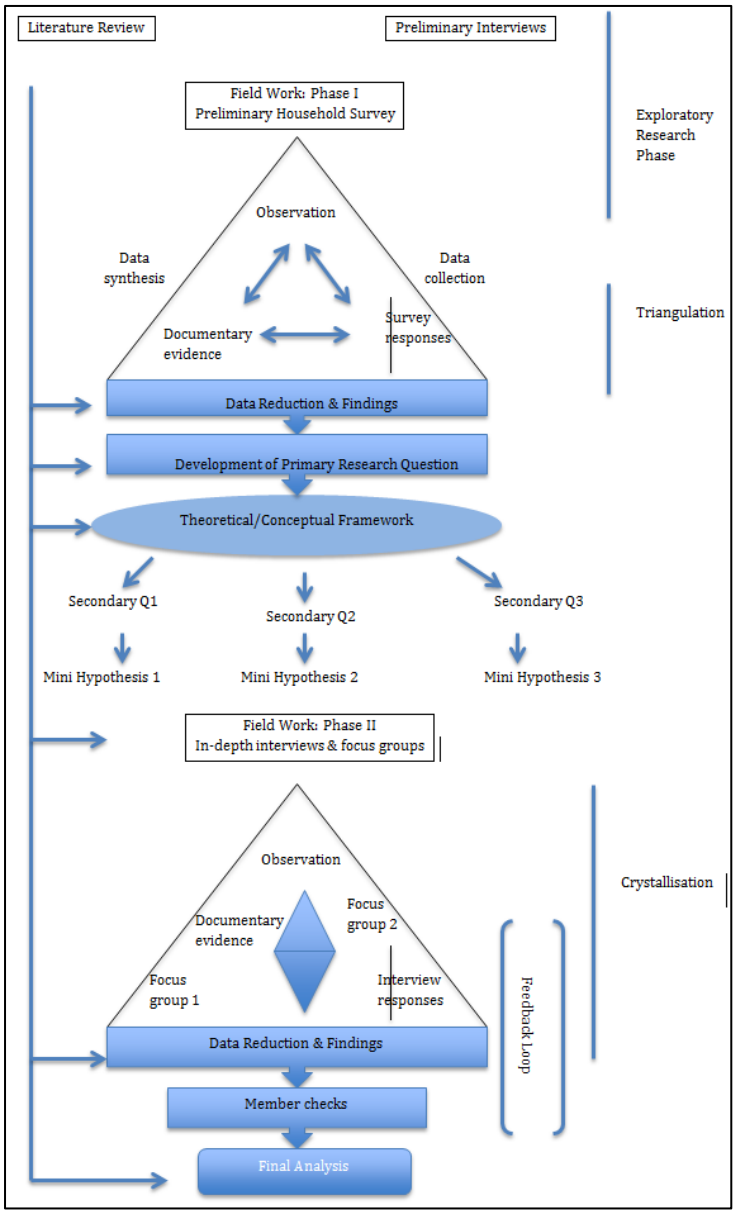
Qualitative research tends to be carried out from a relativist perspective, which acknowledges the existence of multiple views of equal validity (Popay, Williams and Rogers 1998). In terms of methodological interpretation of data, triangulation is often presented as a means of addressing qualitative evidence; in its early application, triangulation was believed to combine rationalistic and naturalistic paradigms (Mitchell 1986, Duffy 1987). However, the attempt to justify qualitative research through the use of a 'trinity of truth' has been part of an on-going struggle for acceptance of qualitative research from the scientific field. From a methodological standpoint, triangulation can be helpful when trying to circumvent researchers' personal biases, thus increasing the validity of findings (Kimchi and Breitmayer 1991). It is also possible to mix methods to strengthen the validation process (Tobin and Begley 2002). However, while triangulation addresses the issue of internal validity by using more than one method of data collection to answer a research question, it can be difficult to perform properly: data collected using different methods come in different forms (surveys, interviews, focus groups, transcripts). Mixing methods, therefore, seems appropriate given that our world consists of far more than three sides. Richardson (2000) and later Ellingson (2009) describe the importance of "crystallization"—a multidimensional approach to qualitative research. Crystallization is an alternative term to triangulation (Richardson 1991), which aims to harness the analytical potential of exceptions in qualitative findings, allowing a research question to be examined from various angles. As Mays and Pope (2000) conclude, comprehensiveness may be a more realistic goal than internal validity for qualitative research.

Research paradigms can also be classified into three philosophically distinct categories. Gephart (1999) describes these categories as positivism, interpretivism and critical postmodernism. The key features that these three philosophical perspectives share surrounds the nature of knowledge pursued. Positivists seek to understand human and social behaviour using a mixture of observation and experimentation—these researchers make the assumption that reality is objectively given and is measurable using scientific methods, and they pursue and present evidence by empirical means (Henning, Van Rensburg and Smit 2004). This approach works when the reality being observed is stable and unchanging, when the researcher can adopt an 'objectivist' perspective—a detached epistemological stance based on the belief that people's perceptions and statements are either right or wrong, true or false. Interpretivists, on the other hand, assume that there is no objective knowledge that is independent of human reasoning (Gephart 1999). These researchers (i) build knowledge by drawing inferences or by judging the match between information and some abstract pattern, (ii) attempt to understand phenomena through the meanings that people assign to them (Deetz 1996), (iii) use meaning (versus measurement) methodologies, such as open ended interviews, and (iv) make a point not to predefine dependent or independent variables ahead of research endeavour, but rather focus on making sense of a situation as it emerges in all its complexity (Kaplan and Maxwell 1994). In addition to these points, Gadamer (1976) suggests that human beings must be understood in their social context, which involves a continuous exploration of the *whole* to the *part* and back to the *whole* again. They key to this methodology is participation, collaboration and engagement of a researcher who does not stand above or outside the phenomena being explored. Meanwhile, for Critical Postmodernists, social reality is historically constituted and is produced and reproduced by people (Myers 2009) whose actions are constrained by social, cultural and political contexts (Reeves and Hedberg 2003). The task for these researchers is to deconstruct discourse to reveal hidden dichotomies (e.g. public vs. private; social vs. economic good) and then offer and alternative social arrangement (Boje 2001). This study incorporates elements of interpretivism as well as critical postmodernism within its philosophical methodological paradigm.

Given the interpretive position adopted for this research and the nature of the research question, a single case study was chosen because it provides a systematic way to collect data, analyse information, present results and explore the complexity of the La Paz-

El Alto case with great depth. Careful attention was placed on assuring (i) ethically sourced responses from those surveyed and interviewed—the vulnerability of participants was consistently recognised and their contributions duly acknowledged (see section 3.8 for more on ethical considerations); (ii) accurate data collection using multiple methods (Merriam 1998); (iii) categorisation and mapping of evidence to primary and secondary research questions; and (iv) analytical triangulation and "crystallization" of findings whenever possible. It is important to note that case studies do not claim to be representative, but focus instead on what can be learned from a single case.

Figure 3-1: Conceptual map of the research strategy



3.2 Methodological Approach

The approach used in this research breaks down the case study into five phases. Phase I was primarily exploratory in nature, involving an identification of one of the growing problems facing the water sector, an initial review of the PSP literature and a preliminary survey study of 300 households in six districts in El Alto.[39] This exploratory phase was carried out before a theoretical framework was selected for structuring the research analysis. Table 3.1 summarises this initial identification of the problem, the gaps in the literature, and the case study rationale. Figure 3.1 provides a conceptual map of the research strategy.

Phase II involved the creation of a *primary research question*, an evaluation of various theoretical frameworks, and the development of a series of research *sub-questions*, each with a corresponding hypothesis. Phase III was dedicated to the analysis of the La Paz/El Alto PPP concession contract, of Bolivian laws and regulations (including draft regulations that had not yet been passed), and of data on coverage provided by the utility operator and regulatory agency and on service quality and reliability collected in the field. Phase IV involved 60 in-depth household interviews in El Alto, two focus group discussion sessions, and a series of interviews with central and local government officials (those working in line-ministries and those working in regulatory agencies), Aguas de Illimani (AISA) staff members, non-government organisations active in water sector initiatives, community-based advocacy groups, and neighbourhood association leaders (NALs). This phase also included a trip to Washington, DC, where interviews were carried out with members of the IBRD, the IFC, and the IDB who had actively participated in various aspects of water sector reform in Bolivia. Phase V was analytical and involved evaluating data and writing up the dissertation; this took place in London. However, as the conflict in La Paz/El Alto was continuing to unfold, Bolivia's two mainstream newspapers

[39] When research began, El Alto was divided into nine municipal districts, eight of which were officially designated as urban and one as rural. A new municipal promulgation published on 11 October 2005 recognised three additional districts, and there are now ten districts designated as urban and two as rural. These urban/rural distinctions are recognised in the AISA contractual agreement, and they are relevant to conflict over the concession.

and various other media sources continued to be monitored.[40] Contact via email and telephone with many of those interviewed was maintained through to 2005. The last phase involved processing data, interpreting findings within the theoretical framework, and connecting these findings back to the literature to determine relevance and value added.

Table 3-1: Summary of initial identification of the problem, the gaps in the literature, and the case study rationale

Research Problem	Literature Gap	Case Study Rational
Efforts across the developing world aimed at reforming water and sanitation service provision through market-oriented policies are currently facing a backlash from local and global civil society groups. This backlash has led to the termination or non-renewal of various PPP contracts and created uncertainty for the future of PSP in utility upgrades and expansion.	The literature on water sector reform and PSP has become largely polarised in recent years, encumbered by ideological conflict over whether water should be treated as a public or economic good. The literature also tends to focus primarily on the *outcomes* and *impacts* of PSP rather than the *process* of reform and the perspective that consumers have toward the *process* of reform.	Bolivia's "Water War" of 2001, in the city of Cochabamba, exemplified the power of civil society to reverse market-oriented reforms in the water sector. An understanding of how the La Paz/El Alto PPP concession is faring (from the perspective of consumers, government, and private sector stakeholders) would help to determine whether other cities experimenting with PSP are experiencing a similar shift in attitude against PSP.

3.3 Case Study Rationale

During the first few months of the PhD process, various methodological approaches were considered to study the complexities of private sector participation in water sector reform. I explored quantitative as well as qualitative methods and at one point attempted to combine both approaches. At first, I was eager to compare household perspectives toward PSP across two or three different cities where PPP concession arrangements were in place. I was also keen to evaluate the social impact of PSP in the water sector, compare user sentiment toward PSP (i.e. the degree to which they were "happy" with their new services), and correlate this with the differences among the three city cases in terms of their unique process of reform (i.e. pre-existing regulatory institutions, regulations and laws, degree of

[40] Media sources included: *La Razon*, *La Prensa*, and *Indymedia*.

openness and transparency of reform process, bidding and contractual arrangements and consumer outreach). In order to carry out such an elaborate research scheme, however, I would have (a) needed a great deal more funding resources to carry out field research, (b) required much more data from the government or utility about improvements made at the household level, and (c) required more resources to gain greater knowledge and understanding of the national contexts of each of these cases, their languages and cultural traditions, than was at my disposal (i.e. without a team of researchers). It is also important to note that at the time when this research process began, data relating to the social impact of PSP in these cities was scarce. I would have had to carry out a large-scale social impact survey across three cities as a stepping stone before delving into my primary research interest, which had more to do with understanding the root causes of ambivalence felt by users across the developing world toward PSP in the water sector. I began listening to the experiences of my fellow PhD researchers engaged in cross-national comparative work; these perspectives coupled with the advice of my supervisor led me to conclude that such comparative work would force greater compromises in methods than a single-country focus.

I decided on a singe case study approach, involving multiple sources and techniques in the data gathering process and continued to pursue a combination of quantitative, as well as qualitative, data collection that would mix surveys, interviews, documentation review and observation. However, I was unsure as to whether to approach the research using an inductive methodology (starting from a loosely defined hypotheses and moving towards verification) or a deductive methodology (applying a general theory to a specific case in order to interpret certain aspects). Deductive research would require that I establish a hypothesis by using theory, collect data and information to confirm or reject my hypothesis and then present a critical analysis of how to resolve the issue (Gill and Johnson 2010). My concern with this approach for the La Paz/El Alto case was that I thought it might compromise the ability to pay attention fully to the respondent's perspectives.

Did I want to test a theory or develop a theory?

I knew that opinions were strongly divided about the legitimacy of the inductive approach, which involves almost a reverse approach to the deductive method, as it is based on observation first, then pattern evaluation, tentative hypothesis and theory development.

But my primary research question had potential for rich and complex answers *[Why is there a disconnect between the positive perception that consumers have towards improvements made to their water and sanitation services under PSP arrangements and the negative perceptions that they have towards private sector participation in the provision of these services?]* and I wanted to have as much methodological flexibility to extract honest reflections and opinions from the various respondents I would interview. I was attracted to the idea of beginning a research process that was open to all possible observations (and deviations from my pre-conceived ideas about the case). I wanted to explore the possibility that I could begin with detailed observations of the world and gradually move towards more abstract generalisations and ideas (Neuman 1997). In order to break down this broad research question three sub-questions were created using concepts from the NIE theoretical framework. These would invariably help to sort, process and categorise findings: SQ1: *How has the clash between the informal and formal institutional environment—the "rules" governing Bolivian society—influenced intended outcomes of water sector reform over time?* SQ2: *How have those institutional arrangements—regulations, channels of communication, methods of negotiation and contractual specification—created tensions between stakeholders involved in water sector reform and how does this affect the ability for policy-makers to accurately predict consumer preferences?* SQ3: *Are there additional factors, which have otherwise not been considered within the PSP literature and literature on water sector reform, which may contribute to these rising tensions?*

It became apparent along the way that it is often impossible *not* to introduce some degree of deductivism into the data gathering process, but I do not think that this necessarily inhibits the capacity to describe and explore. Eisenhardt (1989) notes that researchers can benefit from an element of *a priori* specification of constructs that can help to shape the initial design of theory building approaches. The various phases of my methodological approach built upon each other and – although the first phase was most certainly inductive in nature – as I developed secondary research questions and mini-hypothesis, it became possible to incorporate many of the positive attributes of a deductive approach as well. Diagram 2-7 provides a conceptual map of the process of this research endeavour.

3.4 Phase I: Grounded Exploratory Research in La Paz/El Alto

The research process began in late 2002, shortly after Bolivia's first "Water War", at a time when much of the debate surrounding Bolivia's experience with PSP in the water sector was focussed on the Cochabamba case. Research detailing the experiences of La Paz/El Alto, by contrast, suggested that the La Paz/El Alto PPP served as an exemplary model for "pro-poor" concessions. This pro-poor conceptualisation of the concession arrangement was largely because a great deal of literature had been published on the low-cost condominial water and sewerage programme, which was carried out in El Alto through a partnership arrangement between a group of low-income communities, the government, AISA, the World Bank, and the Swedish International Development Agency (SIDA). However, analysis on water sector reform and PSP in service provision has focussed primarily on measuring outcomes such as efficiency gains/losses, affordability, increased and/or improved user access, and welfare gains, and because of this there is very little information providing insight into the perspectives that users have towards sector reform. Therefore, before designing a research strategy based exclusively on this initial literature review, it was judged important to spend a couple of months in the field talking to those directly involved and affected by the reform process.

A very simple consumer satisfaction survey was designed and later carried out in six districts of El Alto, in order to collect an initial data set that would illuminate the degree to which consumers were satisfied/unsatisfied with the current service being offered to them by AISA. The survey was designed on the principles of grounded theory, which meant that it avoided being static or confining through the use of generative questions (Strauss and Corbin 1998). This approach also countered preconceptions formed from prior engagement with the literature or from prior commitment to a theoretical model, and provided the necessary freedom for theoretical concepts to emerge directly from the grounded research findings (Strauss and Corbin 1998; Lincoln and Guba 1985; Van Maanen 1988). Most household surveys targeting low-income users tend to be geared towards understanding whether users can afford access to network water services, rather than toward exploring their preferences and/or levels of satisfaction. This is odd, considering that there is ample recognition across developed economies that consumer satisfaction is a critical construct in understanding consumer behaviour. In the developing country context, where PSP in service delivery is a relatively new phenomenon, it would seem that consumer satisfaction, consumer loyalty, and word-of-mouth recommendations

are extremely critical determinants in gaining public support for any market-oriented sector reform strategy.

The initial household consumer satisfaction survey study (see Box 3.1) conducted in El Alto took place between November 2002 and January 2003. Over 300 households were interviewed. As with many social science procedures, this exploratory research sought to find out how people experienced the setting under consideration; it was important to explore what meanings people give to their actions, and what issues concern them (Chambliss, D.F. and Schutt 2009). The goal was ultimately to investigate a "social phenomenon" without explicit expectations, and to attempt to unearth a theory from the data itself rather than from a pre-disposed hypothesis.

Preliminary findings from the household surveys yielded surprising results, with over 90 per cent of the consumers first surveyed in November 2002 indicating that they were generally "happier with their service under AISA in terms of water quality and reliability than they had been under SAMAPA." Interestingly, the majority of these consumers indicated that increased tariffs were manageable. Nonetheless, regardless of how satisfied they were, most of those interviewed said that despite the improved services they were currently receiving from AISA (as compared to their experience under public and informal service provision), they were willing to participate or had participated in demonstrations against AISA. Despite improvements in terms of access and reliability, these residents were willing to risk a return to the public provision model because of a seemingly shared value and attitude that their water resources *should not be in the hands of private, foreign, profit-seeking entities*.

These initial findings demonstrated that many of the current problems facing El Alto and Bolivia's impetus for water sector reform had as much—if not more—to do with the negative *perceptions* that consumers had of AISA and the *nature* of the reform process, than with simply the *structure* and/or *outputs* of the PPP contractual arrangement. These initial survey findings, therefore, demanded a more complex reading of water sector reform, and they helped to determine the way in which the remainder of the research endeavour would be designed, including which theories would best frame future research

uestions, which data collection methodology would be used, and, ultimately, the analysis of findings.[41]

Figure 3-2: Simple Survey Questions

Are you satisfied/happy with service provision under AISA? **In terms of access (condominial/conventional)?** In terms of reliability? In terms of quality/safety? In terms of affordability? In terms of responsiveness?		
District	**Neighbourhoods**	**Number of households**
District I	Tejada Alpacoma	15
	12 de Octubre	11
	Santa Rosa	12
	Villa Santiago	9
District II	6 de Junio	10
	Las Deticias	10
	18 de Mayo	10
	Villa SantiagoII	13
District III	Juliana	20
	Eliodoro	17
	Camacho	19
	San Luis Tasa	22
	Cosmos 79	21
District IV	31 de Junio	8
	Puerta del Sol	9
	16 de Febrero	10
	Gran Poder	13

[41] Exploratory research often relies on secondary research (including a review of existing case literature and data), as well as qualitative interviews (in research relating to businesses, this includes in-depth interviews and focus group discussions with consumers, employees, management, and competitors).

Are you satisfied/happy with service provision under AISA? **In terms of access (condominial/conventional)?** In terms of reliability? In terms of quality/safety? In terms of affordability? In terms of responsiveness?		
District	**Neighbourhoods**	**Number of households**
District V	Huayna Potosi	11
	Nueva Asuncion	12
	Rio Seco	11
District VI	Alto Lima	12
	Ballivian	15
	Los Andes	12
	16 de Julio	13
Total	23	320

There was an overwhelming consensus among those surveyed in Phase I that customers were "more satisfied" with service provision under AISA than they were under the provision of the publicly owned/operated SAMAPA. Specifically, *access* to services had greatly improved, *quality* of service had greatly improved, and, in terms of *responsiveness* to their consumer-base ("respect for client's wishes"), the water utility had demonstrated "significant improvement". Although on the surface these results may seem to provide a powerful message about the benefits of PSP in the provision of services in La Paz/El Alto, the findings should be considered with a degree of scepticism and caution.

It became increasingly clear while carrying out the large household survey that this quantitative methodological approach on its own would not provide a sufficient account of user sentiment. Many of the households in El Alto did not fully grasp the line of questioning—perhaps in part because they had never before participated in a consumer survey and perhaps because of a nascent sense of consumer identity. In much of the developed world we take our sense of consumer identity for granted; we tend to understand our rights as consumers, and for the most part we know how to enforce these rights. However, in most developing nations, where service provision has historically failed to meet the needs of the majority of citizens, the culture of consumer identity remains largely

illusory. For example, although the majority of respondents surveyed ascertained that service provision was indeed '*better "today" under AISA than it was "before" under SAMAPA*', these same respondents used the interview opportunity to seek out clarification on their billing statements and AISA's fining practices. In the same breath with which they voiced their gratitude for having improved services, they simultaneously provided anecdotes about water shortages, broken meters, and pressure problems. Respondents would even ask for my own opinion as to whether the water flowing from their taps was safe enough to drink. So while these households might have been quick to respond positively to a general question about their overall level of satisfaction, this response alone could not be interpreted as an absolute indication of excellent services. What it does indicate is simply that from the perspective of the consumers surveyed, AISA was provisioning a *much better* service than that which they had received previously *relative* to what households suffered in the past in terms of inadequate service delivery.

Although, as noted above, the majority of those interviewed asserted their preference for AISA over SAMAPA, many respondents were extremely confused about their billing statements and quite a few had accumulated extraordinary fines without realising it. Others were temporarily disconnected from the network at the time in which the survey was conducted, and some of these respondents felt it was easier to move house than to pay to be reconnected to the network. Some claimed to have meters that were broken, explaining that their meters were rarely checked, and some were perplexed as to why billing statements varied from month to month. Others mentioned that they continued to treat their water before consumption, for fear of getting ill.

The other interesting result that began to emerge during the interview process—although the survey questions had not been designed to elicit this type of information—was that it became apparent that many of those interviewed were willing to participate in public demonstrations against the utility operator. Also, although the survey did not question consumers about the Cochabamba case, many of those interviewed used the opportunity to indicate their pride in the way the people of Cochabamba had managed to contest the government's attempts to "privatise" the city's utility. These findings suggested that indicators such as a consumer's perspective on "affordability" and/or "improved access" do not give a complete interpretation of how sector reforms were being internalised by individual consumers. In fact, the most interesting finding from the first

phase of field-research was the contradiction between the positive remarks respondents made about improvements under AISA and their almost visceral negativism against PSP in general. Interviews, which were designed to last no longer than 15 minutes per household, increasingly began to run on for far longer and to deviate substantially from the specific survey questionnaire. Nonetheless, the survey was completed.

Given the initial set of findings, a methodological decision was made at this point to return to the field with an improved set of interview questions and with more time allocated to each open-ended interview session. More in-depth discussions were required to gather information regarding the perceptions, motivations, attitudes and values of this consumer base, as well as in relation to their cultural practices and behaviour. Findings from the first phase of this research were, therefore, not used for the quantitative purposes initially conceived, although they were used to help structure the overall research design strategy and with the development of research questions and hypotheses.

3.5 Phase II: Research Strategy
Development of Research Questions, Hypotheses and Conceptual Framework

Upon returning from the first phase of field research, a primary research question was developed: Why is there a disconnect between the positive perception that consumers have towards improvements made to their water and sanitation services under PSP arrangements and the negative perceptions that consumers have towards private sector participation in the provision of these services?

In order to address this primary research question, four theoretical frameworks were initially considered. The first of these was to evaluate the process of water sector reform within the context of *global social policy*, which would focus the research strategy on exploring the ways in which the politics of globalisation influenced national social policy agenda-setting in Bolivia. There is no question that global actors played a strong role in shaping the process of water sector reform in Bolivia; these actors, which not only included international development organisations such as the World Bank Group, but also powerful International NGO interventions, had the capacity to enrich the national social policy debate and to empower in turn many local actors. Understanding the influence of these agencies, which often compete to shape national social policy discourse around PSP in the water sector, seemed extremely relevant to understanding the case of La Paz/El Alto. However, the initial set of findings suggested that global influences on social policy

formulation were only one piece of the puzzle in the study of the water sector paradigm. This approach on its own would not provide a complete picture of how or why consumer perceptions, motivations, and behaviour are influenced by other factors, such as local socio-historical or cultural norms, values, ambitions, and behaviour. Also, this theoretical approach would not help to further our understanding of the influence that information asymmetries between consumers, service providers, and government stakeholders were having on the sustainability of reforms; and information asymmetry issues were extremely evident during the first phase of research. Eventually it was decided that the global social policy framework would only narrow our conceptualisation of the ways in which national-policies are shaped in the developing context.

The second set of theoretical frameworks considered to explore the primary research question were *rights-based moral theories*, which focus on the identification of the moral rights relevant to a particular course of action, such as the right to life, the right to self-determination, the right to privacy—or in this case, the right to water. The recognition of different dimensions of water rights includes: usages (domestic, industrial, agricultural), boundaries (local, regional, and international), values (cultural, social, environmental, and economic), and users (human beings and all other life). Water is perceived in this context as essential for securing social justice, dignity, equality, and peace, entitling all users to sufficient and non-discriminatory access to water, as well as to a line of legal recourse. Since the right to water is explicitly enshrined in two UN human rights treaties,[42] this type of approach to the study of water sector reform is relatively commonplace. However, although it would have been interesting to use a rights-based approach to explore the nature of consumer behaviour in the La Paz/El Alto case, this approach is quite confining. A rights-based approach does not allow much room for an analysis of other stakeholders impacted by the process of reform. More importantly, it does not recognise or support the notion that policy-makers often need to adopt utilitarian approaches to improving access to clean water regardless of the primacy of individual rights; *utilitarian moral theories* focus on the "greatest good for the greatest number" and

[42] These are the Convention on the Elimination of all Forms of Discrimination against Women, and the Convention on the Rights of the Child. The right is also included in a regional treaty: the African Charter on the Rights and Welfare of the Child. Also, the Geneva Conventions guarantee the protection of this right during armed conflict.

do not recognise individual rights as the primary ethical concern. Structuring the La Paz/ El Alto case in terms of a moral theoretical approach would have presented the constant challenge of having to resolve the central conflict between utilitarian and rights-based theories. Also, using a rights-based conceptual framework would have biased the research strategy from its inception, as the framework presupposes that services are a "right" rather than a "privilege." Starting with this *a priori* moral assumption would certainly have made it challenging to incorporate the perspectives, motivations, and behaviour of the each of the various stakeholders involved and/or impacted by the process of water sector reform in Bolivia.

The third set of theoretical tools that were considered to explore the case study consisted of *stakeholder* and *agency theories*. Stakeholder theory examines individual preferences with the understanding that these individuals, and the groups they form, have particular relationships with an organisation and with each other. In a company, such stakeholders should include diverse constituencies, including customers and employees, suppliers, shareholders, stockholders, members of the financial community, branches of government, consumer advocate groups and other activist groups, trade associations, political groups, unions, and competitors (Freeman 1984; Brenner and Cochran 1991; Hill and Jones 1992).[43] Stakeholder analysis is a central theme in methodologies that seek to accommodate multiple interests. For example, Ramírez (2001) provides a typology with eight contextual dimensions that come into play in accommodating multiple interests: the nature of the problem, the stakeholders, the convenor, the networks, stakeholders' capacities, and stakeholders' choices over procedures to deal with conflicts, negotiations, and dispute resolution. These eight dimensions function as lenses though which to analyse a multiple stakeholder situation. Although this is a useful methodological tool for identifying and mapping interactions between stakeholders, the theory seems to lack sufficient specificity and offers a somewhat unrealistic view of how organisations (be they utility operators, government agencies, or community-based organisations) operate. Also, relationships between stakeholders can only really be understood in terms of their place

[43] Clarkson (1995) makes a differentiation between primary and secondary stakeholders by categorising the firm and its employees, shareholders, customers, and suppliers as primary stakeholders, and the media and various special interest groups as secondary stakeholders.

within different strata or layers of social reality, and this requires consideration of historical and cultural contexts. Stakeholder analysis on its own does not provide a sufficient framework for integrating these layers of social reality into the analysis of the case study.

Agency theory generally refers to the variety of ways in which agents linked by contractual arrangements with an organisation influence its behaviour. Agency theory was thought to be a key element to gaining insight into the attitudes that private utility operators have towards the risks involved in servicing low-income households. The underlying mechanism by which the relationship between a utility operator and government is articulated is based on a contract. The essence of agency theory in the context of PSP in water provision rests on the assumption that: (i) the desires or goals of a utility operator are in conflict with the desires and goals of the government; and (ii) that it is difficult or expensive for the government to verify what a utility operator is doing. The main problem that this theory identifies concerns risk sharing; the government and a utility operator have different attitudes towards risk and different preferences as to the types of risk they are willing to take on. While agency theory can be applied to explain the relationships between various stakeholders involved in the process of water sector reform, the results are mostly conceptual interpretations. Strictly speaking, the basic unit of analysis in agency theory is the *contract* that governs the relationship between a principal and an agent. For example, because there is no legal contract drawn up between a utility operator and *the community*, agency theory on its own would not help us to understand the relationship dynamic that exists between these two critical stakeholders. Also, even if one were to find a way of evaluating an implicit social contract between the community and a company (see Donaldson 1982; Donaldson and Dunfee 1999), it would be unclear with whom this social contract would have been drawn up, seeing as individual members of a community may not necessarily share similar interests. Exploring issues relating to the contract is certainly crucial to our understanding of the La Paz/El Alto case, but it is only one unit of analysis worthy of consideration. The objective of this research was to delve beyond the "fine print"—beyond a narrow analysis of the contractual arrangement.

Elements of each of the aforementioned theoretical frameworks are useful for the analysis of the La Paz/El Alto case. On their own, however, they do not sufficiently answer all the questions driving this research. New Institutional Economics (NIE) was therefore

chosen as the most appropriate conceptual starting point, because the framework places significant importance on agency theory but locates it within a larger institutional, social, and political economy context. Choosing NIE as a conceptual framework offered a series of theoretical propositions to (i) guide the development of secondary research questions and hypotheses, (ii) structure data collection and analysis, and invariably (iii) provided a strong structure for carrying out the research strategy. The flexibility and reach that the framework offered into other disciplines (sociology, psychology, anthropology, political science, history, economics, and social policy) proved to be a vital element of this comprehensive approach, as this deepened the scope for analytical interpretation of the data.

Research sub-questions were developed that incorporated certain key elements of NIE, namely: (i) the influences of informal institutions on economic behaviour, (ii) the interactions between institutional environments and governance structures; (iii) the influences of institutions on rationality, with consideration for emotional, cognitive responses of consumers; and (iv) the influence of informal/formal institutions on transaction costs. Table 3.2 provides the secondary research questions sub-hypotheses.

A more extensive review of the literature related to Bolivia was conducted upon returning from the first phase of the field research within the framework of NIE. This time, additional emphasis was placed on exploring the history of market-oriented reforms and the process of institutional formalisation in Bolivia more generally. Sociology, anthropology, and even archaeology-oriented literature regarding the communities of El Alto was also reviewed, in order to develop further an understanding of the cultural norms and value-systems that made up AISA's predominantly indigenous consumer base. Time boundaries were set for case-study, ranging from early 1994, when the sector reform process began, through to January 2005, when the reform measures proved unsustainable and the PPP contractual arrangement was abruptly terminated.[44] Fortunately, the radical and well-documented experiences of the La Paz/El Alto concession offered an opportunity to conduct a methodologically rigorous study, and data collection was attained via multiple

[44] The original time period was meant to evaluate a 10-year period, from 1994–2004. This was extended because of the interesting turn of events that began to unfold between late 2003 and 2004.

sources in and out of the field, including empirical studies, government archives, legal and regulatory documents, newspaper articles, company documents including the concession contract, and interview-based discussions with representative stakeholders involved in Bolivia's reform process.

Table 3-2: Research Sub-Questions

Sub-Questions	Hypotheses
How has the clash between the informal and formal institutional environment—the "rules" governing Bolivian society—influenced intended outcomes of water sector reform over time?	While today we may be witnessing a clash between the informal and formal institutions that support the provision of water, the real source of conflict that we must confront in the water sector today is perhaps the *politicisation* of water provision rather than the *commodification* of water provision.
How have those institutional arrangements—regulations, channels of communication, methods of negotiation and contractual specification—created tensions between stakeholders involved in water sector reform and how does this affect the ability for policy-makers to accurately predict consumer preferences?	The delicate nature of the water sector provides evidence of how under certain institutional constraints, where optimum accumulation of information is virtually impossible, human behaviour cannot always be expected to be rational, and it can become motivated by a volatile set of preferences, making it particularly difficult for policy-makers to manage the reform process and accurately predict reform outcomes. Stakeholders underestimate the transaction/transition costs involved in the process of reform and PPP implementation due to information and bargaining asymmetries, which manifests in poor institutional arrangements.
Are there additional factors, which have otherwise not been considered within the PSP literature and literature on water sector reform, which may contribute to these rising tensions?	Systemic barriers, beyond the control of stakeholders, constrained the space for partnership innovation and flexibility during the process of reform.

As discussed above, the original intention of this research project was to combine quantitative and qualitative research methods. However, given the complex results from the initial survey and the realisation that the evidence from this survey would not provide an accurate picture of the challenge of water sector reform in the Bolivian context, it was deemed inappropriate to draw conclusions from the statistics. As mentioned, it became clear during the first phase of research that most of the respondents interviewed had never participated in a consumer satisfaction survey. It also became clear that the questions asked

in the survey were not framed so that respondents could fully answer questions in a way that left them personally fulfilled. The shift to a qualitative approach was deemed necessary to illustrate the range of views (and complex basis for these views) beyond what the survey results provided. These open-ended, semi-structured discussions (interviews and focus groups) with households during the second stage of fieldwork would ultimately provide a freedom for respondents to communicate their thoughts on the topic of water and introduce issues that I had otherwise not considered. It was through this less guarded dialogue, that the extraordinary scale of influence of Bolivia's informal institutional environment was revealed.

3.6 Phase III: Extended Literature Review

The initial review of the literature primarily focussed on issues relating specifically to the water sector, privatisation, natural resource management, development and regulation across infrastructure sectors. However, in order to answer the primary and secondary questions an extended literature review was required to deepen my understanding of Bolivian context. To gain insight into the historical perspective in which water sector formalisation occurred in Bolivia, various books were reviewed (Klein 2003; Crabtree 2005; Van Cott 2000; Escobar and Alvarez 1992; Olivera and Lewis 2004), which contained considerable information relating to the history of social movements, the dramatic struggle for democracy, participation, equal rights, and cultural recognition, both across South America in general and in the Bolivian context in particular. Although the treatment of water is not dealt with explicitly in this literature, these authors help us to consider how the increasing influence of urbanisation on social movements might have had impacts on the process of water sector reform. They also provide us with insights into indigenous values and cultural practices (i.e. the informal rules that tend to govern this segment of the population) which are critical to our interpretation of consumer behaviour in the La Paz/El Alto case.

This literature also greatly enhances our conceptualisation of water and sanitation provision in the urban context beyond the strict analysis of PPP contracts, and presents the essential background required to understand not only the plurality of identities crusading for improved access to basic services (needed in order to survive), but also the type of conflict that originates in people's efforts to bring about a new institutional order. These books, and the myriad additional papers reviewed, suggest that the social movements of La

Paz/El Alto over PSP in the water sector were multifaceted in character, and they support the arguments made as part of this research, that the sustainability of the PPP concession was entangled within a much broader social, political, economic, and cultural struggle.

3.7 Phase IV: Second-Stage Fieldwork in La Paz/El Alto and Washington, DC

Stakeholders Identified for Interviews

Local government officials

Staff of central government line ministries

Staff of the regulatory agencies

Consumers/households

Consumer associations

Previous employees of SEMAPA

Employees of AISA

Micro-credit agencies

Neighbourhood leaders (elected/self-appointed local civil society representatives)

International NGOs

World Bank, IDB, UNDP, USAID, and SIDA staff members

Outsourced legal/financial PPP advisors

Journalists

Semi-structured focus interviews with government (line-ministries, regulatory agencies, municipal authorities), civil society (neighbourhood association leaders, NGOs and CBOs), and the private sector (AISA). Three different questionnaires were designed around a set of thematic issues. Given that many of the questions were historical, it was understandable that some stakeholders interviewed would present retrospective self-justifications for their role and for what happened. Instead of making attempts to avoid this natural reaction, respondents were encouraged to explain their version of the "story" in order to enrich the data being collected. Indeed, questions were specifically designed to elicit stakeholder hidden interests in order to determine whether they were aligned, or in

conflict with, the stories of others and/or the government's original policy objectives. Some words and phrases were specifically chosen to trigger emotional responses. It was assumed that respondents would be able to give at least 30 minutes for an interview (Merton, Fiske, and Kendall 1990). The goal was to interview at least ten decision-making stakeholders within each stakeholder grouping (civil society, government, and private sector) and to conduct an additional series of interviews/focus groups targeted specifically at users/consumers.

Household interviews. Before a municipal reorganisation in 2005, El Alto had nine districts, eight urban and one rural, and the city can be divided into three zones: the city's Northern Zone is populated by migrants from the Altiplano, or high plateau, who are engaged predominantly in artisan manufacturing and commercial activities; La Ceja dominates the Central Zone, where the principal public services, including water and electrical power, are located. The Southern Zone has some factories and is home to migrants from the southern region of the La Paz department. Households from districts 1–6 were selected for this study, and were chosen at random. Unfortunately, in many of the neighbourhoods, tensions and crime rates were very high while this research was carried out. Therefore, all semi-structured household interviews were conducted during the day to lessen the risk to personal safety. This meant that the majority of interviews were conducted with female respondents. Qualitative, semi-structured interviews were used so that participants were encouraged to talk about what was important to them, including issues not raised by the questionnaire. The interviews, which took an average of 45 minutes, were conducted in person. The majority of those interviewed did not feel comfortable being recorded and it took much longer than expected to convince each household of the purpose of the visit. This was also the case during Phase I, when the initial larger survey was carried out. In order to deal with this issue, a local resident of El Alto, who also spoke Quechua, was hired as an assistant. Most of the interviews were conducted directly outside the premises of the households and/or on nearby street curbs.

Interviews with AISA and government stakeholders. Most appointments were easy to schedule, and ministerial/regulatory authorities, as well as private sector stakeholders, were willing to meet on multiple occasions. Many interviews took place early morning, before the workday began, or in the evening. The fact that these meetings often took place outside the work environment (in coffee shops and in restaurants) allowed a certain degree

of informality that proved extremely effective, facilitating a sense of ease in respondents and encouraging them to speak more freely than they might otherwise have done sitting behind a desk and in earshot of colleagues. Throughout the interviews, a conscious effort was made to communicate a sense of deep empathy with respondents views and to ask "how" rather than "why" questions whenever possible, to help prevent respondents from becoming defensive (Becker 1998). Fortunately, in most cases, a certain level of trust was established quite quickly and most respondents were extremely helpful, passing on internal and/or draft documents and sometimes acting as informants rather than respondents.

Focus groups. Two focus groups were carried out. This was an attempt to cross-check some of the data gathered through the semi-structured interviews in a short period of time, and to elicit from users any additional concerns relevant to the research that might otherwise have been overlooked. These groups varied in size, from 8–12 participants, and each participant was specifically selected for their availability for the full 1.5 hour session (Tang and Davis 1995; Krueger 1988).

3.8 Ethical Considerations

One of the most important aspects of carrying out any type of qualitative research, especially that which involves surveying and interviewing households and public officials, is attention to research ethics. Ethical issues need to be considered in any kind of research and the protection of participants, particularly their right to privacy, is imperative. Batchelor and Briggs (1994) claim that the failure of researchers to address ethical issues tends to result in those researchers being poorly equipped to deal with the unpredictable nature of qualitative research. The nature of ethical problems in qualitative research can often be complex as qualitative researchers focus their research on exploring, examining and describing people in their natural environments. Also, the relationship between researchers and participants can often evoke power imbalances that need to be thoughtfully planned for. Ramos (1989) outline three different types of problems that may affect qualitative studies: the researcher/participant relationship, the researcher's subjective interpretations of data, and the design itself. Miles and Huberman (1984) raise a number of ethical questions that researchers need to be aware of before, during and after research has been conducted: (i) Do participants have full knowledge of what is involved in research endeavour? (ii) Can the study hurt participants? (iii) Is the researcher being truthful in presenting data? (iv) Will the study intrude on privacy, confidentiality and/or anonymity?

(v) What should a researcher do if participants display unethical, harmful or illegal behaviour?

When preparing research protocol for this case study, careful consideration was given to making full disclosure of my research intentions, acquiring informed consent and maintaining confidentiality wherever appropriate. A balanced relationship between myself (as researcher) and participants provided rich material related to the case, encouraged disclosure, trust and awareness of potential ethical issues. Interviews are a moral endeavour, as Kvale (1996) explains, because participants' responses are affected by the interview and any knowledge gained through the interview affects our understanding of the human experience. For this reason, and the fact that qualitative research methods do not easily lend themselves to predict how data will be collected through interviews and observations (Streubert and Carpenter, 1999), researchers have an obligation to anticipate possible outcomes and carefully weigh the benefits and harm that may result from the relationship between researcher and participant.

3.9 Evaluating research data and analysis

Data analysis is a process of breaking up, separating, or disassembling of research materials into pieces, parts, elements or units, in order to reconstruct data in a meaningful and comprehensible fashion (Jorgensen 1998). In some cases, codes can help to summarise, synthesize and sort the myriad observations made, particularly in grounded methodological research where data may at first seem like a mass of confusing and unrelated material (Charmaz 2006). However, as Agar (1991) cautions, intensive data coding, disassembly, sorting and sifting is not necessarily the most appropriate strategy.

There are numerous perspectives on what a researcher can and should notice in their data and how they should go about the process of making observations, writing field notes, recording interviews, gathering documents and producing a record of these findings. But the essence of qualitative research is to use the human researcher as the research instrument. While there are limitations in relying solely upon the researcher's mind for data analysis, given the constraint of our fallible memory, the human brain remains the most powerful instrument for data processing and the role of thinking and intuition should not be underestimated (Marshall & Rossman 2006). Fetterman (1989) argues that entry to the research field—the identification of informants and key events, the design and re-design of the research, and so on—all relies heavily on on-the-spot thinking and decisions

so while a researcher may employ other techniques to process data, these techniques require the ability to synthesise and evaluate information—critical thinking and a large dose of common sense.

Because the qualitative researcher's mind never stops analysing data during the process of research, there is no point in pretending that the researcher must wait for the flow charts, matrices or computer printouts for inspiration (Goetz and LeCompte 1984). In fact, the researcher would be going against qualitative convention by processing the data only at the last stage of research. Flow charts, matrices and computers help the researcher systematise thinking, consolidate the data and facilitate communicating results to a wider readership but there is no substitute for intuitions and insights. Also, observations carried out during the research process often say as much about the observer as they do about the observed—field notes are ultimately selective, purposed and angled because they are authored (Emerson *et al* 1995). For the purposes of this research, guidance from Goetz and LeCompte (1984) was helpful for evaluating research findings. These authors use the term *theorising* to describe the process of thinking or intuition during a qualitative research. The first stage in theorising is *perception*, where the researcher accepts data but also gradually focuses on some analytic units for further research. The second stage comprises *comparing, contrasting, aggregating* and *ordering*. In this stage the researcher's mind organises and classifies the data so that some categories emerge. In the third stage, *speculation*, the researcher tries to conceptualise what is perceived and arrive at some initial hypotheses. The process repeats, so that hypotheses generated are further refined, modified, rejected or confirmed.

Assessing the accuracy of qualitative research findings is not obvious but there are strategies that enhance the trustworthiness of the evidence. The traditional criteria for ensuring the credibility of research data—objectivity, reliability and validity—can be assessed in a relatively straightforward way because of standardised instruments for scientific and experimental research. The literature (Guba and Lincoln 1985, Krefting 1991 and Creswell 1998) point to four strategies: credibility, transferability, dependability and conformability. Declaring *credibility* may involve getting member feedback on the data, interpretations and conclusions from participants involved in the study. This has been done wherever possible—sections of findings were sent to a number of people who had been interviewed as part of this research. *Transferability* can be achieved by providing a rich,

detailed description of the situation –sufficient information for a reader to be able to judge the applicability of the findings to another setting, case or theory (Seal 1999). The following techniques, based on Meriam (1998), were used to enhance the *dependability*, or reliability, of the case research findings: (i) explanations of assumptions and theory behind the study, (ii) use of multiple methods of data collection and analysis (triangulation and crystallization), (iii) explanation of how data was collected to allow for an audit trail if necessary. Lastly, *confirmability*—the degree to which findings can be corroborated by others and the extent to which I, the researcher, can account for my own individual subjectivity or bias—was paramount to this research endeavour. All data collected was organised into a retrievable form, archived in a way that would make it relatively easy for other researchers to access information and/or for others to challenge findings.

Chapter 4. Case Background: The La Paz/El Alto Concession

4.1 Friends of Bolivia: The Emergence of a Franco-Bolivian Alliance

With the arrival of former president Jacques Chirac in Bolivia on 11 March 1997, an editorial in the French newspaper *Le Figaro* the next day asserted that "Latin America would no longer be the dominion of the United States" and that Chirac's eagerness to invest in Bolivia "would equip the country to better resist pressures from Washington, DC."[45] Many other articles appeared in the French and Bolivian press over the three-week period in which Chirac toured the Mercosur Region (Argentina, Bolivia, Brazil, Paraguay, and Uruguay), each enthusiastically welcoming the prospect of major European investment opportunities in the country and a general shift away from investment reliance on North America. Approximately 5,000 police officers were mobilised in La Paz to watch over Chirac and his entourage, which consisted of 220 people—a mix of government and private entrepreneurs. Unsurprisingly, this caused quite a commotion in such a small country, which had a population of just over 9 million at this time,[46] and during the few days that he spent in the city, Chirac kept quite busy with a variety of ceremonies and honorary award presentations. The most significant honours included the inauguration of an *Avenida Francia* (Spanish for French Avenue) and, even more impressive, he received Bolivia's most distinguished award, "El Cóndor de los Andes". Perhaps in exchange for these honours, or perhaps to defy the US government and to make a mark on the future of Bolivia's infrastructure development, Chirac made a pledge to provide SAMAPA, then the publicly owned and operated water and sanitation utility servicing the cities of La Paz and El Alto, with USD 6 million in grants for rehabilitation purposes, along with a promise of future credit to start construction on a new water treatment facility.[47]

At the time, demographic growth and migration from rural areas were considerably increasing Bolivia's urban population, which between 1950 and 1992 had risen from 26 per cent to 58 per cent of the total population. This increase was especially noticeable in larger cities such as La Paz/El Alto, Cochabamba, and Santa Cruz. As a result, such urban centres

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[45] Author's translation.

[46] In 1997 the population of Bolivia 2007, the population was 9.3 million (UN 2007).

[47] Centro de Documentación e Información Bolivia – Cedib.

generated great pressure on public services, the demand for which was simply not being met effectively. Comparatively, Bolivia had one of the lowest rates of water supply and sanitary sewerage coverage in all of Latin America (2001 census, reported in the La Paz newspaper *La Razon*, 12 June 2002); in 1997 it was estimated that public water supply systems covered less than 75 per cent of the population in urban areas, meaning close to 1 million urban inhabitants did not have access to this service. Sewage disposal system coverage was even lower, estimated at 36 per cent.[48] The health of the Bolivian population was generally poor, with a life expectancy of 59.7 years and the highest infant mortality rate in all of Latin America: 83 per 1,000 live births (IDB 1997; UNICEF 1999). Enteric, water-borne diseases were the second-most common illness recorded and the most common cause of infant morbidity and mortality.

Chirac's announcement of support for the Bolivian water sector immediately followed a personalised tour of SAMAPA, which was given by the then-president of Bolivia, Gonzalo Sanchez de Lozada, who was also known as "Goni." Goni was best-known for his neo-liberal economic approach to development and for the shock therapy policies he had initiated as leader of the previous administration's economic task force, which ultimately had put a stop to hyperinflation[49] through the adoption of a very tight monetary policy. He was also raised and educated in the United States, from primary school through to his graduation from the University of Chicago, where he trained in Economics. This period of absence from Bolivia, combined with his seemingly strong friendships with Washington's governmental agencies and with academics such as Jeffrey Sachs (not to mention the American accent with which he spoke in Spanish), would earn Goni the reputation of being Bolivia's "*gringo* president." After being elected in 1994, Goni initiated a unique type of partial privatisation under a new law called the *Ley de Capitalizacion.* This law allowed the Government to create new mixed capital corporations with the assets of state companies, opening key, formerly State controlled, growth sectors to domestic and foreign private investment. Under this scheme, the government transferred 50 per cent of the shares of five out of Bolivia's six largest enterprises (across the

[48] In rural areas, these percentages were lower still, with an organized water supply service available to only 24 per cent of the population, and only 15 per cent with access to latrines or other appropriate individual disposal systems.

[49] In 1985 inflation was an astounding 13,000 per cent.

telecommunications, electricity, hydrocarbons, transport, and infrastructure sectors[50]) to strategic investors in return for their commitment to investment and high performance. Between 1994 and 1997, modern regulatory systems were also created for most infrastructure sectors and for the financial sector. Uniquely, the capitalisation scheme transferred the rest of the shares to Bolivian citizens, primarily through pension funds. At the time of Chirac's visit, Goni had approximately five months remaining of his term in office and, therefore, he had only a short window of opportunity left to pursue international investment interest in the water sector as part the capitalisation initiative.

The April following Chirac's visit was quite challenging for SAMAPA, as, unknown to most employees, plans were being made for its partial privatisation and the utility was undergoing internal staff reorganisation and operational changes.[51] In May, a technical assistance grant from the Inter-American Development Bank (IDB) for USD 980,000[52] was provided to the Ministry of Capitalisation to assist the government with (i) the preparation of the regulatory framework for the sector; (ii) the development of quality standards for water and sanitation services; and (iii) the start-up and strengthening of the new water and sanitation regulatory agency. Throughout the months that followed, regulations outlining the specific powers and responsibilities of the new Superintendency of Basic Services (SISAB) were negotiated and sent to the Bolivian congress for approval. These regulations would ultimately define the new market structure for the Bolivian water and sanitation sector. Toward the end of May, seven weeks after Chirac left Bolivia and just three weeks after the government initiated its regulatory reform programme, the Government released invitations to bidders for the La Paz/EL Alto concession. Advisory services were quickly solicited to assist in the bidding process; contrary to what much of the literature suggests, these advisors were not from the IDB or the World Bank but were

[50] Specifically, YPFB (oil and gas), ENDE (electricity), ENTEL (telecommunications), LAB (airlines), ENFE (railroads) and EMV (tin/antimony).

[51] Interview with Johnny Cuellar, Superintendent at SISAB, and with Roberto Bianchi, Managing Director of AISA, 11 December 2002.

[52] The total amount invested in this project endeavour was USD 1,333,000; USD 980,000 came from the IDB and USD 353,000 from the Bolivian government (IDB Project Document TC-96-05-16-6, 1997).

rather a private consortium of British consultants from Halcrow, Melveny, and Myers, and from the French Paribas Bank.

It is important to note that the formative part of the PPP process—the design of the offer letter, the bidding, the contract negotiations, and the transfer of SAMAPA to the new PPP structure—was strictly carried out by the Ministry of Capitalisation, rather than by the Vice-Ministry of Basic Services and/or the newly created SISAB. At the time, it was assumed that the Ministry of Capitalisation, having dealt with the previous sales of other state-owned enterprises, was more experienced in negotiating with private investors. Further, the National Basic Sanitation Directorate, which was the specific department within the Vice-Ministry of Basic Services responsible for country-wide water and sanitation policy and planning, was also left out of this aspect of the PPP process.[53] Given that the water sector was not given much prioritisation prior to the 1990s, at this time the directorate was largely understaffed and under-resourced. The directorate was, however, allowed to assist the Vice-Ministry of Basic Services in drafting the new sector regulations and in strengthening the institutional structure of the SISAB. Critics of the government's top-down approach to negotiating the terms of the AISA contract highlight that top sector specialists working within the National Fund for Regional Development (FNDR)—the government agency normally responsible for managing loans from the World Bank and IDB and for executing almost all of the country's water and sanitation projects—were also excluded from the design of the La Paz/El Alto concession proposal. It is unclear why FNDR was not involved in the process, but internal government documents and project evaluation reports from 1996 and 1997 repeatedly state that FNDR demonstrated insufficient institutional capacity; many of the water supply projects in their portfolio were financed without taking into account the need for waste-water disposal, and tariff requirements were often disregarded.[54] Nonetheless, given the enormous responsibility that FNDR had over the water sector, its lack of involvement was somewhat surprising; at the time they were managing three large-scale urban water supply programmes financed by the

[53] Interview with Jose Barragan, Vice Minister of Basic Services, 12 December 2002.

[54] Information from IDB and World Bank project evaluation documents, see the bibliography for a full list.

IDB for more than USD 240million.[55] Municipal authorities in La Paz and El Alto were also excluded from the privatisation process.[56]

According to government officials from outside the Ministry of Capitalisation, the government either did not have, or (according to some) chose not to devote, the time needed to construct a careful plan involving the government authorities normally responsible for the sector.[57] Details of an IDB technical assistance grant of USD 1 million (approved in December 1996) to help the government with the preparation of the new regulatory framework and to develop quality standards for services and the start-up of the newly established SISAB, clearly state that the "development of the project takes into account the government's urgent need to establish an adequate regulatory framework consistent with concession contracts that may be granted *beforehand* to private companies to provide service in La Paz and Cochabamba".[58] It is apparent that the urgency with which the concession was expedited invariably led to the exclusion of valuable and interested stakeholders outside the Ministry of Capitalisation.

4.2 Enter Lyonnaise des Eaux (now Suez Environment)

Only one round of bids took place during June and only one company presented an offer. On 17 July 1997, Aguas Illimani S.A. (AISA) signed a concession contract with the Superintendency of Basic Services; AISA was a consortium led by Lyonnaise des Eaux (with a 35 per cent share), together with, from Argentina, Sociedad Comercial del Plata S.A. (18 per cent), Meller S.A. (12 per cent), and Inversora en Servicios S.A. (10 per cent); and from Bolivia, Bicsa S.A. (20 per cent) and Connal S.R.L. (5 Per cent). AISA agreed to connect at least 71,752 households in El Alto and surrounding areas by December 2001,

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[14] The combined programme cost for the IDB-financed Prodursa I (BO-00146) in 1990 and for Prodursa II (BO-0039) in 1993 amounted to just under USD 170 million. The cost of the Basic Urban Sanitation Programme (BO-0125) in 1996 amounted to just under USD 88 million.

[56] Interview with José Luis Paredes Muñoz, Mayor of El Alto, 13 December 2002. Even five years after the contract had been put into effect, the central government had never formally provided municipal authorities in El Alto with a copy of the AISA contract. However, according to interviews with SISAB, the Ministry of Basic Services and AISA, the municipality could have easily requested a copy at any time.

[57] Interview with Jose Barragan, Vice Minister of Basic Services, 12 December 2002.

[58] IDB Project Document (TC-96-05-16-6) 1997.

and to invest USD 350 million over a 30-year period towards the provision of services in the adjoining cities of La Paz and El Alto. Operations were to commence as early as 1 August 1997. To date, it remains unclear why the government acted so swiftly in accepting this offer without organising a second round of bids, although other parties, such as International Water Ltd,[59] had shown an interest but had pulled out at the last minute.[60] It can only be assumed that the urgency was because this was during the last few months of Goni's administration, and his term ended five days after AISA began its operations.

Uniquely, the government's selection criteria was based solely upon which bidder offered the greatest number of new connections to low-income households, rather than which investor would provide a greater tariff reduction. Specifically, the Request for Proposals fixed the length of the concession, the tariffs and connection fees, the required sewer expansion schedule, and the minimum acceptable water expansion schedule (Komives 2001). The requirement of 41 per cent coverage in the first five years was translated in the contract into a target of 27,200 new connections in El Alto. There were also expansion targets for La Paz: 100 per cent water coverage in the areas served, and 82 per cent sewerage coverage for 2001, estimated to require 10,800 new connections. These were significant targets, but the bulk of expansion was to be in El Alto.

The studies undertaken by Halcrow, Melveny, and Myers and by Paribas Bank are unavailable to the public, so it is difficult to assess accurately why it was deemed important to structure the bidding process in this way. However, according to interviews with government officials, the plan was broadly based on the country-wide strategy for the water and sanitation sector, first articulated in the 1992 Regulation, which aimed to improve coverage and quality of water, and to create a more efficient tariff structure. The 1992 Regulations plainly stipulate universal service objectives, including the expansion of in-house water service throughout the metropolitan area. More importantly, these regulations also provide output specifications restricting the type of service that urban utilities can provide, including a specification to make metered household water

[59] This company is jointly owned by Bechtel and the Italian energy company Edison.

[60] This consortium would later win the bid to service the city of Cochabamba, Bolivia.

connections the only acceptable permanent water supply solution in urban areas;[61] public stand-posts were only allowed as a short-term solution while a utility was in the process of extending the mains network (Komives 2001), and would otherwise be illegal.[62] According to the government, SAMAPA had been unable to follow the 1992 Regulations, and this was why it was deemed necessary to reiterate these requirements, and to include an explicit expansion mandate for the company with the AISA contract. Many critics of the concession contract mistakenly assume that the in-house meter requirements were put in place due to pressure from AISA rather than from the government. In Chapter Five, there is further discussion of this issue, and evidence showing why it was actually not in the interest of AISA to comply with this regulatory requirement.

Most concession contracts say something about how water and sanitation services must be delivered. They may specify outputs (type of service, number of connections, minimum service quality), or inputs (technical and materials standards, required construction techniques, procedural requirements). In general, mandating outputs—as is generally the case in the La Paz/El Alto contract—rather than inputs is preferable because it allows the concessionaire to choose the most efficient way to provide the desired outputs (Komives 2001). However, output requirements are not without their problems. The La Paz/El Alto contract restricted the flexibility of the concessionaire's service offerings by requiring in-house connections and mandating service quality standards. Output requirements can also be harmful if, by restricting a concessionaire's service offerings, they make service expansion too costly for the concessionaire or out of line with household preferences (Komives 2001, Foster 2001). However, because the government recognised that mandated connections could become prohibitively costly and could jeopardise expansion efforts, soon after the signing of the contract the SISAB sanctioned a lower-cost pilot project in El Alto (See Section 4 below).

Meanwhile, the 1997 Regulations, some of which were approved in tandem with the signing of the AISA concession contract, required that all service providers in every city across the country—be they public or private, be they a utility network provider or a

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[61] Article 64, 1992 Regulations.

[62] Article 100, 1992 Regulations.

tanker truck water distributor—create a concession contract with the SISAB in order to continue operating. Each unique concession contract with utility operators (EPSAS) would specify the service levels and quality obligations of the service provider. This strategy was taken largely because in order to be awarded a concession contract a service provider had to provide information regarding its legal operating status, the service area covered, and the environmental impact; previously, this type of information had either been unavailable to central government authorities and/or chaotically distributed between different government agencies.

A reduction of personnel was also carried out at the time of the handover of operations to AISA. In August 1997, SAMAPA's labour force numbered 639 employees, a figure considered well in excess of operating requirements. AISA offered early retirement incentives to eligible employees, which were accepted by about 133 individuals. These incentives, in accordance with Bolivian law,[63] offered compensation of one month's salary per year of service, plus one additional month's salary for each 5-year period previously worked at SAMAPA. A pro-rata portion of the year-end bonus (equivalent to one month's salary) was also paid depending on length of service. According to the SISAB and AISA, the voluntary early retirement process was well managed, and the company did not face opposition from either existing employees or the general public on this ground.[64]

4.3 New Tariff Structure

As with many developing countries, pre-privatisation tariffs in La Paz and El Alto were not only below cost recovery levels; the structure of the tariff system was extremely complicated and difficult to manage. Prior to the reforms in the spring of 1997, customers paid a fixed charge for the first 10 cubic meters they used, and there were over 150 tariff categories into which users were grouped. The tariff reforms, which were actually put into place just before offer letters to potential bidders went out, simplified the tariff structure into five categories based on an increasing block tariff scheme. There are usually two alternatives used for charging consumers a given volume of water: a Constant Volumetric

[63] Ley General del Trabajo, 1942; Reglamento de la Ley del Trabajo, Decreto Supremo No.224 de 23 Agosto de 1943.

[64] Interview with Jhonny Cuellar Superintendent, SISAB 11 December 2002; Interview with Roberto Bianchi, General Manager, AISA 13 December 2002.

Charge, whereby all users pay the same amount per unit of water used; and what is known as an Increasing Block Tariff (IBT), whereby the rate per unit of water increases in increments as the volume of consumption increases. Uniform charges are often unpopular, as a flat rate for water can lead to prohibitively high costs for low-income households and can end up being a disincentive for private firms to service poor areas, due to the risk of non-payment. The IBT treats the level of consumption as a function of household income; the price (usually set below production cost) is set for a basic amount known as a "block", and the price increases with each additional block of consumption.

The arguments that support this method of pricing, which can *only* work so long as every household has a metered household connection, are four-fold: (i) the low price in the initial block means that the poor can obtain a sufficient quantity of water for the "essential" needs at a low monthly cost; (ii) high income households pay a higher average price because they tend to consume more water than poor households; (iii) high rates charged to industrial and commercial customers relative to most residential customers promotes "equity" by allowing the water utility to cross-subsidize poor residential customers; and (iv) the price in the highest block can at the same time be used as a tool to discourage "wasteful" and "extravagant" water use (Boland and Whittington 2003). The problem with this system is in situations where a large number of family members live under one roof (Lahlou and Bahaj 2002). With a single connection to the utility network, invoiced on the basis of a single meter, these households, which are usually made up of low-income residents whom the rising block tariff was meant to protect, can end up falling into the higher block rate because of their consumption patterns and being billed accordingly. In these cases, the "social consumption block fails to benefit the target population.

Conscious of such risks involved with implementing an IBT structure, the government of Bolivia set out to design an IBT structure meant to *ensure* low-income households would not be short-changed by this approach.[65] The new regulations provided residential users with very large price differentials between blocks—the most expensive block being over five times the price of the least expensive block. There were four blocks for residential connections, two blocks for commercial connections and one for industrial

[65] Interview with Jhonny Cuellar, Superintendent, SISAB, 14 January 2003.

connections; the prices charged to industrial and commercial users were obviously much higher than those typically applied to residential use. The IBT scheme in La Paz/El Alto specifically allowed households to take $30m^3$ per month—or $1m^3$ per day—before the highest price in the block structure took effect. For example, if a household contained five members, this would translate into an allowable consumption of $0.2m^3$ (or 200 litres) per person per day. It is *extremely* important to note here that this amount is greater than the average daily consumption for water-users in the UK, even though UK users run luxury items that use a significant amount of water and which are unavailable to most low-income users in El Alto, such as dishwashers and washing machines. This policy would later prove quite problematic, as consumers in fact consumed much less than was expected, creating losses for AISA. This issue is discussed in greater detail in Chapter Five.

When the contract with AISA was negotiated, specifications were also made that set the tariff for the first five years in US dollars, with no adjustment for inflation or changes in productivity. The exchange rate was calculated on a monthly basis for billing customers, who paid in Bolivianos. Although AISA inherited the aforementioned reformed tariff structure, new rates were still introduced just prior to the concession, which prompted some consumers to believe that this increase had been made by AISA. The tariffs just prior to the concession, in December 1996, were increased by 38.5 per cent, but when AISA began operations rates were adjusted again by an additional 20 per cent (Foster and Irusta 2001). Despite the fact that tariffs were still considerably low (compared with the tariffs of all other major Bolivian water utilities), the fact that these increases happened in such quick succession was linked in the public's mind with the concession, prompting a number of protests as AISA operations began. However, the combination of relatively low tariffs for most consumers, coupled with the dramatic increase in service quality and the immediate focus on network expansion, won a great deal of acquiescence for the company. It cost AISA, on average, USD 0.53 per cubic meter to provide water. [66] Further, the fixed cost of meter-reading and billing was estimated to be about USD 1.00 per month. For customers in El Alto, the average bill was less than USD 1.50 per month. To put the price

[66] This information came from AISA. It was not possible to get marginal cost figures for the company, as these were kept confidential. Figures were also unavailable for the average or marginal cost of sewerage service.

of water into some context, 97 per cent of AISA's clients in El Alto paid an average of five Bolivian cents per day for water—less than a seventh of the cost of a loaf of bread. The contract with AISA specified that after five years, the SISAB would be able to review the tariff and establish a new rate for the next five-year period, based on operating costs, investment requirements, and a 13 per cent rate of return to capital.

The structure of tariffs for the initial five years maintained the categories described above, distinguishing between residential, commercial, and industrial consumers, and with higher rates for higher-users, especially industrial users.[67] The tariff had no fixed part, as it was based wholly on water usage, resulting in higher rates for many users but lower rates for low-consumption customers. Further, there was no tariff at all for sewerage: customers who had water and sewerage paid the same as those with only water. The reason for this was that there was inadequate information about sewerage connections to be able to know what to charge, so the company was required to develop the information base for sewerage connections, in order to provide a basis for setting a sewerage tariff during the next round. Connection fees were also set in the concession contract: the fee for a water connection was USD 155, of which USD 36 was the charge for a meter, and the sewerage connection charge was set at USD 180. The connection targets and tariffs were based on assumptions about population growth and levels of water usage. Although there was some degree of protest over the quick succession of tariff increases, the combination of relatively low tariffs for *most* consumers with the promise of expanded service and improved quality seemed to win acquiescence—at least at the beginning.

[67] According to some of the literature, IBTs promote water conservation and stop "extravagant" and/or "wasteful" water use because the price associated with the highest block can be punitively high.

Table 4-1: Water Tariff, 1997–2001

Domestic (m^3)	Commercial (m^3)	Industrial (m^3)	Tariff (USD /m^3)
1–30			.22
31–150			.44
151–300	1–20		.66
>301	>21	>1	1.18

Foster (2001)

Table 4-2: Number of Customers by Type, 1998

Type of customer	La Paz	El Alto
Domestic	68,078	70,265
Commercial	9,823	3,139
Industrial	277	138

Arauco, (1998), pp. 193–194.

Table 4-3: Billing Percentages, by Tariff Block, 1998

Tariff block	Contribution as percentage of billing
Low (.22)	17%
Medium (.44)	25%
Medium-High (.66)	6%
High (1.18)	52%

(Arauco 1998: 193–194)

Tariff structures can have a positive effect if they facilitate serving the poor by ensuring that revenues cover the cost of making connections. However, in this case, the contract did not always provide the right balance between the new tariffs structure and service incentives for the company. First, households were charged a unit tariff that fell well below cost for the first 30 cubic meters of water they used each month. The sale of water to low-consumption households thus became a loss-making proposition for AISA. Second, most of El Alto (the focus of the contract's expansion efforts) turned out to consist

of low-consumption areas, with the average household consuming about 10 cubic meters a month. Third, under the unified tariff a household with a water connection but no sewerage connection would have the same monthly bill as a household with a sewerage connection and the same level of water consumption. This setup did not provide adequate incentive for AISA to provide sewerage connections. Fourth, the concession contract set maximum connection fees for water and sewerage that did not make allowances for the true cost of connection. The same connection fee applied for in-fill connections on existing lines as for connections in areas with no existing network. The concessionaire would therefore prefer to make in-fill connections, where profit margins had a chance of being greater. Consequently, the contract stipulated that in-fill connections could account for no more than half of all new connections.

4.4 "Pro-Poor" Components and Inefficiencies of the Concession

As soon as the contract with AISA was signed, various development agencies began designing projects to mitigate the potentially negative social impact of the concession. The best-known project was the El Alto Condominial Pilot Project, which targeted nine neighbourhoods in El Alto; it was conceived as a tripartite agreement between the GoB, AISA, and the World Bank Water and Sanitation Program, with technical assistance financing from the Swedish International Development Agency (SIDA). This condominial approach was adopted by the World Bank from experiences in various Brazilian cities, and it aimed to connect approximately 2,000 households with condominial water connections and approximately 4,000 households with condominial sewerage connections. It is estimated that in Brazil some 5 million people in over 200 towns and cities are served with simplified, or condominial, sewerage (Melo 2005). This corresponds to about 3 per cent of the population of Brazil, and about 6 per cent of the population connected to sewers. This arrangement serves both rich and poor.

Community participation, which was the main focus of the condominial approach, helped to lower the connection costs for residents living in El Alto because local residents were trained to construct and maintain their own condominial branches. These branches are engineered using innovative cost-cutting methods whereby the length, diameter, and depth of the network are substantially reduced. Typically, in the planning process for a simplified sewerage system, meetings are carried out at the housing block (*condominio*), where information dissemination, discussions, and clarifications are meant to enhance

unity in decision-making processes surrounding construction and maintenance responsibilities. Because users may finance in-house sanitary installations and household connections, they need to reach an agreement as to the type of condominial branch suitable. They must then comply with agreements established for construction and operation of the condominial branch, as well as for payment of tariffs. In return, the service provider agrees to fulfil its responsibilities as established in the "Terms of Connection" between the parties. Community participation in the process is also used to support complimentary actions such as raising hygiene awareness, which plays a role in achieving other public health objectives at a relatively limited cost.

For the project to go ahead, the government of Bolivia (GoB) actually agreed to relax some of its technical standards, which at that time legally precluded the use of such a system or any alternative type of service provision. As noted above, the condominial system would allow for the use of smaller-diameter pipes, laid at relatively shallow depths in areas where they would not be subject to heavy loads from above. Typically, most pipes are laid underneath the patio or next to the home. In contrast to conventional sewer layouts, several households are connected to the same sewer so that the overall length and depth of the pipe network are reduced. While a conventional water connection would have cost consumers USD 196, and sewerage a further USD 249, a condominial connection would cost USD 112 and USD 142, respectively. The project was split into two phases: Phase I included the design of the networks, the integration of hygiene education through community participation in the works, training for local social workers and AISA engineers, as well as overall supervision; in Phase II, however, AISA would assume overall responsibility for implementing the condominial methodology and the World Bank's Water and Sanitation Program would assume an advisory role.[68]

Another pro-poor feature of the PPP process was an attempt by the GoB and the development community to support micro-credit initiatives for individual households in El Alto. For customers putting in sewerage connections (whether condominial or conventional), larger up-front costs were involved. Without a bathroom—or bathroom

[68] The WSP is an international partnership managed by the World Bank to help the poor gain sustained access to improved water supply and sanitation services.

appliances—a connection to the utility network had little significance. A bathroom cost an average of USD 440 (USD 400 in materials and USD 40 in labour); representing more than three months of average household income, this was a large investment for most El Alto residents. [69] Since households participating in the condominial programme were expected to construct bathrooms (Foster 2000), FUNDAPRO, a second-tier Bolivian bank created in 1992 with funding from USAID and the Corporación Andina de Fomento (CAF), provided USD 500,000 of capital for a micro-credit scheme, and the retailing of these loans was contracted to Caja Los Andres (CLA), a micro-credit institution well known among El Alto residents. The average value of the credits was USD 406, typically ranging from 24–32-month terms, and households could use mortgage on property as collateral and/or a pledge of household appliances or moveable assets (for example, televisions or furniture). At an interest rate of 1.92 per cent per month, this represented a monthly repayment of USD 14.21, or about 6.2 per cent of the income of participating households. Soon after, another micro-credit institution, Mutual La Primavera, also began offering credit for households at a slightly better rate of 1.1 per cent per month. However, most households in El Alto still did not pursue micro-credit for this purpose. CLA suggests that more households could have benefited from the scheme had they applied, but there are cultural constraints to borrowing and within the Aymara community: there are more traditional forms of savings and a strong tendency to rely on relatives or friends for loans. Ultimately, the micro-credit line programme was dropped less than two years after it first began, due to its ineffectiveness in reaching lower-income households.

Households participating in the condominial programme did end up benefiting somewhat from the reduced charge of the water connection (from USD 119 to USD 100) and slightly more from the sewer connection charge (from USD 180 to USD 100), but when the opportunity cost of the household's time is fully accounted for, the saving disappears for the water service, and for the sewerage service it is reduced to USD 58 (or about 50 per cent of monthly household income) (Foster, 2001). The apparent misalignment between the structure of costs and tariffs led to a situation where neither the

[69] These are the estimates of WSP team members, based on non-random sampling of households. Labour estimates were based on 16 man-days valued at USD 2.50 per day.

utility nor the customers were fully able to perceive the cost advantages of the condominial system. From the utility's perspective all new connections were lossmaking, because connection charges were not high enough to cover network expansion costs. Although the hygiene education component of the condominial programme implemented during the first phase resulted in significant increases in water consumption, these increases were simply not significant enough to move consumers out of the lowest tariff band and hence could not generate any profits for AISA (Foster 2000). AISA, therefore, could not warrant the cost of further hygiene education in the second phase of the programme. However, it did follow the advice of the development community and government, and offered flexible terms of payment for low-income households so as to increase the likelihood of a larger uptake of condominial connections. They established a quota payment system for participating households of two years—later expanded to five years—at a 1.08 per cent per month interest rate, which was lower than the interest charged by the micro-credit lending agencies.

Another impediment to the success of the condominial programme was the lack of coordination between internal government agencies, AISA, and development agencies working on the condominial initiative. For example, while the condominial project for El Alto was underway, technical assistance through the WSP was directed toward educational activities in support of bathroom construction and hygiene awareness, while at the same time the FNDR decided to introduce its own completely separate program to provide *free* bathrooms to households in El Alto using some of the resources allotted to them through the aforementioned IDB grant. This inevitably caused complications, confusion, and resentment among those participating in the pilot initiative, especially between those households that had to pay for the cost of appliances and who contributed their labour.

Although the WSP provided an overall positive evaluation of the condominial programme six months after the program ended in March 2001,[70] a follow-up survey conducted ten months later by Nina Laurie and Carlos Crespo revealed a number of

[70] 80.2 per cent of users claimed the condominial system functioned well, 14.9 per cent said the service was regular, (meaning neither good nor bad), 2.9 per cent stated that it was very good, and 2.1 per cent complained that it was bad. (58–59).

technical problems with the condominial system, all of which were exacerbated by the fact that community members were ill-equipped to deal with maintenance problems (Laurie and Crespo 2007). The shallow pipes were of a narrow diameter and were laid at a flat gradient, which meant that they blocked easily, flooding properties upstream with sewage. Breakages in water pipes also meant that those downstream would be cut off until a problem could be repaired. However, although Laurie and Crespo accused the government of Bolivia and the SISAB of "changing the legislative environment to favour the activities of the private company [AISA]", it is important to note that the technical specifications of the water networks were designed specifically to provide a more flexible option for low-income residents; they were not for the benefit of the private providers, who suffered major financial losses by adopting the system. Although there were certainly failures in the application of the condominial system, the government heeded the advice of the WSP because of its successes in using this lower-cost option in other developing country contexts. Failures in the programme should not be taken as indicating collusion between the government and the private sector.

The current research found that the majority of the criticisms of the condominial system did not come from residents who participated in the programme. Instead, complaints came from other quarters; neighbourhood association leaders were the most vocal in claiming that a "second-rate system was being imposed upon the poor"[71] of El Alto, in contrast to La Paz, which had conventional water and sewerage. This kind of claim was effective in building political support, and it was exploited for political reasons by these leaders and by the political opposition movement. Bolivian engineers, trained in conventional water and sewerage systems, were called upon by neighbourhood association leaders and interviewed on radio shows to confirm that the condominial system was indeed second-rate and that the narrow pipes would not be able to sustain expanding households that might add additional storeys to existing properties (a common practice in El Alto). According to AISA and the SISAB, complications related to the functioning of the sewerage system were primarily due to the low water usage in El Alto, whether conventional or condominial: the water flow was simply insufficient to wash solid waste

[71] Interview with J. Guachaya, 16 October 2003.

through the pipes. AISA and engineers experienced in using the condominial technique argued that given the low volume of waste flowing through them, the narrower pipes actually functioned better than conventional, larger-diameter pipes.[72]

Many of the findings that emerged through this research complement those of Jose Carlos Melo, who conducted a study in 2005 on Brazil's experience with condominial service provision. Melo also found that (i) there was a significant lack of information on the fundamentals and techniques of the condominial approach, and a lack of experience in its application; (ii) resistance to technical and institutional changes hindered the application of the condominial approach; and (iii) normative and legal restrictions on maintaining condominial and conventional services in tandem constrain the dissemination of both systems (Melo 2005). The condominial approach was, of course, introduced in El Alto almost a decade prior to the publication of these and other similar findings.

4.5 The Consumer Profile of El Alto Residents

As mentioned in the introductory chapter, El Alto sits at 4,000 meters above sea level. It is filled with street vendors and shopkeepers, merchants in their stores and sellers at their stalls, as well as brokers and commission agents. The sidewalks and streets are filled with women and men dressed in traditional Aymara attire, chaotically attempting to bypass oncoming traffic and creating waves of colourful movement; horns and music from car radios, local shops, and passing brass bands compete harmoniously with thousands of voices haggling over deals. It is also a precarious city of twisted streets lined with a hodgepodge of adobe and brick dwellings. Temperatures can range on average from -10°C at night to 20°C at noon. Seventy per cent of the working population are in family businesses or quasi-businesses, accounting for 95 per cent of jobs in shops and restaurants, 80 per cent of jobs in the construction industry, and 75 per cent of jobs in manufacturing. Sixty per cent of the population is under 25 years old, and young people predominate in these sectors: more than half of the employees in manufacturing are between 20 and 35 years old. El Alto dominates the hillsides and access to La Paz, which is situated in an immense land depression below. In 1952, scarcely 11,000 people lived in El Alto, which

[72] Interview with Roberto Bianchi and technical staff at AISA, 15 January 2003.

was then basically a rural town. By 1985, the year in which it attained municipal autonomy, emigration from the mining centres and from rural Aymara and Quechua areas had driven the population up to 307,000, and by 1992 it had grown to 405,000. According to the most recent census, from 2001, the population had reached 650,000 and is currently estimated to be about 800,000. It is important to note that 81 per cent of this population consider themselves indigenous Aymara.[73]

Approximately, 75 percent of El Alto workers are informally employed with small businesses that offer employees no social security, retirement, job security, or other benefits. Most families do not have access to professional medical care and there continues to be a high rate of infant mortality.[74] Illiteracy rose in the early 1990s to 40 per cent, and only 25 per cent of young people were completing secondary school. The explosive population growth—averaging 10 per cent per year— meant that the vast majority of residents had extremely limited access to basic services. In 1997, UNICEF estimated that only 34 per cent of the city's residents had access to all services, including paved streets, garbage collection, and public telephones. During the 1980s, neighbourhood associations began to appear across the city to deal with the poor quality of basic services, and today there are some 500 associations, which work through the Federation of Neighbourhood Councils (FEJUVE) specifically to initiate collective projects that improve the living conditions of city residents. They are also often responsible for disseminating information and promoting participation, and they are relied on by residents to put pressure on municipal and central government authorities. Self-dependence, exhibited in the way in which the city has developed and the sheer volume of self-made independent entrepreneurs, has generated a unique sense of self-esteem derived from a mix of indigenous entitlements and property rights. The relevance of this cultural make-up to the water sector will be explained in greater detail in Chapter Five.

4.6 The City of Cochabamba: Enter Another PPP Concession

During autumn 1999, while debates over the condominial system in El Alto were only just beginning to emerge and neighbourhood association leaders were becoming increasingly

[73] Statistics in this paragraph are from the Instituto Nacional de Estadística (INE), Bolivia.

[74] The Center for Labor and Agricultural Development (CEDLA) and INE Joint Report 2010

vocal, a slightly different—and more tumultuous—story was unfolding in Bolivia's third largest city, Cochabamba. In September, the national government, under the new political administration of President Banzer, [75] granted a 40-year contract to Aguas de Tunari to run SEMAPA, Cochabamba's water system. This concession was an American-Spanish-Bolivian joint venture with a majority share for the Bechtel Corporation, based in San Francisco, and International Water, which is based in London. Aguas de Tunari took over in October 1999 and was in full operation by the following January.

Significantly, in the months leading up to the negotiation of the concession, Banzer had also initiated an army-executed coca eradication plan to destroy 106,000 acres of coca in Chapare, a rural province in the northern region of the Cochabamba department, once known as the world's second-largest coca producing region. This plan, known as the "Dignity Plan" was strongly backed by the US government, but strongly opposed by the Federation of Chapare Coca growers,[76] which was led by a dynamic farmer-turned-activist named Evo Morales. The Federation had strong links with the Movement Toward Socialism (MAS) political party, which would later succeed in winning Evo Morales the presidency of Bolivia in 2005. Due to the eradication policies, existing tensions across the department of Cochabamba were already quite strong when the government embarked on the privatisation of water and sanitation services in the city. Cochabamba, with a population of approximately 600,000 people, lies in a fertile valley at 2,558 meters above sea level; in contrast to La Paz, the demand for water is tremendously high and it is quite a scarce resource. As with the case of La Paz/El Alto, the new regulations ended the communal control of water, such as wells that had been built and managed by residents. This had a much greater impact in Cochabamba than it did in La Paz, because of the large population of small farmers; irrigation water was no longer free, and these farmers inevitably became one of the main protesting groups.

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[75] Banzer had previously ruled Bolivia as a dictator between 1971 and 1978 (before being elected in 1997). Human rights groups blame him for more than 200 "disappearances", some 3,000 political arrests, and for forcing several thousand political and trade union activists into exile.

[76] Federaciones Cocaleras de El Chapare.

4.7 The Cochabamba Misicuni Project

While the concession arrangement with AISA required a tariff structure which would simply cover the cost of expansion, the Aguas de Tunari contract included in its tariff structure the cost of the Misicuni Project. This was regarded as being one of the most complex engineering projects in all South America: the USD 300 million deal involved the construction of a USD 130 million dam at 4,000 meters above sea level, a hydroelectric power station, and a USD 70 million tunnel to transport water 20 km from the Misicuni River through a mountain to the valley of Cochabamba. The project was estimated as costing up to six times more than alternative schemes (World Bank 2000); the new water concession was obviously designed so that consumers would help to cover the cost, but the government had wrongly assumed that people would be willing to start paying for this expensive project through increased tariffs *before* experiencing any improvements to their water and sanitation services. It is unclear why the Misicuni Project was supported and propagated by the municipality of Cochabamba, but it has consistently been used as a political platform throughout the city's history, making and breaking various political careers for over 40 years.

There is a great deal of contradictory information about the project and its impact on users. Some argue that the tendering process was not competitive; Aguas del Tunari was the only bidder and its tender was accepted despite many accusations of irregularities. Others claim that there was indeed another contender, named Aguas de Conari, which was turned down by the municipal authorities. According to certain central government officials,[77] this second bid had won the support of the central government and it was also favoured by World Bank staffers who were at that time advising the SISAB. However, the proposed concession arrangement with Aguas de Conari would have used an alternative water source, and so the Misicuni tunnel project would have been dropped. They claim that the failure to adopt the proposal was the fault of political interests at the municipal level that pushed for the Aguas de Tunari contract. It was certainly the case that the local engineering partner of Aguas de Tunari was ICE Ingenieros, a company owned by one of the most affluent and influential families in Bolivia (Lobina 2000); this company also

[77] Interview with Superintendent Claude Besse, 25 March 2003.

happened to be a partner in the Misicuni tunnel consortium and had already been awarded financing from the Italian Government for a feasibility study for the Misicuni Project.[78]

4.8 Cochabamba's Water War

The first major protest over the Cochabamba PPP concession took place two months after Aguas de Tunari began operations. February 2000 was marked by dozens of strikes, roadblocks, and other forms of civil disobedience; protesters succeeded in effectively shutting the city down for four consecutive days. The primary complaint of the protestors was directly related to the sharp increase in tariffs; post-privatisation tariffs rose at varying rates, from approximately 100 per cent for many but as much as 300 per cent for some. Tariffs were raised to help complete the dam and tunnel project, to guarantee a profit margin of 15–17 per cent, and to pay off past debts. Another issue of contention was that the water the Misicuni aqueduct was to carry to the city of Cochabamba was already claimed as a customary right by the irrigators of the Cochabamba valley. Under the new contract, these users would have to obtain licences for their wells, diversion channels, and other water infrastructure. This, combined with the secrecy with which the deal was conducted, instilled suspicion in an already wary civil society and very quickly made the issue an incendiary one.

In response to the street protests, Banzer dispatched his police force and allowed them to use tear gas to prevent protestors from disorderly behaviour. According to most newspaper reports, thousands of protestors marching peacefully when police began using teargas that left 200 marchers severly injured and two people permanently blinded by the gas. In April, municipal authorities agreed to sit down with community representatives in an attempt to appease protestors; specifically, they agreed to speak with Oscar Olivera, a long-time labour leader and spokesman for the "Coordinating Committee for Defence of Water and Life".[79]This was a coalition of opponents of privatisation, and it included

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[78] The study was conducted by an Italian firm, Astaldi. The 19.2 km-long Misicuni tunnel was completed on 4 July 2002, when the Robbins TBM 1015-271 finally bored into the Pozo section of the tunnel, which had been found to be flooded at original breakthrough on 15 June. Water is now flowing through the 5 km-high Cordilleran Andes into the Cochabamba Valley.

[79] *Coordinadora del Agua y la Vida*.

neighbourhood associations, water cooperatives, labour unions, and students. According to Olivera, however, while they "were talking with the mayor, the governor and the other civic leaders…the police came in and arrested us" (quoted in *Public Citizen* 2001). Upon hearing of these arrests, a huge public outcry ensued and crowds converged at City Hall the next day. More protests ensued; a federation of peasant organisations (FEDECOR) joined the urban protest when they saw communal rights threatened by the privatisation of rural water systems. Fifty people were detained, dozens injured, and six people were killed. According to Public Citizen, police broke into the homes of protest leaders and more than a dozen protestors were arrested and sent to a remote prison in the Bolivian jungle.[80] To many protestors and spectators, Banzer's actions were reminiscent of his days as a dictator in the 1970s, which led to a significant backlash against the government by large segments of the population across the country. As protests began to spread beyond Cochabamba, Banzer responded by placing the country under martial law and declaring a state of emergency. This state of emergency suspended almost all civil rights, allowing the arrest and confinement of protesters without warrant, and placing restrictions on travel and political activity as a curfew was enforced and gatherings of more than four people were banned.

Bolivia's "Water War" hit international headlines on 11 April 2000. Footage of an army official firing into the crowd, killing a young protester, provoked wide-spread international outrage and drew responses from international NGOs in Australia, Canada, France, and the United States. Even the Roman Catholic Church became involved, publicly asking the government to find a peaceful solution to the conflict. The case for Misicuni was lost, and the government quickly declared the privatisation process void. Managers of Aguas del Tunari left the city before the end of April, and Banzer cancelled the concession contract. By that time just over USD 20 million had been invested by Aguas de Tunari, and in November 2001 the company applied for arbitration with ICSID,[81] seeking USD

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[80] This was later confirmed both by former minister Walter Guiteras and former Information Minister Ronald MacLean in an interview 5 January 2004 in Washington DC.

[81] ICSID is an autonomous international institution established under the Convention on the Settlement of Investment Disputes between States and Nationals of Other States, and it has as members over one hundred and forty member states. The ICSID Convention is a multilateral treaty formulated by the Executive Directors of the World Bank.

25million in damages. Following arduous negotiations between the government and the Coordinating Committee for the Defence of Water and Life, control of the city's water system was returned to the city. SEMAPA was reinstated as the water supplier, but supplemented with representatives from the Coordinating Committee. Olivera was quoted across dozens of international newspapers, exclaiming that the water war "had become a fight between David and Goliath, between poor people and a multinational corporation. They have a lot of money, and they want to take away our water."[82] Olivera vehemently argued that water was a human right, and as such should be treated as a social good, not as a commodity to be bought and sold. Famously, he declared that privatising water was like "leasing the rain".

Soon after "winning" this so-called Water War, Olivera was able to take such arguments against privatisation beyond Bolivia's borders, with the support of various civil society organisations, academic institutions, and even the sponsorship of various international NGOs. He soon became something of an archetype for various anti-privatisation organisations and global social movements. In October 2000, the Institute for Policy Studies awarded him its Letelier-Moffit International Award for human rights activity,[83] and the following year the Goldman Institute awarded him a USD 125,000 prize for environmental action. By late 2001, the Coordinating Committee was an extremely powerful force across the country. Olivera and his colleagues became the defining voices of the protest movement against the privatisation of any natural resource, and he also formed a new Coordinating Committee for the Defence of Gas.

Perhaps one positive outcome of the civil unrest in Cochabamba was that it took the spotlight away from the anger of farmers in the Chapare region, where, as noted above, massive coca eradication programmes had taken place. In June 2001, emboldened by the results in Chapare, the government decided to strike another coca growing region, this time in the department of La Paz, where many of the displaced coca growers from Chapare had moved. Here, the coca growers of El Yungas were closely aligned politically with Felipe

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[82] Quoted in Finnegan, (2002: 46). This description of the events in Cochabamba is based primarily on Finnegan's article.

[83] The award is named after two IPS staff members who were murdered in Washington, DC in September 1976 by agents of Chilean General Augusto Pinochet.

Quispe (aka Mallku); like Olivera, Quispe was also a well-known labour leader, albeit more controversial,[84] and he was the overseer for the Confederación Sindical Unica de Trabajadores Campesinos de Bolivia. During the Cochabamba uprising in April 2000, Quispe had lent his support to the movement by besieging La Paz, commanding a civil insurrection of close to 500,000 people from the surrounding El Alto and El Yungas areas. Like most blockades staged in El Alto and La Paz, the insurrection brought the capital to a standstill. During the June military coca eradication offensive, which aimed to destroy 1700 hectares of "excess" coca plantations, troops were met by thousands of peasants who demanded a dialogue with the government. Fearing another civil uprising like that of Cochabamba, the government quickly backed down and coca leaders were asked to participate in the discussions around eradication policies.

Later that month, Quispe organised a hunger strike with the help of other neighbourhood association leaders from El Alto, in which more than 3,000 retired and disabled workers from across Bolivia demanded the increase in pensions that had been promised under the capitalisation program. The new pension system, based on individual capitalisation accounts, had established a universal old age benefit program financed by the shares of capitalised enterprises. Major problems ensued over the first few years of the program, mainly due to inadequate legislation and regulation of the securities market, which constrained the trading of capitalised shares.[85] Also, fraud in the collection of pension benefits was apparently widespread, in part due to counterfeit identity cards and multiple birth certificates (Barbery 1999). The spring of 2001 was marked by numerous protests causing major upheaval for the capital city. Meanwhile, Banzer's health was declining (he was suffering from cancer), and this led him to turn over his presidency to his

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[84] In 1984, Quispe was one of the leading organisers of the Tupac Katari Guerrilla Army, which led a failed armed insurrection against the government, and he was arrested for his involvement on 19 August 1992. Quispe has worked for the establishment of an indigenous republic, which would take the name "Collasuyu", in the Aymara-majority regions of Bolivia (There is discussion on this in Chapter 5).

[85] Shares in capitalised enterprises could be sold on public markets, but since none was yet registered in a stock exchange, shares could not be divested and the portfolio was not diversified or liquid. For the same reason, the value of the portfolio was uncertain, as was the sustainability of the annuity. See Financial Markets and Pension Reform (Credit 2789-BO).

Vice President, Jorge Quiroga, in August 2001. Quiroga served as president through to the next elections, held in 2002.[86]

4.9 The First Five Years of the La Paz/El Alto Concession

Concurrent with these events, the first five years of implementation of the AISA contract in La Paz/El Alto were proving successful. The superintendent of the SISAB, Jhonny Cuellar, recorded that between 1997 and the end of 2001 AISA had made 52,000 water connections in El Alto. The company asserted, and he agreed, that these connections meant that it had reached its target of 100 per cent coverage in El Alto: its initial projection of 71,000 required connections turned out to have been too high, largely due to an unexpected slowdown of El Alto's population growth in the last couple of years of the period. AISA also performed considerably above what was contractually required in relation to sewerage connections. By August 2001, it had made 35,945 sewerage connections in El Alto, surpassing the 41 per cent coverage target to reach 54 per cent; this meant that it was about ten years ahead of schedule.

Improvements in efficiency were also recognised: the time it took for residents to apply for a connection was reduced from three weeks to 48 hours. Also, prior to the reform, residents had been required to go to City Hall to pick up an application form for a household connection. They had also had to obtain an architectural drawing of the property and the connections they planned to make, present proof of ownership, and pay application fee (Komives 2001). Repeat trips to City Hall had also usually been necessary, since paperwork was often lost, and this made transaction costs particularly high. One of the first things ASIA did when it began operations was replace the three offices where applicants previously had to go to get their approvals with one room; applicants could then follow their paperwork and know what was happening. Rows of chairs for customers were also provided by AISA in a waiting room; unaccustomed to such an amenity, customers reported quite favourably about the way they were treated by the utility (Komives 2001). To increase the demand for household connections, AISA would even take the application process directly into neighbourhoods, working with customers to fill out the forms and

[86] Presidents are prohibited from seeking re-election in consecutive terms, which prevented Quiroga from seeking the presidency in 2003.

then taking the paperwork to the municipality to be processed in batches. Further, AISA chose to interpret rules requiring architectural drawings quite liberally, usually going ahead with connections ahead of the drawings being provided.

Interestingly, despite the increases in charges, there was a strong culture of payment in El Alto and the company did not seem to have a problem with residents paying their bills. Of all the branches of Suez Environment around the world, AISA had the highest payment rate.[87] The only situations in which non-payment was a problem during these first years involved institutional government customers, specifically the municipalities of La Paz and El Alto. As mentioned previously, AISA had responded to the concerns voiced by community leaders in El Alto over the affordability of connections by allowing customers to spread the cost of the connection over a two-year period. The SISAB was pleased that AISA charged these customers only 1.08 per cent per month in interest—a standard rate based on an average of rates charged by the top five banks, which again was considerably less than that generally charged by micro-lending institutions operating in El Alto. Also, AISA agreed to allow neighbourhood groups to make their own arrangements for network installation if they so desired. The leaders of some communities, for example, would try to save costs and time by collecting money from residents and outsourcing the construction of the network to a local contractor/specific member of the community.[88]

Unlike the mandate for the public water utility, which never had a precisely-defined service area, the AISA concession contract did outline a specific service area, which was based on city boundaries outlined in the 1994 Popular Participation Law. The contract also made reference to an *area servida* (serviced area), which was defined as the area formally served by SAMAPA when the contract was signed as well as all areas included in the expansion goals of the concession contract. This *area servida* was the area that AISA was contractually mandated to serve and where percentage-coverage targets would be enforced

[87] Interview with Roberto Bianchi 13 December 2002.

[88] This was a flexible arrangement that the previous utility, SAMAPA, had allowed and AISA maintained. In 2002, about 2000 of 7000 new water connections throughout the concession area were made through such informal agreements with neighbourhood groups.

by the regulator. However, AISA had no obligation to serve those areas outside the concession contract, known as the *area no servida*. In 2001, Superintendent Cuellar made a formal request to AISA to extend their services into the *area no servida*, but from AISA's perspective, this would obviously entail a tariff revision to reflect the additional costs of the expansion.

4.10 Rising Tensions towards AISA

The first tariff adjustment was due in late 2001. Expansion agreements were agreed fairly early: during the second five years, AISA would make 15,000 water connections in a specific area outside the originally defined service area. In addition, in line with the contract, the company would have to keep up with population growth, estimated to amount to an additional 21,000 households. In terms of sewerage, because the company was ahead of schedule, there was nothing contractually that Superintendent Cuellar could do to oblige AISA to provide a substantial expansion of service. Nevertheless, the company expected public pressure and that demand for sewerage connections would force AISA to continue with installing new connections. AISA envisioned increasing coverage from 54 per cent to 56 per cent by 2006, amounting to an estimated 13,800 new sewerage connections.[89] Cuellar and the company agreed on an increase in revenues of 12.5 per cent, but beyond that negotiations were tough. AISA demanded tariff increases and argued that without them, the company would be unable to fund the investment necessary for further service expansion. At the same time, industrial companies—which considered AISA's rates unfairly high and burdensome—were pressing for a reduction.

People became aware that the data provided by the SISAB and AISA on percentage-coverage only pertained to the smaller area within the concession area. Due to this definition, AISA could rightfully make claims that they had achieved nearly full coverage for potable water in La Paz and El Alto (98 per cent and 97 per cent in 2001, respectively) and significant coverage in sanitation (91 per cent in La Paz and 60 per cent in El Alto in 2003). However, for those living in El Alto, particularly in the *area no servida,* it was obvious that the percentages would be much lower. Also, between 1997 and

[89] Figures from Aguas del Illimani (2002).

2001 widely-dispersed human settlements had grown outside the limits of the *area servida*, as well as within the general concession area. There was little financial incentive for the company to serve these customers; given how far they were from the mains the cost would have been far too high for the households and cost recovery for AISA virtually impossible. Unfortunately, no firm data existed at the time to show exactly what percentage of the entire La Paz/El Alto population truly had access to potable water. Toward the end of 2001, Cuellar hired external consultants to analyse the concession's status, and they confirmed that AISA would need to have a 12.5 per cent increase in revenue to enable it to invest in those areas requested by the SISAB. However, Cuellar had not forgotten the mess of Cochabamba—not least because it had cost the previous water superintendent his job.

People were also feeling the effects of the recession, which had a significant impact on economic growth in the country between 1997 and 2001. The Asian financial crisis in 1997, coupled with low commodity prices, had made the first major dent in Bolivia's growth. Then, in early 1999, Brazil devalued its currency, which slowed Bolivia's economy even further. Growth rates peaked at 5.5 per cent of GDP in 1998, but fell to 0.4 per cent in 1999, and then to zero by 2001 (by 2002 they rose to 2.4 per cent).[90] Cuellar released two regulatory resolutions after the first round of negotiations with AISA in 2001. These resolutions went unnoticed by the majority of public and social organisations. The first resolution approved an increase of USD 0.10 to USD 0.220/m³ for a potable water connection in El Alto, and to USD 0.3444/m³ for domestic connections in La Paz,[91] which represented an increase of 120 per cent in El Alto and of 244.4 per cent in La Paz. The second resolution approved increases in installation costs (for ordinary installations), from USD 155 to USD 196 for potable water and from USD 180 to USD 249 for sewerage, which represented increases of 24.4 per cent and 38.3 per cent, respectively.

Another issue also arose in 2001. Neighbourhood association leaders of El Alto, together with municipal authorities, began demanding that AISA build an adequate storm-sewer system to protect residents against flooding during the rainy season. However, the

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[90]Economic indicators from the World Bank, *Bolivia at a Glance* 2003.

[91] Specifically, in Achachicala and Pamphahasi.

concession contract did not commit AISA to maintain the existing storm sewer infrastructure or to expand it. In a city where the majority of poor residents are at risk of flooding during the rainy season, this matter was serious. According to the municipality of El Alto, the city estimated an investment of approximately USD 30 million was needed to build the necessary infrastructure. For AISA, building an adequate storm-sewer system to protect residents against flooding was not deemed profitable and therefore was not given a high priority.

4.11 Presidential Elections of 2002 and Bolivia's Second War over War (and Gas)

In Bolivia, votes for the president are tabulated at the national level. If no candidate achieves a majority, the newly elected legislature chooses between the candidates: today, they choose between the top two, but until recently the top three would be considered. There is no guarantee that the candidate who receives the plurality of the popular vote will be chosen as president by Congress and it has been as common for candidates in second or even third place to be chosen as for the candidate in first place.[92] Until 2002, three parties had dominated elections in Bolivia: *Movimiento de la Izquierda Revolucionaria* (MIR) [Movement of the Revolutionary Left], *Acción Democrática Nacionalista* (ADN) [Nationalist Democratic Action], and *Movimiento Nacionalista Revolucionario* (MNR) [Nationalist Revolutionary Movement]. However, in 2002 two other parties emerged as major contenders: *Nueva Fuerza Republicana* (NFR) [New Republican Force] and the *Movimiento al Socialismo* (MAS) [Movement Towards Socialism] parties. Despite the high profiles of the traditional party candidates, much of the election revolved around the two candidates from these non-traditional parties. The NFR nominated its founder, Reyes Villa, who had served as Mayor of Cochabamba from 1993 to 2001, and who had gained a great deal of popularity during the Cochabamba water conflict. The other controversial candidate representing the indigenous and peasant sectors was Evo Morales; as noted above, he had come to national prominence as leader of the national coca growers union during the period of the coca eradication program in the Chapare area of Cochabamba. The MNR's candidate was Gonzalo Sanchez de Lozada, or Goni. Not surprisingly, the 2002

[92] This was the case when Goni became president in 1993.

presidential campaign in Bolivia was marked by major tensions surrounding all of the reforms initiated in the mid-1990s, especially those which had involved the private sector.

Besides advocating the end of the drug eradication programs emphasized by the ADN government, Evo Morales' campaign launched harsh criticism of Goni's capitalisation initiatives. Morales argued that major adjustments needed to be made to Bolivia's recently imported neo-liberal model, and he advocated that Bolivia should resist initiatives proposed by the United States and IMF. Morales was very popular with voters in rural areas and in the cities hardest hit by the recession. But the biggest boost to Morales' campaign came from the US Ambassador to Bolivia, Manuel Rocha. Four days before the election, Rocha urged Bolivians not to vote for Morales, warning that the election of a candidate aligned with "drug dealers and terrorists" could result in the loss of US foreign assistance aid (*La Razon*, 27 July 2002). While these comments were denounced by all parties, Rocha's remarks served to legitimise Morales' standing as a viable candidate and illustrated how he contrasted with the traditional parties. Predictably, no candidate won a majority in the election. Although Goni received the most popular votes, Evo Morales, to the surprise of many, was just one point behind, riding a nationalist wave that rose every time a US Embassy official lectured Bolivians on the "consequences" of voting for Morales' party.[93] Although Congress opted to choose Goni as the next president, Morales' MAS party surprised even itself by earning eight senate and 27 congressional seats, up from four only a few years before.

Goni's inauguration day, in August 2002, was marred by protests by the national confederations of labourers, teachers, medical workers, and peasants. Six months later, in February 2003, La Paz and other urban centres erupted in bloody protests against a proposed income tax. These social divisions widened in the months that followed and exploded again in September 2003, following Goni's announcement of plans to export natural gas through Chile (Singer and Morrison, 2004). The National Coordination for the Defence of Gas, under the leadership of Oscar Olivera (previously the spokesperson for the

[93] Goni received the most votes of any candidate, although this was only a share of 22.5 per cent, which was far short of the absolute majority needed to avoid a vote in Congress. The final vote count also showed that Morales was only 1.6 per cent behind Goni; see *Corte Nacional Electoral* (http://www.cne.org.bo).

Coordinating Committee during the Cochabamba standoff), mobilised 30,000 people in Cochabamba and 50,000 more in La Paz to demonstrate against the gas pipeline into Chile. In response, the government called upon the military. The leaders of El Alto's Federation of Neighbourhood Boards (FEJUVE), along with the powerful forces of Felipe Quispe, leader of the Pachakuti Indigenous Movement and general secretary of the United Union Confederation of Working Peasants of Bolivia (CSUTCB), dominated El Alto's Radio San Gabriel, where each took turns vocalising demands that the government fully nationalise hydrocarbon resources and increase indigenous participation in the political life of the country. On 12 October 2003 the government imposed martial law in El Alto after sixteen more people were shot by the police and several dozen wounded in violent clashes, and on the following day the administration suspended the gas project. However, more violence ensued, leaving 67 people dead and hundreds wounded. Vice President Carlos Mesa deplored what he referred to as the "excessive force" used by the government in El Alto and withdrew his support for President Goni. The Minister for Economic Development, Jorge Torrez of the MIR party, also resigned in protest at Goni's leadership. The governing coalition disintegrated shortly thereafter, forcing Goni to resign and flee the country days later. Goni was then succeeded by Vice President Mesa.[94]

4.12 The Downfall of AISA

There was no calm after the October storm. Immediately following the "successful" overthrow of President Goni, community leaders promptly added the AISA concession to their list of complaints against the government, and called for the cancellation of the AISA PPP contract. The FEJUVE, under the leadership of Abel Mamani and Carlos Rojas, continued to organise numerous strikes in the city, this time claiming that AISA's water prices were too high and out of reach to the majority of El Alto residents. Protesters also

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[94] Ten Bolivian families have initiated lawsuits against former President Goni and Defence Minister Berzaín relating to the violence that took place in Warisata, Sorata, and Achacachi during October 2003. The plaintiffs claim the two men escaped accountability in Bolivia by relocating to the US (to Maryland and Key Biscayne, respectively), and they should be forced to pay damages for the deaths. Goni and Berzain say the case should be thrown out. They contend that they were doing their constitutional duty to quell a violent uprising and that the events and people involved are purely Bolivian. In June 2008, more than 7,000 Bolivian workers, farmers and others protested in front of the US Embassy in La Paz demanding that the two men be extradited to Bolivia to face charges.

demanded that the government reverse its recent increases of 10 per cent for gasoline and 23 per cent for diesel, claiming that the cost of all basic goods had skyrocketed. In response, the government agreed to "review" the contract with AISA. This was not enough for the FEJUVE. According to Mamani, "Aguas del Illimani has not complied with their contract, so they have to go" (*La Razon*, October 25 2003).

According to AISA and the SISAB, the utility had in fact provided new 87,000 drinking water connections since 1997, including 57,000 in El Alto. In terms of sanitation, 69,000 connections had been made, including 47,000 in El Alto. This represented more connections than had originally been agreed upon in the concession contract, and an average annual connection rate three times higher than under SAMAPA. Water rates had increased slightly in real terms since 1997, but this was only because the rates were calculated in US dollars and the Boliviano had depreciated against the dollar; the utility did not directly increase consumers' charges. Up until this point, AISA had invested USD 63million in infrastructure and 92 per cent of the income generated from the firm was paid back to the Bolivian community either through the state (65 per cent in taxes, investment, and rent), in staff remuneration (20 per cent), or directly to suppliers (7 per cent). No dividends had been paid to shareholders. Aside from two expatriates, company employees were all Bolivian nationals.

These details were not fully understood by the majority of the opposition movement, and those who were aware either did not believe them to be true or felt that they were not relevant to their larger struggle against the commercialisation of natural resources more generally. All this time, throughout the latter part of 2003 and for most of 2004, AISA had made a concerted decision to keep as low a profile as possible, choosing not to exploit the various media outlets to present their side of the story. The government, meanwhile, tried to shift the focus of the protests away from water. In March 2004, for example, President Mesa announced that his government would hold a series of rallies around the country and at its embassies abroad, demanding that Chile return to Bolivia a stretch of seacoast that the country lost in 1884 after the end of the War of the Pacific (Singer and Morrison 2004). Chile traditionally refused to negotiate on the issue, but Mesa nonetheless began to make this a central issue of his administration. He continually appeared on national television to beseech protestors to stop and to understand the reasons behind the increases in fuel prices, arguing that cheaper subsidised Bolivian fuel was being

smuggled into neighbouring countries, causing a national shortage. On numerous occasions he also threatened to resign should violence to break out, but the strikes and protests continued. Thousands of El Alto residents hit the streets for days on end; roadblocks cut off traffic in and out of La Paz, shutting down El Alto's international airport, which serves as the only airport for the capital city. At the same time, in the cities of Cochabamba and Potosi, factory workers, students, farmers, retirees, homemakers, unemployed workers, and minors all joined in marches organised against the fuel price increases.

Meanwhile, the organisational capacity of the FEJUVE was growing strong. On 27 September 2004, after completing a "grassroots discussion on different issues regarding the needs of the all Bolivian people", the group submitted a formal letter to the government (a *Pliego Nacional*) demanding the nationalisation of Bolivia's hydrocarbons, the recovery of all state enterprises that had been privatised, the expropriation of various politicians' properties, and the repeal of Supreme Decree 21060 (which in 1985 had essentially established much of the neo-liberal policy framework); the letter also demanded better healthcare, employment, and education (Narco News Bulletin, January 14, 2005). Over the next month the FEJUVE began distributing pamphlets across El Alto, detailing 14 specific reasons why the AISA contract needed to be terminated. Neither the government nor AISA countered the FEJUVE's tactics by distributing their own information pamphlets, nor did they do any other type of community outreach. Mesa also failed to give attention to the increasing hostility towards AISA during his television appearances. On 15 November, in one of the largest demonstrations to date, the FEJUVE gave the government 48 hours to respond to the demands previously articulated in the September letter and added several new points, specifically a demand to "expel all transnational corporations from the country, starting with Aguas de Illimani" (*La Razon*, 16 November 2005).

Over the following weeks, a series of negotiations between government ministers and the leaders of the FEJUVE took place. The FEJUVE's then-president, Abel Mamani, made the people's point of departure very clear: "We didn't come here to discuss what to do to improve service or lower our bills. We're going to start with the root of the problem: Aguas de Illimani simply must leave" (*La Razon* 5 January 2005. On 11 January 2005, residents of the outlying El Alto neighbourhoods of Ballivian and Alto Lima, which continued to lack water and sanitation connections, seized several AISA facilities,

including a water tank. The same day, Mesa responded by sending a letter to the FEJUVE, saying he was beginning “the necessary actions for the termination of the concession contract” with AISA. The various leaders of the neighbourhood associations met at the FEJUVE headquarters to discuss the letter, but after three hours they decided to continue their strike. They then gave Mesa's government 24 hours to promulgate a decree immediately cancelling the contract with the water; otherwise, they claimed, protesters would seize the company's facilities.

The following day El Alto remained paralyzed. The government presented the FEJUVE with another decree but this too was rejected because according to the FEJUVE it failed to make clear “that AISA and foreign managers of the company needed to leave Bolivia immediately” (quoted in *La Razon*, 13 January 2005). By the end of the day, the government gave in to the protestors’ request and presented Supreme Decree 27293, stating that they would comply with the requests of the FEJUVE and take the “necessary actions” to terminate the contract “immediately” and to guarantee water and sanitation service for El Alto and La Paz (*La Razon,* 13 January 2005). In response, the FEJUVE finally called an end to the strikes but warned that its members would remain on alert to make sure the company did not remove any equipment from its facilities. It also made a formal statement pressing for additional demands for re-nationalisation: “Electropaz is next”, they warned, referring to the electricity company servicing El Alto and La Paz; this was operated by the Iberdrola S.A., which is a Spanish company and a leading global private electric utility. On 23 January 2005, 20,000 residents of El Alto, already organised for a scheduled protest march into La Paz, participated in what became a victory march, celebrating the cancellation of the contract with AISA. SAMAPA was to be revived to take over the water and sewer service in La Paz and El Alto for a three-month period while a new entity was being established.

After passing the resolution to cancel the AISA contract, President Mesa attempted to resign from office, but Congress refused his request out of fear of creating even more instability in the country. However, as the months passed and the conflict over Bolivia’s gas reserves continued, Congress finally accepted Mesa’s resignation and replaced him with the chief justice of the Supreme Court, who was given the responsibility of organising new elections. These elections, which were held just nine months later, led to a massive victory for Evo Morales, who achieved 54 per cent of the vote. Morales became the

country's first fully indigenous head of state since the Spanish conquest, and unlike the presidents before him, after he was formally sworn in by Congress and the judiciary, he held a second, more emotive, acceptance ceremony at the archaeological site of Tiahuanaco, where thousands of indigenous supporters gathered to celebrate the most dramatic cultural shift in the make-up of Bolivian politics in almost half a century.

4.13 A Brief Summary of Current Service Delivery Issues in La Paz/ El Alto

Shortly after taking office, Morales appointed Abel Mamani of the FEJUVE as the new Minister of Water. Immediately after taking office, Mamani initiated a legal process against two ex-superintendents, claiming that they had acted against the rights of residents. He referred to Bolivia's victory against the commodification of water, and made a proposal at the Fourth World Water Forum that "water be declared a human right to be owned and managed strictly by public entities".[95] Publicity surrounding the cancellation of AISA spread quite quickly, and much of it was misleading. AISA and its majority shareholder, Suez Environment, were depicted by much of the media as having profiteered off its low-income consumer base, and irrelevant statistics regarding Suez's global annual profits (rather than AISA's) were used to perpetuate misconceptions about the concession further.

However, within a year of Mamani's ministerial appointment, there were various calls for his resignation. Allegations began to spread rapidly across the country that he was too inexperienced and did not have the technical capacity or background to oversee the sector. Much of this negativity was actually propagated by his former colleagues at the FEJUVE, some of whom felt slighted by his appointment and sceptical about his political motivations. The combination of rapidly deteriorating services in the adjoining cities of La Paz/El Alto, coupled by the publication of compromising pictures of Mamani in the company of prostitutes while in Italy on government business, generated an outcry among community members and a new set of protests that once again drew the working capital to a standstill. Morales terminated Mamani's position with the government shortly thereafter, which led to continued instability for the water sector across the country.

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[95] The 4th World Water Forum was held 16–22 March 2006.

Meanwhile, AISA reverted to a public utility model, called Empresa Pública Social de Agua y Saneamiento (EPSAS).[96] The utility was meant to be restructured as a "public-social company", although how exactly this would be done in practice remains unclear. According to the FEJUVE, the utility was meant to be governed by a popular assembly with elected delegates from all regions of the city, who would be given the task of formulating the policy of the water company (Pérez 2005). However, according to the SISAB website, the utility is a ***sociedad anónima*** (equivalent to a "limited" company), owned by the government with two private shareholders, and it continues to be regulated under commercial law.

Since 2007, there has been a continuous flow of criticism of the EPSA on account of water shortages, accounting errors, tariff increases, and poor disaster preparedness. According to Carlos Rojas, who stayed on as an active member of the FEJUVE after Mamani became minister, service expansion has decreased while rates have increased by 40–100 per cent since the departure of AISA, with few new works being carried out.[97] The executive secretary for the mayor of La Paz has also made various statements to the press claiming that the utility "fails to comply with regulations for cleaning of sewerage pipes and major aqueducts [and that this] is having disastrous consequences for residents across the two cities" (Javier Zárate, quoted in *La Razon*, 11 February 2008). In response to many of these complaints, Víctor Hugo Rico, who is the current EPSA manager, argues that the company is barely able to cover the current costs of provision and that the company desperately needs to hire more personnel. Due to the fact that no agreement has yet been reached as to the type of institutional structure the utility should have, he says he is unable to leverage any additional funding for investment (*La Razon*, 11 February 2008). Local residents, as well as hospitals, schools, and commercial and industrial consumers are growing anxious. Meanwhile, representatives of El Alto's FEJUVE are once again threatening to take over the utility and create their own service provider.

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[96] EPSAs are not unique to La Paz/El Alto. This is the name given to any municipal utility in the country. They were designed as part of the regulatory reform of the late 1990s requiring all utilities (public and private) to draft a service provision contract with the SISAB.

[97] BNamericas Interview, 12 September 2008.

The Morales administration modified the regulatory structure in 2007 by placing many of the superintendents under the control of their relevant ministries, potentially decreasing the regulators' freedom from political interference. This action reversed what many outside observers believed had been Bolivia's strongest political and economic pillar, as regulators had acted independently and were supposedly beyond the reach of party politics.

4.14 AISA Audit

In Annex Two there is a summary of an audit of AISA, which was released in 2007. A relatively unknown local auditing firm conducted the audit and it acted under immense political pressure as the government needed to find ample reasons why it should not pay AISA compensation for terminating the concession contract. However, even under these circumstances, discrepancies between AISA's stated compliance with the contract expansion targets and those found by the auditing firm do not vary significantly. The auditors do take issue with the estimated returns they calculated AISA would have generated: taking an average for the 30 years of the concession, the auditors estimated the financial return for the Concessionaire to be 22.9 per cent, which they then categorise as being "significantly high". It is important to note, however, that these estimates were made without sufficient information regarding (i) infrastructure investments undertaken by AISA; or (ii) the goods/assets transferred from SAMAPA to AISA, which were never registered; further, there was (iii) no available documentation related to the payroll of any of the various investment projects. Most significantly, the auditing firm surprisingly confuses revenue streams with profit earnings, which are two completely different concepts.[98] Profitability (and not revenue) is a much more accurate measure of the potential sustainability of a firm's success. We do not know exactly what the profit earnings were for AISA during the concession period.

[98] *Revenue* is the money that comes into a business, but it does not take into account expenses and cash outflow. As a result, revenue is not a good measure of a firm's success, and this is especially true when the necessary costs of doing business are high. *Profit,* on the other hand, is the money that a business retains after all expenses have been paid and accounts have been settled.

For its own part, Aguas del Illimani claims that the Bolivian government owes it USD 65 million for investments. An article by the progressive news agency Bolpress argues that this claim is grossly exaggerated. They point out that under the contract the government is obligated to compensate the company only for its fixed net assets, and as of 31 December 2004 this amount did not surpass USD 22 million. Further, if the costs recuperated from connection charges alone are discounted against this amount, then the State would only owe Aguas del Illimani a maximum of USD 9 million (Bolpress, 17 June 2005). However, the Government of Bolivia has also taken another avenue, claiming that the contract itself was illegitimate. Using the argument that the great "sell-off" of major public enterprises in the late 1990s was riddled with corruption, there was a move to revoke all contracts signed during the period of "capitalization" and to claim compensation from these companies.

Chapter 5. Understanding the Clash between Formal and Informal Institutions in the Water Sector

5.1 Section I: Bolivia's Informal Institutional Environment

5.1.1 The Relevance of Pre-Hispanic Values and Customs

Toward the end of the last chapter, we were left with the image of Evo Morales honouring his presidency in a ceremony at the archaeological site of Tiahuanaco; a site which dates back to approximately 200 BCE, over 1,000 years before the rise of the Inca Empire and the Spanish conquests. It was here that Morales was crowned as *Apu Mallku*, which means "supreme leader" or "prince" in Aymara, thus accepting a symbolic mandate to oversee the *Ayllus*, the vast network of traditional groupings and social structures of the Aymara people. Tiahuanaco, built near the Lake Titicaca basin of Bolivia, consists of massive blocks weighing up to 100 tons each. Brought from several miles away and fitted together without mortar, these blocks were cut, squared, dressed, and notched with a precision equalled by no other aboriginal South American civilisation. It is believed that Tiahuanaco contained several large temples surrounded by moats; the central temple, called the Akapana, was constructed in a series of seven tiers, which were meant to resemble the nearby mountain peaks, and engineers plumbed it with drains so that when the annual rains arrived, water would thunder through the temple (Morell 2002). It was here that the people of Tiahuanaco celebrated fertility ceremonies and other rites of passage while water roared through the mountain temple, exemplifying a renewal of the earth and the "circulatory system of the Aymara universe" (Kolata 1993).

A 32-year drought from 563–594 CE (Kolata 1993) apparently caused widespread devastation across the Tiahuanaco Empire, prompting the Aymara people to revolutionise their agricultural techniques and to use raised-bed irrigation systems.[99] Many scholars

[99] The high altitude of the Titicaca Basin required the development of a distinctive farming technique known as "raised-field" agriculture, which is today seen only in experimental, government-funded projects. In antiquity, this method comprised a small but significant percentage of the agriculture in the region, along with irrigated fields, pasture, terraced fields, and *cocha* (small lake) farming. Artificially raised planting mounds are separated by canals filled with water, and these canals supply water for growing crops; however, they also absorb heat from the sun during the day, and

believe that these new techniques were the catalyst that allowed the empire to prosper for an additional 400 years, and the city to reach a population of an estimated 50,000 by 800 CE (Kolata 1993). Sustaining a productive agriculture-based society in such a dry and severe region through the use of primitive irrigation and hydraulic technology was an extraordinary accomplishment, and is very difficult to imagine. In 1957, an American scholar named Karl Wittfogel famously put forward a theory of "hydraulic civilisations" to explain the rise of state-societies. He argued that in order to progress, such civilisations required despotic rulers uniquely prepared to wield supreme power over water resources (Wittfogel 1957). Wittfogel believed that irrigation had an organising effect: the scheduling of water use, the maintenance of canals, and the defence of canals from hostile neighbours were all factors at work within hydraulic societies, so that efficiency gains would be achieved only through central control and a political and social structure capable of organising the forced use of labour. According to Wittfogel, this powerful monopoly over water resource distribution within a society would lead to a single-centred despotic government. We cannot say for certain whether this was in fact the case in Tiahuanaco; there is some debate between the archaeological evidence, which is suggestive of a powerful centralist government, and anthropological research, which supports the notion that Tiahuanaco was based on a system of kin-based reciprocity and regulation, rather than hierarchy and control (Schaedel 1988; Graffman 1990). At its peak, between 800–1000 CE, the Tiahuanaco Empire controlled nearly the entire Lake Titicaca basin, an estimated area of around 58,000 km²; this empire then vanished suddenly, around 1100 CE. To this day, its disappearance remains a mystery, and a focus of myth and controversy.

Regardless of how little is actually known about the true history of the ancient Aymara civilisation, Evo Morales' acceptance of his presidential honour in the open air, with his feet on the ancient rubble of his ancestral past at the site of Tiahuanaco, clearly exemplified his reverence for the informal institutions (values, customs, traditions, and culture) that he and his supporters believe to embody the Aymara heritage. In front of tens

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this heat is radiated during the bitterly cold nights, providing thermal insulation. Over time, the canals also were used to farm edible fish, and the resulting canal sludge was dredged for fertiliser.

of thousands of people, Aymara community leaders replaced Evo's western clothes with native attire. They then removed his shoes to enable him to stand in closer proximity to the *Pachamama* (mother earth), and they gave him a walking stick decorated in gold and silver, which was said to represent the transfer of authority back to the Aymara people for the first time in over five centuries. In many ways, this day marked the rise of another kind of power, more cultural than political: that of a post-modern Indian icon. The hope of most Bolivians was that this political ascendance would signify a much-needed blending of the informal and formal institutional frameworks that currently make up modern day Bolivia.

The pre-Hispanic values, customs, and traditions of the Andean population are particularly relevant to understanding the water sector in Bolivia and help us to answer the first sub-question laid out as part of this research endeavour: *How has the clash between the informal and formal institutional environment influenced intended outcomes and perceptions of water sector reform over time.* During the 2003 uprisings these informal rules formed the backbone of the opposition's campaign against PSP, a strategy that eventually led to the collapse of the La Paz/El Alto concession arrangement. Across the developing world, the rhetoric of indigenism[100] is increasingly being adopted to support political protest movements (Brysk 2000), and this has played a major role in motivating international activism. In Bolivia, the recent shift from class-based social movements to ethnic-based movements (Canessa 2006), combined with prominent Indian leaders' aggressive pursuit of reclaiming an indigenous nation-state identity, may have come at the expense of progressive water reform policies and created a precarious setting for the future of service provision for the urban and peri-urban poor. The objective of this chapter is to analyse the ways in which the informal and formal institutional rules governing Bolivian society have influenced the process of water sector reform. This is of wider significance because clashes between informal and formal institutional environments also occur in many other developing country contexts; this is especially the case in cities with long histories of heavy reliance on self-provision, where informal personalised exchange

[100] Based on the UN definition, the term "indigenous" refers to communities, peoples, and nations that have a historical continuity with the pre-invasion and pre-colonial societies of a particular territory, and which consider themselves distinct from other sectors of the societies now prevailing in that territory.

institutions and community-managed water sources still dominate, and where water, as a natural resource, is incorporated within religious or spiritual belief systems.

Much of the literature *against* the commodifcation of water tends to place a great deal of value on informal personalised exchange institutions, emphasising the peaceful and cooperative practices of many low-income communities in support of community-managed water provision. This literature makes the point that the process of commodification, through the commercialisation of service provision and the introduction of PSP, has created an environment of conflict among communities that might otherwise work cooperatively through informal rules of exchange (Bustamante 2002; Getches 2002; Guevara Gil 2004; Peña *et al.* 2004; Sikkink 1997; Trawick 2003; Vera 2004). Meanwhile, the international language of *indigenous rights*—especially in the case of Bolivia (and other Andean countries)—has become a powerful mechanism for user groups to bundle issues related to service provision into a much larger agenda concerning discontent over issues such as ethnicity and social exclusion. Recent research by Boelens and Hoogendam (2005), for example, specifically considers local norms and cultural expressions on water rights in different Andean groups, as well as the cultural politics of resistance and rights-building, as a way to explain the ways by which people build negotiating power to defend the water systems that form part of their identity. These researchers suggest that national and international elites (or enterprises) use both state intervention and privatisation policies to nullify indigenous water rights, ultimately denying, forbidding, and/or undermining local forms of water management (water *control* rights).

The difficulty with much of this literature is that it draws conclusions about Andean values, customs, traditions, and practices primarily from rural indigenous demographics, where water users are more likely to base their livelihood on socially collective, community-oriented practices of reciprocity and redistribution; practices that perhaps emerge from attributes unique to Andean culture or, equally possible, that have evolved out of necessity for survival in the absence of adequate formal service provision. Also, although urban communities, such as indigenous populations living in La Paz/El Alto, may share some similar traits in terms of collective and community-based cultural and political organisation, there is a marked difference as to the applicability of community-managed water resources and service provision. This is not to say that we should shy away from integrating a ‘livelihood’ perspective into the planning of urban upgrades and the

expansion of water and sanitation services. On the contrary, this livelihood perspective is critical to developing the water sector in a more sustainable manner, because the livelihood perspective (and its application through the Livelihood Framework) identifies the *vulnerability* of consumers as the most important factor in determining the successful outcome of sector reform. Thus rural and urban institutional environments deserve analytical differentiation as well. One of the aims of this research is to demonstrate that there are opportunities for customary and indigenous principles to be integrated formally into urban planning for service provision, particularly where the private sector is involved.

The remainder of this chapter will address the following research question: **How has the clash between the informal and formal institutional environment – those "rules" governing Bolivian society – influenced intended outcomes and perceptions of water sector reform over time?** Evidence will be presented to demonstrate that although we may be witnessing a clash between the informal and formal institutions that support the provision of water, the real source of conflict that we must confront in the water sector today is the *politicisation* of water provision rather than the *commodification* of water provision. Herein lies the greatest barrier to building a common institutional framework to improve access; not only for Bolivia's urban poor but for urban areas across the developing world.

5.1.2 The Polity of the Pachamama

> *"We don't believe in privatisation because we have respect for the Pachamama"*[101]

During interviews with households and neighbourhood leaders, discussion about the current water conflict often evolved into a conversation about the values and customs of the Quechua and Aymara people, most notably around the untranslatable word that simultaneously denotes a "moment in time" and a "locus in space"; this is "*Pacha*", which encompasses earth, world, time, and place (Solomon 1991).[102] These respondents referred specifically to the *Pachamama*, whom they believe to be the mother earth spirit responsible for providing her people with water. They argued that contemporary Andean

[101] Interview: El Alto Resident, 10 November 2003.

[102] *Pacha* is also referred to as "earth" personified as a female being in modern folk religions.

society continues to perceive water as a necessity and a "spirit of life that others should not be able to gain from." One respondent explained that "If the *Pachamama* could talk, she would tell us, 'stop polluting and stop selling water' but she can't talk, so we have to speak for her."[103] Another remarked that "those who understand our values can understand why Aguas de Illimani is an enemy of the *Pachamama* and why we must refuse that "she" be sold off to transnational companies."[104] However, was this perception of the *Pachamama* correct? Would the *Pachamama* really be against PSP in the provision of water? Did these respondents believe that the use of water resources for political and economic gain was a phenomenon created solely through the commodification of water in recent decades?

From a mixture of archaeological and ethnographic research, historians have deduced two pervading generalities about the *Pacha*. Earth's living mass was imagined rising up from the waters of the surrounding ocean as a single world mountain made up of all the Andean ranges and consisting of female-like valleys and male-like, snow-capped, heights. Throughout the history of the region, the indigenous Indians worshiped the great snow-capped peaks because that was from where their water was believed to come (Avila 1918 [1645]: 83). Water, including rainstorms and mudslides, snow and glacial runoff, and tiny irrigation canals and mighty rivers, was believed to move over *Pacha* in a circular path, rising up from the ocean into the sky along a "Milky Way river" (Solanes 1991). When water takes the form of storm water and downward flowing water it is considered to be male, while the Pacific ocean water is considered to be female, and usually referred to as *Mama Cocha* ("Mother Lake") in modern Andean myth (Solanes 1991; Solomon and Urioste 2000). Interestingly, the hydraulic embrace of moving water and enduring earth was imagined as sex; their grip was seen as yielding a biotic system in which life-forms emerge from the blending of earth and water (Dumézil and Duviols 1974–1976). Hydraulic sex was actually imagined as a rather turbulent affair. Myth-tellers, recounting with a good deal of humour the harrowing vicissitudes of a water-poor irrigation economy, likened its hazards to the comical chaos of undisciplined sexual desire. The union of wild water from the heights and from the soil of the valleys provided the greatest agrarian wealth of the

[103] Interview with El Alto resident, 14 November 2003.

[104] Interview with El Alto resident, 14 November 2003.

western Andes. Anthropological, ethno-historical, and archaeological narratives about the influences of indigenous social structures and belief systems on rights-to-water canals and land tenure offer a rather complex reading of Bolivia's past; this has important implications for our interpretations both of the informal rules that have historically governed Andean communities, and of the modern-day relationship between indigenous communities and *Pachamama*.

Interestingly, the exploitation of natural resources for political and economic gain appears to have been a part of Andean society long before the Spanish invasion. Mythological texts such as the *Huarochirí Manuscript*, which is one of the oldest sources for the beliefs and practices of pre-Hispanic Andean communities, describe a highly politicised use of natural resources and provision of fresh water for agriculture and human consumption.[105] Marriage myths, of which there are many, are believed by many scholars to be myths of social dynamics (Solomon and Urioste 2000) that express not only an ideal of reproductive union, but also an image of the many tensions involved in creating such a union. The pre-Hispanic myths focus a great deal on the tensions between highlanders and lowlanders; highlanders sought land by downward invasion and by establishing vertical outliers in the mid-altitudes, while lowlanders in turn sought to capture more water sources by extending their canals upward and exerting political power over the lakes and streams of the heights (Torero 1974: 73–79). Irrigable crops grew best in places where canal water fertilised pockets of sun-warmed soil amid the rocky river canyons. Irrigated valley lands symbolised abundance, and access to warm land with water was seen as the limiting factor in winning wealth. These myths provide vivid renderings of the struggle between water-poor and water-rich groups.[106]

Arkush and Stanish (2005) argue that much of debate over whether water conflicts existed in ancient Andean societies is due to confusion over what constitutes evidence of

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[105] The *Huarachí Manuscript* has been described as a kind of Andean Bible; a conscious attempt by the Andean people to organise their mythology and history in order to protect them against the encroaching imposition of European mysticism during the early 1600s. It was composed relatively independently from Spanish preconceptions about native religion.

[106] Ancient Andean myths that relate to water conflict can be found in the *Huarachí Manuscript* (6:82–90; 12:170; 30; 31: 406 –432).

warfare or conflict; this confusion exists because there has been comparatively less archaeological research conducted into pre-historical state development in the Andes region than in other areas. Early Spanish chroniclers' accounts of Andean civilisations portray military might as the cornerstone of the Inca Empire, and they claim to have encountered huge Inca armies supported by a superb logistical framework for roads, supply depots, secondary centres, and forts (D'Altroy 1992, 2002; Hemming 1970; Hyslop 1984; Rowe 1946). Inca oral histories also describe periods of frequent warfare among ancient Andean societies, in which local warlords battled each other for plunder, political dominance, territorial resources, and, in particular, for water resources (Cobo 1979 [1653]; Guzman Poma 1980 [1613]). Also, records of various sixteenth-century lawsuits between indigenous Andean communities provide additional insights into the conflicts that existed over the management and use of water. For example, a lawsuit in 1558 concerning the Yauyo of Chaclla and the Yunca of Collique (among others) shows how, in pre-Hispanic times, the downward penetration of "vertical archipelagos" led to conflicts so mutually costly that lowlanders and highlanders were usually *forced* to reach a *modus vivendi* of shared irrigation work and ritual reciprocity between leaders (Murra 1975a [1972]). Typically, these arrangements were delicate, very unstable, and liable to lapse into prolonged violence when politically stressed. Even after Inca pacification, there is much evidence to support the view that indigenous groups incessantly tried to cheat and coerce each other in their pursuit of control over water resources.

In stark contrast to the archaeological literature, the anthropological literature emphasises the peaceful water management practices and rituals of ancient Andean societies; this literature tends to support the theory that the management of water resources in Andean societies is based on the principles of equity, proportionality, and reciprocity (Sikkink 2008; Trawick 2003). Scholars suggest that sources of conflict only emerged with the arrival of Spanish colonialists; colonialists bent on destroying traditional agricultural systems of water provision by introducing hierarchical forms of resource utilisation that eventually led to water scarcity and a breakdown of indigenous community value systems (Abercrombie 1991; Remy 1994). Most of this research, however, draws on case-based and/or cross-cultural comparative analysis of rural Andean and/or Bolivian community behaviour through "participant observation", without taking into account any of the contrasting archaeological evidence. These anthropologists not only theorise that ancient water-exchange rituals are directly responsible for the communal order of shared natural

resources and the control of water dispute management; they also nearly all call for a return to the indigenous model of community control over water as a way of mitigating current, modern-day conflicts over resources and water distribution (Sikkink 2008).

However, while the idea of conflict tends to evoke visions of violence, conflict over water can also be interpreted through an exploration of rituals. Aymara and Inca rituals to bring rain were described by sixteenth-century chroniclers (Calancha 1978; Murua 1946) and, surprisingly, these ancient rituals continue to be celebrated across the Andes region today. *Tinku*, for example, is a form of ritual conflict that is still practiced across many parts of the Bolivian highlands. Although the term specifically means "encounter" in Quechua, and it is usually a festive event involving music, dancing, food, and drink, these prearranged *tinku* encounters between different communities, moieties, or kin groups can indeed become quite violent affairs; people are injured or even die (Chacon and Guandinango 2003; Gorbak, Lischetti, and Munoz 1962). When community members fight, they tend to use arms considered traditional, or "Inca", which include slingshots, boleadoras, clubs, and whips (Alencastre and Dumézil 1953; Orlove 1994). Personal group hostilities and grievances also often enter into the battle. Blood shed during battles is believed to encourage the fertility of the earth, and when a death occurs it is perceived to be a good omen for the winning community, encouraging rainfall, control over water resources, and a prosperous harvest (Chacon and Guandinango 2003; Gorbak, Lischetti, and Munoz 1962; Hartmann 1972). However, contemporary *tinkus* are often supervised by local police and/or religious authorities in order to prevent bloodshed (Chacon and Guandinango 2003; Orlove 1994; San Martin 2002) and in some localities, *tinkus* are even banned by the local government or church because of the frequency of violent incidents (Zorn 2002). Although still considered to be a playful practice, increasingly, people are participating in *tinku* as a statement of indigenous peasant autonomy and fierceness, and in contrast to the *mestizo* culture (Orlove 1994; Zorn 2002).

There is no question that across the Andes region, reverence for the *Pachamama* remains a spiritual constant, and the culturally-bounded political relationship between the people and the land is stronger than ever. It is a relationship viewed by most of the indigenous community as one based on territorial entitlements to soil, water, air, and subsoil (namely, natural gas) resources that make up Bolivia's vast mineral-rich landscape. For the purposes of this research, households were therefore asked to respond to an open-

ended question about the *Pachamama*. Specifically, they were asked: "What would the *Pachamama* have to say about water reform in Bolivia?" Most respondents felt that the *Pachamama* would be against the selling and exploitation of any of Bolivia's natural resources by private companies, particularly "foreign ones". When it was explained to them that their water resources had in fact not been sold off—that AISA did not actually "own" any of Bolivia's water resources or the infrastructure (pipes, networks, and/or treatment facilities) supporting its distribution—respondents were surprised and very sceptical. One of the focus group discussions regarding the *Pachamama* evolved into a discussion around the issue of "entitlements". This group, made up largely of neighbourhood association members, argued that the *Pachamama* would demand that water be "free" for all. They argued that the concept of cost-recovery, and the treatment of water as an economic good, was incongruous with a belief in the *Pachamama*. Interestingly, much of what was highlighted by respondents sounded more similar (in spirit) to the rights-based doctrine outlined in the United Nations Declaration on Human Rights, than to any mythical doctrine concerning the revered *Pachamama*. The UN now says explicitly that access to safe water is a fundamental human right.

5.1.3 Territorial-Based Ideologies

> *"Partitioning the land to the real ancestral owners: this is the dignified purpose of our people. And all those politicians who only care about pleasing the Americans—the ones who think they are above Bolivian law—they should be taken to the execution wall."*[107]

Ayllu

In order to appreciate the complexity of the social relations and institutions of the Aymara people, one must first come to understand indigenous communities in relation to the concept of *Ayllu* (Abercrombie 1986; Albo 1972; Canqui 1993; Izko 1992; Platt 1982, 1987; Van Cott 2000). *Ayllu*, in its most specific sense, refers to an intimate kin group, what Abercrombie terms (1986: 119) a "circulating connubium" of vital essences among people sharing corporate interests, shared resources, common ancestors, representative sacred places, and a common identity. Simultaneously, though, it is a slippery term that

[107] Interview with El Alto resident, 20 November 2003.

can also refer to overlapping identities (Izko 1992; Platt 1987) and which can shift in meaning depending on day-to-day and/or regional context (Abercrombie 1986). *Ayllu* can invoke an intricate and malleable sense of place, community, and identity for an individual, but it can also define complex relations in a hierarchical socio-political landscape. Historically, *Ayllu* provided social and personal coherence for constituent groups and individuals, but it was also the foundation for a hegemonic political ideology (Mainwaring *et al* 2006; Van Cott 2000). Aymara systems were organised within a complex amalgam of corporate and class structures, and *Ayllus* were divided within this structure into two groups: an upper nobility (*Hanansaya*) who had access to private property and inheritable rights to land and free labour, and a lower class (*urinsaya)* to which everyone else belonged (Klein 2003). So, while much of the literature tends to place great emphasis on Aymara communal practices and common rights to land, it is important to keep in mind that, historically, the Andean system was also made up of complex institutions, communities, and properties, ranging from private estates to colony communities.

Land boundaries in many parts of rural Bolivia today are not understood by people spatially, but rather conceptually; property is not something that is seen primarily as land divided on geometric principles, but rather as a set of continuing relationships in regards to access to agricultural products that happen to be grown in widely diverse ecological niches (Goodale and Sky 2000). A system of inheritance developed centuries ago in order to deal with the Altiplano's often harsh micro-environments (marked by differences in temperature and rainfall patterns), and this ultimately resulted in the distribution of all land types within a community's holdings among all households; the households of each community own several small parcels of land distributed among the different micro-environments. Thus, a single family might farm as many as 30–70 non-contiguous plots of land. In any given year a family may lose part of its crop to flooding, but if the family also owns parcels in a micro-environment that normally experiences less rainfall or has better drainage, at least part of the production will be spared. This system, resembling a micro version of verticality, includes the use of many different cultivars in each micro-environment to further reduce risk by maximising variability.

Unclear ownership rights and blurry land boundaries in rural Bolivia have been a breeding ground for outbreaks of violence between *Ayllus*, and they are a cause of

contention between *Ayllus* and government authorities. The conception of rural *Ayllu* identity is important for our understanding of the La Paz/El Alto case because of the migratory history of the city and the largely unplanned urban expansion of El Alto (Sandoval and Sostres 1989); in the 1940s and 1950s much of the communitarian and territory-based ideologies of rural Aymara agriculturalist societies seeped into the urban ideological landscape. These largely rural origins of the population of El Alto suggest that many of the city's inhabitants are reluctant to adapt to modern urban lifestyles.

Since Bolivia gained its independence from Spain, socio-cultural change, massive job losses in the formerly crucially-important mining industry, and, most significantly, escalating land and water conflicts, have compounded the region's problems to the point where bloodshed has been increasing for the past few years. Modern-day Bolivia can be divided into three distinct regions: the highlands, the valley, and the lowlands, with each region characterised by differing climates, vegetation, and types of inhabitants. Since pre-Colombian times, Aymara people have dominated the highlands, while Inca Quechua-speakers and their descendants have dominated the valley. Historically, the lowland regions were inhabited primarily by rainforest tribes, but today this region is made up of a large number of inhabitants of European descent. A survey undertaken in 1997 found that less than 4 per cent of the lowland and valley region population speak Aymara (Urquiola *et al* 2000), which proves just how little mobility there has been between highland and lowland populations. Each of these regions has its own unique urban centre; for the highlands, this centre is El Alto and La Paz, which almost exclusively attracts migrants from the rural highlands (Andersen 2002). Between 1950 and 2001 average rural-to-urban migration grew at a rate of just under 4 per cent.[108]

Over the years, Aymara activist intellectuals have worked very hard to reconstitute the *Ayllu* among indigenous peoples (Albro 2005). A paper by Calderon, Piscitelli, and Reyna (1992) hypothesises that urbanisation has spurred indigenous populations' efforts to find spaces in which they can express themselves, and that semi-frustrated attempts at modernisation, coupled with long periods of reverie, have led to these groups (through

[108] Data for 1950, 1976, 1992 comes from Urquiola *et al.* (2000), and data for 2001 from http://www.ine.gov.bo/Censo_2001/preliminar_01.htm.

their social movements) affirming their desire for self-determination through claiming ethnicity-based rights. Sanjines (2002), for example, analyses the presentation of *mestizaje* in the socio-historical, political, and aesthetic traditions of twentieth-century Bolivia; he contends that it represents a fundamentally Western perspective, in which the process of cultural, ethnic, and racial mixing is not seen as a merging of equals, and that this invariably excludes indigenous ways of viewing the world. He shows how modernity in Bolivia has depended on a perception, forged during the colonial era, that local cultures need to be uplifted. Rather than a romantic notion of the *Pachamama* and a symbiotic relationship between the Aymara people and their natural resources, it is this turbulent and emotive history of Bolivian Indian integration that deserves greater attention in our conceptualisation of Bolivia's current conflicts over water.

5.1.4 The Emergence of Customary Law (Usos y Costumbres)

> *"The privatisation thing is bad"; "the globalisation thing is too"; "they're stealing everything from us—our water, our gas, our mines, our land, our culture"*[109]

In the first two decades of the twentieth century, Bolivia enjoyed an economic boom, which came primarily from the tin-mining industry. Related to the economic ascendancy of the tin producers was the rise to power of the Liberal Party, which seized control of the country from the Conservatives in a military revolt in 1899. Bolivia's major mining centres were located closer to the city of La Paz than to the capital in Sucre, and so the Liberals decided to shift the economic and political centre of gravity to La Paz. The Liberal Party had actually come to power by mobilising Indian communities in the department of La Paz to fight for them against the Conservatives. Andean community leaders had hoped that in return for their support, the Liberals would back their efforts to hold onto lands that had been under threat since the 1860s, when a series of statutes had begun that outlawed native communities and proposed various means of privatising lands (Platt 1987). Once in office, however, the Liberals turned on their allies, mainly because the goal of native land ownership conflicted directly with the Liberals' socio-economic class interests. This was especially true in the La Paz area, where the creole class of landowners (i.e. white Spanish

[109] Interview El Alto Resident, 18 November 2003.

descendants) favoured incorporating Indians into their haciendas, over the classic liberal approach to small landownership.[110] Indigenous communities responded to this betrayal by organising themselves to reclaim their usurped lands and by demanding the rights that liberalism theoretically promised to all Bolivian citizens: political representation, education, and personal freedom (Perez 2005; Rivera 1986). Nevertheless, living conditions of the indigenous peoples, who constituted more than half of the population, remained deplorable. Forced to work under primitive conditions in the mines and in nearly-feudal status on large estates, the indigenous people were denied access to education, economic opportunity, political participation, and basic services throughout first third of the twentieth century in Bolivia.

However, Bolivia's defeat in the Chaco War against Paraguay (1932–1935) marked a turning point. Great loss of life and territory discredited the traditional ruling classes, while army service produced stirrings of political awareness among the indigenous people. In 1936, Standard Oil was nationalised and the state-owned firm *Yacimientos Petroliferos Fiscales Bolivianos* (YPFB) was created. From the end of the Chaco War until the 1952 revolution, the emergence of contending ideologies and the demands of new groups convulsed Bolivian politics. One of the outcomes of the 1952 revolution was a determination by the new government (led by the MNR[111]) to create a new Bolivian society consisting of an ethnically-mixed middle class. In order to achieve this, the government promoted the concept of *mestizaje*, or a cultural blending between Bolivia's various ethnic groups, with the objective of assimilating Indians into formal political and economic spheres. Although indigenous culture continued to be glorified, it was glorified more as folklore for the governing elite rather than considered part of contemporary culture. Not everyone was pleased with this notion of cultural blending. Some critics of the policies believed it was an attempt to create individuals who were consumers and

[110] Erick Langer (1988) has shown that in different regions of Bolivia, Liberals took varying approaches to the "land question". In contrast to La Paz, the political elite in areas where mining was the backbone of the economy (Potosi) or where land was already divided into small parcels (Cochabamba) tended to divide communally held lands among the people themselves so that they might become small private farmers. Liberals, meanwhile, were actually ambivalent about eliminating caste and race distinctions. See also Platt (1984).

[111] This was the same party that would later bring Goni to power, in 1993.

producers of merchandise, speakers of Spanish with aspirations to a Western ideal of civilisation (Cusicanqui 2004). The challenge of representing the geographically isolated, linguistically and culturally diverse indigenous population through a homogeneous set of political institutions proved difficult, as many indigenous cultures simply rejected the concept of political representation, preferring direct forms of participation based on the traditional model of *Ayllu*.[112]

By 1978, the *Katarista* indigenous movement had emerged in Bolivia. The *Katarista*s took their name from the late eighteenth-century rebellion of Julian Apaza, who came to be called Tupaj Katari after leading a rebellion in La Paz in 1781 against the Spanish authorities. Julian Apaza suffered a harrowing death at the hands of the Spanish, who sought to make an example of his lawlessness by ripping his body apart and distributing pieces of it to various Indian communities (Crabtree 2005). His heart is believed to have been buried under a Catholic monument in El Alto named Corazon de Jesus, and Andean priests continue to use this site as an altar for indigenous rituals. *Katarismo* was an attempt to recreate a sense of a nationalist Aymara identity and to promote ethnic distinctions within the country; throughout the 1980s and early 1990s, the *Katarista* movement succeeded in bringing a number of ethnic concerns closer to the centre of the political stage, but during the 1980s it splintered into a number of factions. Victor Hugo Cardenas, the leader of one faction, became Goni's vice-president during his 1993–1997 term in office; Cardenas was the first ever Indian Bolivian to occupy such an elevated position.[113] The more radical faction of *Katarismo*, however, explicitly and fervently rejected this kind of established hybridity and the normative models of *mestizaje* that had been promoted across Latin America. The leader of this radical faction, Felipe Quispe, grew to become one of the most powerful community leaders in El Alto's history.

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[112] For more on this topic, see Lazarte (1993).

[113] The MNR-MRTKL (Movimiento Revolucionario Tupac Katari de Liberación) ticket won the first plurality in Bolivia, with 35.6 per cent of the valid vote, and Sánchez was confirmed as president by Congress. A coalition government that included the Free Bolivia Movement (MBL) and the Civic Solidarity Union (UCS) was formed. Together, the coalition parties won 54.7 per cent of the valid vote and held 79 (of 130) seats in the Chamber of Deputies and 18 (of 27) seats in the Senate.

As noted in the previous chapter, Felipe Quispe was a principal instigator and organiser of the protest movement against water privatisation and AISA.

Findings from interviews with households and neighbourhood association leaders provided further evidence in support of Calderon *et al* (1992), who argued that when *Kataristas* proposed a pluri-ethnic state of Aymaras, Quechuas, and Tupi-Guaranis, they were not only fighting for the right to be different, but they were also undermining the notion of a homogeneous nation-state and rejecting the position of cultural *mestizaje* as the root of Bolivian state ideology. Although the Goni–Cardenas administration of the early 1990s believed very strongly in the virtue of a mixed Bolivian society, it also wanted formally to introduce policies that would give greater legitimacy to the indigenous cultural heritage. It tried to keep the balance by introducing the Law on Popular Participation, in 1994, and the Decentralisation Law, in 1995;[114] these aimed to provide new resources and responsibilities to municipalities, and they included a framework for supporting local grassroots organisations in the planning and monitoring of municipal programmes.

Prior to 1994, Bolivia was a limited federation; its nine provinces all had some policy-making responsibility, but the central government could override their initiatives and control their budgets, and provincial governors were appointed by the president (Barbery 1998; Singer 2005). Remarkably, 42 per cent of Bolivians did not actually live under any formal local government structure (Grindle 2000), meaning that almost half the population had not been properly represented. The Law on Popular Participation created 311 municipalities (now 314), allowed for the direct election of mayors, and mandated that 20 per cent of national tax revenues be transferred to municipalities automatically on the basis of population size.[115] Even more significantly, the law created a series of "Territorial Organisations" (OBTs) representing geographic and ethnic interests, effectively granting full recognition to traditional local political organisations by formally institutionalising

[114] For more detailed analysis of decentralisation in Bolivia and its impact, see Grindle (2000: 94–146), Ameller Terrazas (2002), Faguet (2002).

[115] Following the completion of the HIPC process, the GoB enacted a second fiscal decentralisation by transferring the money devolved from donors to municipal governments on the basis of an automatic formula that emphasises the distribution of poverty within each municipality. This transfer was made through the National Dialogue Law (*Ley de Dialogo Nacional*).

their admittance within the formal policy-making process. These OBTs were established according to what is referred to as *usos y costumbres*, or "customary law".

5.1.5 The Power of Neighbourhood Associations

> *"We want to build our own confederate state, our own government led by an indigenous president, our own army, our own economy as the descendants of Huyana Capac, the sovereign government of the Incas."*[116]

Today, the OBTs of El Alto are organised as *Juntas Vecinales*, or neighbourhood associations. Throughout the last half-century, these associations, through their leaders, have helped to organise new urban settlers, often acting as the spokesperson for residential clusters in El Alto and/or as the mediator between municipal government authorities and residents. They also work closely with local political organisations, and there are various types of neighbourhood councils: youth organisations, cultural associations, migrant centres, workers' associations, and labour associations. Also, during the 1970s, labour federations were created for merchants, vendors, and artisans; these groups, made up mostly of small business owners and self-employed workers, later formed some of the most powerful and militant unions in the country: the Bolivian Workers Union (COB), the Regional Workers Union (COR) of El Alto, and the Confederation of Campesino Workers of Bolivia (CSUTCB). Through these groups, other social organisations emerged, including the social base for the radical Pachakuti Indigenous Movement (MIP), and the Bolivian Landless Movement (MST-B). The COR represents many of the workers in the informal economy, some government employees, and workers in the private sector (such as workers in the manufacturing industries). Their main activities focus on mediating disputes within economic organisations and representing them *vis-à-vis* government and employers.

Labour unions thus have very close links to neighbourhood associations, which grew powerful over the decades by making demands for improved basic services better known to central and local government authorities. Today, Neighbourhood Association Leaders (NALs) are responsible for submitting project proposals and plans to the municipal government, and they are provided with public funds under the Popular

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[116] Felipe Quispe, quoted in *La Razon* 2005.

Participation Law.[117] Some associations deal with concrete neighbourhood issues, while others take a more prominent role in mediating disputes or advocating for specific groups (Mamani 2004). Prioritising and executing projects with municipal funds occur in a highly politicised environment, and according to Quisbert (2003) neighbourhood dynamics in El Alto often reflect tensions between residents and NALs over the correct appropriation of earmarked community funds. Still, for many residents of El Alto, NALs are perceived as the *only* means through which individual community voices are heard.

The powerful *Federación de Juntas Vecinales* (FEJUVE), which was discussed in the previous chapter, represents the most important political entity in El Alto and serves as an umbrella organisation for the more than 550 neighbourhood committees across the city. It is recognised by central and municipal governments as a legitimate mediator for the residents of El Alto, and it is unsurprising that due to long histories of social exclusion from formalised government structures, many residents feel obligated to support the FEJUVE out of loyalty regardless of whether they agree (or fully understand) whatever cause the FEJUVE happens to be fighting for.[118] Findings from this research suggest that the first set of mobilisations, in September 2003, were in reaction to a municipal resolution (MR 090/2003) to regulate and tax real estate transactions. NALs explained that this was a government strategy to levy taxes on the residents of EL Alto in order to "get more money from the poor" (Cori, quoted in *Prensa Altena* 2003). Newspaper columnists argued that the failure of municipal government authorities to inform the population of the scope and purpose of the new proposal had resulted in the mobilisations (*Prensa Altena* 2003; *Pulso* 2003), while other journalists argued that the mobilisations allowed FEJUVE leaders to raise their profiles as a strategy against legal charges of corruption (*El Diario* 2003; *La Razon* 2003).

5.1.6 Implications for Property Rights and Indigenous Heritage

> *"The killings [in Warista] brought us together. We were angry but the rage was not only because of the dead. It was also because of our situation. We*

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[117] *Ley de Participacion Popular*.

[118] Interview with the FEJUVE, 23 January 2003.

have been forgotten. This is what it means to be poor and Indian, you know?"[119]

Interviews with Neighbourhood Association Leaders (NALs) for the purposes of this research took place in 2002. During the interviews, NALs were asked about their views of the AISA concession. At that time, surprisingly, complaints regarding water *affordability* for low-income consumers in El Alto were not mentioned as being a high priority issue, although some of AISA's fining practices for non-payment were occasionally brought up. Discussion over *quality of service* problems experienced by the residents of El Alto was also kept to a minimum, although many residents who had condominial connections felt slighted by the installation of an inferior service. NALs used the interview opportunity to expound in detail on their conceptualisation of water as a "precious natural resource that should not be in the hands of private individuals and profit-seeking multinationals." [120] The primary grievances of the NALs were twofold, consisting of "the government's abuse power and disrespect of their *patrimonio propio* [customary law]", and their belief that AISA was failing to meet its contractual mandate to expand into the remaining districts of El Alto.

The concept of *patrimonio* is derived from medieval Spanish legal parlance stipulating property inherited from one's father, and in modern Bolivia it thus refers to inherited legal jurisdictional rights over land in accordance with the rules of family estate inheritance. Over the years, however, legal terms that were developed to delineate indigenous identity were appropriated to new ends by protesting coalitions, and the indigenous movement, through the *usos and costumbres* legal framework, sought to expand the state's limited concept of "land" from simply a factor of agricultural production, into land as "territory" that was understood as the "location for the social reproduction of collective identity."[121] In the opinion of the interviewed NALs, the government had exploited their legal patrimonial rights over this "territory" when they allowed AISA to own and operate their water supplies.

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[119] Interview with an El Alto resident, 30 January 2003.

[120] From a focus group discussion, 31 January 2003.

[121] Interview: Pablo Mamani, an Aymara and director of sociology studies at UPEA, 16 January 2003.

In common usage, property is simply "one's own thing" and refers to the relationship between individuals and the objects which they see as being their own to dispense with as they see fit. Scholars in the social sciences frequently conceive of property as a bundle of rights and obligations. Modern property rights can be said to begin with the transition away from ownership by entities as the primary form of property right, and towards the theory that property rights should promote the general good, and specifically encourage economic development and the utilisation of property. The defence of "traditional use and distribution of water as a collective cultural right based on customary law" was first used during the Water War of 2000 in Cochabamba (Laurie *et al.* 2003). In this case, the Coordinator of Water and Life made great advances in creating new alliances across class, gender, and ethnicity, and had the support of both *mestizo* and indigenous groups in challenging the new potable water legislation. These alliances ruptured the rural/urban dichotomy that had always existed historically, and effectively helped *urban* and *middle class* Bolivians to claim what were essentially *rural* indigenous cultural heritage rights (Laurie 2003). Laurie (2007) argues that the government of Bolivia's (GoB) agenda of introducing the principle of water commodification, while simultaneously engaging in the process of recognising the rights of indigenous groups to self-determination and collective land ownership under a pluri-cultural constitution, was an incompatible development approach because it created a situation whereby two different forms of modernity were forced to compete. Findings carried out as part of this research support Laurie's view.

It is important to take a closer look at the neighbourhood associations of El Alto, in order properly to understand the way in which they try to reproduce the traditional rural Aymara and Quechua forms of community organisation and structure--and hence the informal institutional drivers to their pursuit of formal institutional reform; what Felix Patzi, an Aymara sociologist, calls "their logic, their territoriality, their entire system of organisation". According to him, the three elements that show the validity of El Alto's communitarian structure are ties to the market, to land, and to education, and in his opinion a community is characterised by the existence of collective property and private ownership. For example, El Alto's ties to the market include merchant trolleys or booths, where individuals engage in selling a range of goods in the informal market. According to Patzi, "these selling booths are not private property, they're managed by the union, the so-called guild; or you could say, the owner is the community." People obey the union

because "without the ability to sell, they simply cannot survive".[122] The issue of collective rights and ownership is relatively straightforward when it comes to ties to land in rural communities, but it is a more complicated matter in El Alto's urban setting, where people tend to own their own piece of land and have titles to their homes. In the city, ties require some degree of interpretation, and NALs can construe them as ties to natural resources or to services that provide a collective good for the community. The fact that decisions over water, electricity, gas, and other services in El Alto were historically not individual ones, and the fact that marginalised residents were historically dependent upon neighbourhood associations to make up for the shortcomings of the state, greatly facilitated the ability of NALs to promote this understanding.

5.1.7 Manipulation and Politicisation over Water Rights

> *"Whites are here as renters on our land, and we need to put a giant fence around them, a reservation, a safe place for white people to be."*[123]

At a time when "hybridised" cultural forms are supposed to be more common, both in Latin America and elsewhere around the world, movements like that of the *Kataristas,* which seeks to revitalise Aymara culture by explicitly contesting hybridity (Canessa 2000) and manipulating popular understanding of customary law, have presented a barrier to policy-makers seeking to modernise not only the water sector but also other infrastructure sectors. It was extremely effective for protest leaders to use customary law to bring various user groups together—not only lower-income users but also middle and higher-income user groups who were unhappy with having to shoulder the costs of cross-subsidy arrangements. Equally important, the tactics employed by local civil society organisations to play on the sentiments of international advocacy organisations—especially those opposed to privatisation and globalisation—provided opposition leaders with the resources to replicate in La Paz/El Alto their achievements in Cochabamba, and to further propagate their somewhat distorted interpretation of Aymara land and territorial sovereignty as this relates to customary law.

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[122] Interview with Felix Patzi, 13 January 2003.

[123] The statement above was made by Felipe Quispe in an interview with Tom Hayden (Hayden 2001). Felipe Quispe leads the CSUTCB indigenous peasants' movement. During the 1980s and early 1990s he led the Tupac Katari guerrilla army, until he was arrested and jailed for five years.

The interpretation of indigenous heritage, as propagated by these influential NALs, has led to a great deal of misunderstandings about the La Paz/El Alto PPP water concession, and it is important to draw attention to the powerful influence that NALs have developed over the years by tapping solely into *Ayllu* communitarian and territory-based ideologies. The top priority for NAL respondents, as revealed during interviews in a focus group session, was to create a new "Popular Assembly" composed of delegates from indigenous communities and urban neighbourhood associations, along with worker, trade, and agrarian unions, each elected according to their respective and pre-existent "customary procedures". It was explained that once created, the first objective of the newly-formed assembly would be to redraft a national constitution to better represent the rights of the country's indigenous majority, and the second would be to re-nationalise Bolivia's natural gas reserves.

It is important to note that members of NALs and merchants' guilds are obligated to participate in organised demonstrations, assemblies, and actions, and a system has been devised to monitor each family's attendance. The councils are territorial, and to be recognised by the FEJUVE, a neighbourhood association must have at least 200 members. Patzi describes them as part of a process of social self-organisation within urban zones to resolve the basic urban needs of residents; neighbourhood groups hold monthly or weekly meetings where they discuss community problems. Although participation in the neighbourhood council is supposedly voluntary, at least one member of each family or household is expected to attend, and non-attendees are socially stigmatised through rumours that they do not respect the neighbourhood or the council. Again, the obligation seems to be accepted by residents who feel that the urban community is a kind of natural extension of the rural community and a form of organisation that ensures survival in a hostile environment. To avoid censure, practically the entire neighbourhood participates in the monthly assemblies, and those who do not attend marches, actions, meetings, or assemblies are given fines that tend to be symbolic punishments. At times, the neighbourhood council intercedes in conflicts and fights between neighbours, and on serious occasions administers justice, with sanctions that are meant to work towards the benefit of the neighbourhood. This informal institutional governance framework bestows a character that penetrates deeply into the daily on-goings of residents in El Alto, and offers a much more complex reading of the driving force behind the city's anti-privatisation movement.

The informal institutional environment, represented by the governance structure of El Alto's neighbourhood associations, seems to encompass structures of territorial identity within which other kinds of loyalties exist; loyalties that have little to do with privatisation *per se*, and which are much broader in scope. These findings serve as evidence that the standoff in January 2005, which culminated in the collapse of AISA, did not actually symbolise a battle against a "big bad" multinational water company but, rather, symbolised a *Katarista* revolution against the established *mestizo* governing institutions. Most of the indigenous leaders interviewed believed that the reason why state-run industries had not succeeded in raising living standards for the vast majority of citizens in Bolivia's past was simply because the industries had been managed by corrupt and racist white elites, with little incentive to provide good services to low-income, indigenous communities. From their perspective, a new governance structure, led by an indigenous political party, and influenced by the values, traditions, and customs of the Aymara people, would provide entirely different public-sector outcomes for the poor and for marginalised members of society.

5.2 Section II: Formal Institutional Environment

5.2.1 Path Dependence: Bolivia's Shifting Institutional Dynamics

> *"Up until recently, the focus in many countries has been on attracting foreign investment. Now attention is shifting to how you can design credibly autonomous regulatory entities."*[124]

"Path dependence" refers to how institutions at a particular point in time are determined by their evolution from earlier institutions. North defines it as:

> *a term used to account for the parallel characteristic of an institutional framework that has shaped downstream institutional choices and in consequence makes it difficult to alter the direction of an economy once it is on a particular institutional path. The reason is that the organisations of an economy and the interest groups they produce are a consequence of the opportunity set provided by the existing institutional framework. The resulting complementarities, economies of scope and network externalities reflect the symbiotic interdependence among the existing rules, the complementary informal constraints, and the interests of members of organizations created as*

[124] Interview with William Savedoff, IDB economist working on water sector regulation, 3 September 2004.

> *a consequence of the institutional framework. In effect, an institutional matrix creates organisations and interest groups whose welfare depends on that institutional framework. (North 1989)*

In the mid-twentieth century, support for the idea that utility services should be controlled by the public sector was based on two fundamental arguments: (i) at this time, only the state had the resources to provide the massive investment needed to increase coverage and improve the quality of services, since financial markets were too underdeveloped to make sufficient funds available to the private sector; and (ii) given that most utilities tend to be monopolies, state equity was required to protect users from private sector exploitation. However, in the 1970s many shortcomings in the traditional model of public sector utility services began to surface, with problems rooted primarily in political interference: state companies had become ineffective entities, instruments of political favouritism with directors and managers who often had little sector-specific experience, and who were often obligated under political pressure to adopt policies concerning employment and allocation of investments that made little entrepreneurial sense. Prices and tariffs served political interests, and were often kept artificially low as part of anti-inflation strategies, and utilities were riddled with subsidy arrangements that failed to improve access for the poor. The reform movements that began to take shape in the 1980s, based in large part on examples initiated in the United Kingdom and Chile, propagated the idea that the traditional institutional model for service provision should be separated into three different roles: (i) Political: strategic and long-term sector planning; (ii) Provision of Services: a public or private role designed for the construction, operation, and administration of all means of service delivery; and (iii) Regulatory: a public role controlling service providers but independent of the political process.

The establishment of a regulatory regime that not only ensures safe and effective service provision to users but also has the capacity to ensure that viable incentive structures sustain political sector-specific planning strategies is by no means an easy feat. A formal regulatory environment/framework is meant to embody the specific institutional context of a country, as reflected in its formal and informal rules of economic transacting and social behaviour. It is meant to be an apolitical entity and yet be flexible enough to coordinate with ministerial decision-makers who are constantly pressured by party politics. In an ideal situation, regulatory structures evolve over time, propelled by a combination of practical experience and ideological enthusiasm. Sometimes, major discontinuities in the

regulatory regime are created by important pieces of legislation or landmark cases that transform perceptions about how the system should (or should not) work.

For the most part, water sector reform development and traditional utilities regulation across the developed world have consisted of a long series of incremental changes, which in turn have led to relatively strong regulatory foundations. In circumstances where PSP was introduced into the provision of services in the water sector, this incremental approach arguably helped not only to strengthen the capacity of regulatory agencies to monitor private sector agents, but also to strengthen the perception of consumers that their rights would be protected by the government. What we observe in most of the developing world, on the other hand, is a kind of sequencing problem: regulatory regimes are often set up just before, in parallel, or even after privatisations have taken place; this is also true of other sectors, including telecommunications, transport, and energy. The main trend that marked much of the privatisation fashion of the early 1990s across the developing world was what we could refer to as: “fast privatisation”.

This “fast privatisation” approach was due to the belief that market institutions would be built once private ownership was established. However, it is now understood that introducing these new public sector agents is a delicate process, requiring “buy-in” at all levels of government; especially at the ministerial level, given that ministerial agents have historically acted as regulators as well as policy strategists in the developing country context. Equally, if not more importantly, consumers need to believe that these new regulatory agents have the capacity to ensure their protection. The Bolivia case is not particularly unusual; many PPPs have been designed in countries where the existing institutional environment has been unstable and where nascent regulatory regimes were used as mechanisms to lure private sector interest and provide a layer of comfort to investors that would otherwise resist building long-term partnerships with the public sector. It is difficult to imagine that consumers, many of whom will most likely be unaware of the rapidly unfolding institutional changes occurring during the process of water sector reform, will trust that these new government agents will be unbiased and have the capacity to oversee the behaviour of a service provider. Institutional arrangements can sometimes be used to prop up or make up for weaknesses in the institutional environment/structure through the implementation of social policies, regulations, and contracts, but without an established well-respected institutional framework such arrangements may fail to win

public support, because they are *perceived* to have been implemented haphazardly. More empirical research on the effects of sequencing on regulatory reform and PSP is needed. The remainder of this chapter will explore the way in which the formal institutional environment for water sector governance emerged in in Bolivia to deepen our understanding of the clash between informal and formal institutions and question the real source of conflict around reform.

5.2.2 Sector Organisation, Responsibilities and Functioning

Prior to the reforms of the late 1990s, Bolivia was similar to other developing countries in its somewhat chaotic management of the water sector. Three different ministries shared equal responsibility for formulating sector policies: the Ministry of Planning and Coordination (MPC), the Ministry of Urban Affairs (MUA), and the Ministry of Health (MH). The MPC had sector-wide responsibilities as it coordinated all external and government financing to the sector; the MUA, meanwhile, was supposed to oversee the urban water sub-sector. A committee under the MUA, which included representatives of the Cadaster Unit and the MPC, was responsible for reviewing and approving tariffs for the urban water utilities. The Corporation of Water and Sanitation (CORPAGUAS), an agency within the MUA with a staff of about 70, was responsible for carrying out investments and overseeing operations of urban water systems other than those of the nine departmental capitals.

Meanwhile, the MH formulated water and sanitation health policies for the entire sector and provided oversight of the rural water sub-sector. The National Office of Health and Sanitation (DSA), a Department of the MH with a staff of about 300, was responsible for overseeing health and water and sanitation services in the rural and fringe areas of the cities (those beyond the reach of the municipal utilities). The DSA usually collaborated with the regional development corporations (RDCs), another departmental public agency under the oversight of the MPC. Although not specialising in the water sector, RDCs played an important role by using part of their royalties to hire CORPAGUAS to invest in small towns and fringe areas of the cities in their regions. In general, RDCs did not recover costs from the beneficiaries.

There were two additional sector entities playing an important coordinating role in the decade leading up to the water reforms of the 1990s. One was the National Association of Water Supply and Sanitation Institutions (ANESAPA), created in 1983; this was a

private association bringing together both public and private agencies, and it was responsible for sector-wide coordination between the various ministries and municipal utilities. It also carried out water sector training courses. The other public entity was a technical Advisory Committee on Water Supply and Sanitation (COTEAS), which was responsible for helping to formulate sector plans, building consensus among the various ministries, and coordinating sector institutions. COTEAS had representatives from ANSAPA and the MPC on its board and a representative from the MUA acted as its chair.

Almost all the funding for the water sector (and for other regional/municipal infrastructure investments) has traditionally been carried out by Bolivia's powerful National Fund for Regional Development (FNDR), which was established in 1988; it still exists today, and remains a highly political financial intermediary housed within the Ministry of the Presidency and run by a politically appointed management team. This intermediary is not self-financing; it was designed specifically to channel external donations and government grants for investments. Operationally autonomous municipal water companies were responsible for water and sewerage services in the nine departmental capitals of Bolivia. Private cooperatives were (and continue to be) operational in Santa Cruz and Tarija, but in all other departments water utilities were owned and operated by the municipalities before reform. Boards of directors composed mainly of municipal authorities governed these utilities and it was quite common for municipal councils to interfere with boards' authority in submitting tariffs for government approval.

5.2.3 Rationalisations for Sector Reform

> *It would scarcely be an exaggeration to say that the greatest danger to liberty today comes from the men who are most needed and most powerful in modern government; namely, the efficient expert administrators exclusively concerned with what they regard as the public good.*[125]

Investments in Bolivia's water supply and sanitation averaged about USD 10 million per year during 1970–1989 (World Bank 1990). These investments increased service coverage levels by about ten per cent over that period (mostly in rural areas), but in 1990 Bolivia's

[125] Hayek (1960).

coverage levels were still well below those prevailing elsewhere in Latin America. In many urban areas the quality of services actually deteriorated, despite new investment; this was primarily because projects were either ill-conceived or poorly executed, as many operating agencies failed to generate sufficient cash for replacing or maintaining physical facilities.[126] The operating agencies' contribution to investments from internally derived sources was insignificant or nil, and the GoB contributed most of the local funds. Donors contributed about 80 per cent of the total investment funds. The main external donors in the water sector throughout this period were the Inter-American Development Bank (IDB), the Kreditanstalt fur Wiederaufbau (KfW) of Germany, the United States Agency for International Development (USAID), and the World Bank's IDA. In 1990, a "Major Cities Water and Sewerage Rehabilitation Project" was implemented in the three major urban centres of Bolivia. The objectives of this very ambitious project, which cost USD 67.3 million and was financed by the World Bank, included: (i) improvements and expansion of water and sanitation services in La Paz, Santa Cruz, and Cochabamba; (ii) improvements to the operating efficiency of the water utilities responsible for services in those cities; (iii) the development of improved sector policies and institutional arrangements to accelerate sector development throughout the country; (iv) increasing the capabilities of the central sector agencies responsible for sector oversight; and (v) improvements to the way in which Bolivian authorities and donors coordinate sector-wide projects.

The low investment and service coverage levels in the sector at the time were attributable to several interrelated factors; one major element was certainly the country's weak economic condition and the consequent low-income levels of most Bolivians. However, according to archive project documents from governmental and various development agencies, there were several other major constraints, unrelated to macroeconomic conditions, which resulted in an inefficient and often ineffective use of the available, albeit limited, resources. These constraints were: (i) project design standards were usually overambitious. Bolivia had yet to adopt cost-effective standards and apply low-cost and appropriate technologies to reduce per-capita investment costs; (ii) cost recovery and financing policies were too vague and weak to guide fiscal performance or

[126] Interview with Jhonny Cuellar, SISSAB, 11 December 2002.

promote financial discipline in the sector operating agencies. The GoB, for example, lacked targets for the water utilities and beneficiaries, and there were no performance stipulations for lending funds to the utilities; (iii) a lack of a firm sector financial policy framework affected the ability of utilities to generate funds and plan in advance for facilities to upgrade and/or expansion; and (iv) the fragmented institutional responsibility over the sector was stifling. Since no single institution had the mandate *or* the capacity to plan, promote, or enforce sector policies, there was a general lack of direction and a prevailing institutional weakness among all water-governing institutions. The fact that the national-level DSA and the RDCs had loose and overlapping responsibilities for utilising investments and overseeing sector operations only made matters worse, by creating circumstances in which they competed for the same donor resources to carry out water and sanitation projects in both rural and peri-urban areas. The chaotic interrelationship between the various ministries resulted in a duplication of efforts, avoidance of the more difficult policy decisions, and prolonged delays in planning investments.

5.2.4 The Promulgation of Bolivia's Water and Sanitation Law

> *"It was as if from one day to the next the entire power structure over the governing of the water sector became an important discussion. But those of us who were experts and experienced in the sector weren't present at that discussion.*[127]

In August 1988, the GoB presented another plan to the Water Decade Consultative Group Meeting, for the years 1988–1997. The plan proposed total investment of about USD 250 million, which they hoped would dramatically increase countrywide service coverage levels. It also emphasised the adoption of low-cost technologies, new investments, and the rehabilitation of existing facilities, in addition to improving operations and management activities. Moreover, the plan established that most operating agencies would have to use their revenues to cover their operating and maintenance costs, as well as the costs of replacing facilities and servicing their debts. However, the plan was flawed in a number of areas: it failed to emphasise the need for utilities to generate revenues internally to finance these much-needed investments, it did not rectify the overly complex tariff structure, it did

[127] Interview with Jose Barragan, Vice-Minister of Basic Services, 23 January 2003.

not set any type of efficiency standards for the utilities, and it did not address the problem of inter-governmental coordination and accountability.

During this period, various other institutional structures were also being strengthened through government initiatives. As noted above, the Organic Law on Municipalities (LOM) was introduced in 1986 as part of the government's commitment to decentralise, and local and regional entities began gaining prominence in Bolivia's public apparatus. The LOM instituted democratic elections of mayors and municipal councilmen for the first time, and it spelt out municipalities' responsibilities in the delivery of urban services. With the promulgation of the Tax Reform Law the same year, a mechanism was established for revenue-sharing between the central government and the municipalities, which were to receive 1.2 per cent of the national Gross Domestic Product (GDP). The strengthening of the regional and local government involved the introduction of two other important laws: the Concessions and Public Services Law, which consolidated municipal authority over a certain set of public services formerly distributed ambiguously among central and local government authorities; and the Decentralization Law, which proposed the creation of specific governmental departments to oversee sector functioning and distribution criteria for shared tax revenues. With regard to the management and provision of local public services, concession systems and privatisation began to be encouraged, with a view to increasing the efficiency and coverage of these services without overburdening the municipalities with new activities.

In 1990, the government announced its commitment to reduce incidences of poverty and poor health through improved access to basic services. In 1990, the government's *Plan Bolivia de Agua y Saneamiento* stated that national potable water coverage would increase from 57 per cent in 1990 to 84 per cent by 2015. Sanitation would be increased from 38 per cent to 64 per cent over the same period. In order to reach these goals, the government stated in its plan that it would seek out PSP for the country's three largest cities: La Paz, Santa Cruz, and Cochabamba. In November 1991, a decree was issued creating the National Basic Sanitation Directorate (DINASBA), under the National Under-Secretariat for Urban Affairs in the Ministry of Human Development. The department was assigned the tasks of setting priorities for plans and projects, preparing investment programs, establishing standards and regulations, furthering health and hygiene

education, and acting in general as the sector's planning and coordination body at the national level.

Despite this wide-ranging set of functions, by the mid-1990s DINASBA had insufficient staff and was not yet able to take up all its responsibilities, which is perhaps why the Goni administration did not involve the directorate sufficiently in the design of the La Paz/EL Alto concession arrangement with AISA. Under the same 1991 Decree, sanitation administrative units were created in each of the country's nine departments. The task of these units was to create departmental plans and programs and to set priorities, provide technical and administrative advisory services to the local entities involved in the sector, carry out and supervise works, and provide water quality control for localities that lack the means to do so. Like DINASBA, these units were still at the embryonic stage when the government began to engage with the private sector.

In 1992, the first Privatisation Law was introduced. This was followed in 1994 with the Capitalisation Law, along with the Sector Regulation System Act (SIRESE), the objective of which was to regulate, monitor, and supervise the activities of the country's various sectors, including water supply and sewerage. The act established a General Board, attached to the Ministry of Finance, and sector boards in charge of each specific sector. The boards' functions included approving and publishing prices and rates, granting and renewing concessions, promoting efficient service delivery, and, in general, complying with and enforcing legal requirements and sector regulations. The act, thereby, centralised the regulatory function into a single agency, known as the Water Board. Towards the end of 1995, the World Bank, IDB, UNDP, and the CAF each began to promote the idea of PSP in the water sector for Bolivia. This policy shift can be seen in World Bank project documents for the extended financing of the "Three Major Cities" project, which was extended for an additional two years, until 1997, to help prepare the cities for PSP.[128] It can also be observed in the case of Bolivia's second-largest city, Santa Cruz. Santa Cruz's SAGUAPAC is the world's largest water co-operative, with notably high efficiency outcomes (Nickson 1997), but it was unable to obtain a sub-sovereign guarantee from the

[128] The World Bank evaluation of the "Major Cities WSS Rehabilitation Project", *OED Report* (Spring, 2002).

Bolivian government when the cooperative applied for a World Bank loan of US$25m to finance its investment program.[129]

However, it was not until 1999 that the government put into place its Water and Sanitation Law 2029, with the help of the IDB. This was almost two years after the PPP concession was granted to AISA to service La Paz/El Alto. This new Water and Sanitation Law would not only lay out the regulatory framework for the provision of water and sanitation services, but would also establish the rules related to the type of access that the government would allow, granting exclusivity to concessionaires operating in any urban centre made up of more than 10,000 inhabitants (all municipal utilities, whether public or private, were referred to as concessionaires). The enactment of this law changed the face of Bolivia's institutional framework governing the water sector, and pointedly dismissed the existing informal institutional water framework.

[129] It is important to frame the shift in water sector policy within a wider policy context. The fact that the government began to minimise its issuance of sub-sovereign guarantees to municipalities to finance infrastructure investments in the mid-1990s was also due to systemic/macro-economic and financial considerations, many of which had little to do with the water sector itself. These systemic issues are discussed further in Chapter 7.

Chapter 6. Information, Relationships and Market Behaviour

6.1 Introduction

This chapter will address Sub-question 2; the question of how institutional arrangements in the Bolivian case—regulations, channels of communication, methods of negotiation and contractual specification—created tensions between stakeholders involved in the process of water sector reform and how this affected the ability for policy-makers to accurately predict consumer preferences. Evidence will be presented to demonstrate that the delicate nature of the water sector, under certain institutional constraints, where optimum accumulation of information is virtually impossible, human behaviour can become motivated by a volatile set of preferences, making it particularly difficult for policy-makers to manage the reform process and accurately predict reform outcomes. Stakeholders, invariably, underestimate the transaction/transition costs involved in the process of reform and PPP implementation due to information and bargaining asymmetries, which manifests in poor institutional arrangements.

As explained in Chapter 2, New Institutional Economic Theory argues that the only societies that will endure are those that succeed in creating institutions that effectively reduce transaction costs (North 1990). Such costs include: the costs of searching for a partner (or group) with whom to exchange; screening potential partners to ascertain their trustworthiness; bargaining with potential partners to reach agreement; transferring products; monitoring the agreement to see that the conditions are fulfilled; and enforcing the exchange agreement (Holloway *et al*. 2000). These transaction costs are now acknowledged in mainstream economics, being widely applied with slightly different meanings to organisational structures (e.g. vertical integration), market failures (e.g. externalities and asymmetric information), institutional choices, and public choice (e.g. administrative costs). Transaction cost economics has contributed to our overall understanding of observed patterns of organisation (Rao 2003), and "transaction cost" is now a generic term referring to any costs that come from realising a transaction across a market. Accordingly, transaction costs can be interpreted as "the costs of any activity undertaken to use the price system" (Demsetz 1997), including market-based approaches to water policy.

Since different types of costs may be borne by different players at different points in the policy process, a proper classification of transaction cost categories is important to ensure that all relevant costs are accounted for. According to Dahlman (1979), transaction costs include: (i) search and information costs; (ii) bargaining and decision-making costs; and (iii) monitoring and enforcement costs. Institutions are motivated to reduce such costs, and, in principle, they are organised to achieve this by lessening the uncertainties around the transaction. However, this aim may not always be achieved: at any point in time, an institution may engage in conflict and there may be uncertainty over future institutional changes. These are likely to lead in turn to increasing transaction costs (Meyer 2001). In PPP transactions, there are costs incurred in the areas of communication and enforcement to reduce the risks of loss from transaction failure. These costs are related to property rights, and if they and/or the risk of loss from transaction failure are too high, they will cancel out the cost savings and other benefits that could arise from the transaction. The result is market failure and an incomplete transaction, despite the potential long-term benefits the trade may have offered to society as a whole. Critical to our understanding of economic development, therefore, is an understanding of transaction costs.

Transaction costs economics has only recently become considered as a potential tool for development policy analysis. It has primarily been a discourse in business literature, while neoclassical economic development theory has regarded the determinants of transaction costs in general terms only, such as a country's legal framework (legal systems already in place to support the transaction), the project size (capital cost), the economic/market system, the length of the procurement process (approximating the complexity of the project), and the number of bidders (approximating the intensity of competition at the bidding stage). If we take only these "macro" determinants into account, then the cost of the transaction for the La Paz/El Alto concession could be regarded as quite low, for several reasons: (i) a new legal system supported by independent regulatory agencies was in place to oversee the PPP; (ii) the size of the project was relatively small; (iii) the length of the procurement process was extraordinarily short (lasting approximately three weeks); and (iv) there was only one bidder for the government to contend with. However, focusing solely on these points would paint an inaccurate picture ignoring factors which contributed to the transaction costs actually being high. This macro perspective would also make it appear that costs were incurred solely by the "buyers" (AISA and its shareholders), and not the "sellers" (the government/communities).

Although perhaps more difficult to quantify, there is no question that sellers are also affected by low and high transaction costs. It should be noted that there is no attempt made in this research and analysis to measure the transaction costs incurred by consumers, neighbourhood associations, the government, AISA, or its shareholders, although this would of course be an interesting exercise. However, before one can begin measuring, one has to gain a better understanding of what elements to measure and where to look for costs.

As an initial starting point, we know that transaction costs stem from a combination of the institutional environment and institutional arrangements (North 1971). In the previous chapter, much of the discussion focused on the institutional environment. To complement this, it is critical to understand fully the constraints stakeholders face in the development and implementation of these so-called institutional arrangements: the regulations, channels of communication, and methods of negotiation, as well as the contractual specifications that are meant to serve the interests of consumers, especially low-income consumers, whilst properly incentivising the private sector and ultimately meeting government policy targets. It is argued here that demand uncertainty can be exogenous to the innovation process in water service provision and upgrade, and that market demand for new "products and services" offered by a utility may be affected by factors other than the product and service itself. Macroeconomic effects, regulatory uncertainty, political manipulation, values, misperception, a lack of trust, and changes in preferences are all examples of what might be considered as aspects of uncertainty around the cost of demand (or to what is referred to in this chapter as the mismatch between supply and demand). It will also be argued that the costs of establishing strong and reliable institutional arrangements need to be considered at the earliest stages of social planning and regulatory design, particularly where PSP is meant to act as a catalyst for what is deemed by many as a public good. This chapter will use the La Paz/El Alto case to highlight the ways in which such transaction costs can influence intended outcomes, with the intention of exposing several risks that have not yet been addressed fully in the existing literature on PSP and on transaction costs.

6.2 Contracts, Contracts… If It Were Only Just About the Contract

> *AISA has completed its contract perfectly—at least that is what the regulator says—but if you accomplish something that is insufficient, it continues to be insufficient…The concession contract focuses on a limited service area, not allowing the company to satisfy the needs of the population…The contract underestimated the areas of service in El Alto…There are many problems associated with the coverage and access to services in El Alto that depend on the original contract being modified to meet the needs of the entire urban population.*[130]

Regulation is undoubtedly a costly affair, whether in the developed or developing country context. Certainly, some of this cost is due to the inability of regulators to enforce contracts, but the complexities of regulation and the regulatory system that support it go far beyond the technical nuances of contract *compliance*. There are three ways in which the literature has considered the subject of contracting. From the perspective of theory of the firm, La Paz/El Alto should be considered as an "incomplete" contract, and analysis should focus on the inefficiencies that arose in the concession due to circumstances that were unforeseen in the original contract. Privatisation literature would suggest an analysis using a "complete" contracting perspective and focusing on problems that arose solely due to moral hazard and information asymmetry in the supervision and monitoring of the contract. Management literature would recommend a focus on relational issues around contracting—particularly, on the political sensitivity of the relationships between public and private organisations and the consequences of trust in sustaining such partnerships. Within management literature, trust is a robust measure of the strength of relationships (Gummesson 2002; Ford *et al.* 2003; Johnstone *et al.* 2001), as it tends to be cited by policy makers as a key element of project success (Egan 1998; Edkins and Smyth 2006). In order to explore the case of La Paz/El Alto as fully as possible, each of these three literature bases was used to strengthen the analysis.

This chapter consists of two sections relating to two sets of transaction costs. Section I considers costs caused by informational problems between government stakeholders and water consumers, exploring how information—or rather the lack of information—regarding user preferences and potential demand affected the original design

[130] Interview with Jose Barragán, Vice-Minister for Basic Services, 17 October 2003.

of the contract and, invariably, the regulatory outcomes that ensued. Section II discusses the extent of information asymmetry problems between the government and the firm, as well as the ways in which hierarchical inter-governmental power relationships affected the tactics and timing of regulatory intervention. Both sections will ultimately address the ways in which inadequate communication channels and distrust between the firm, the government, and consumers eventually led to an environment in which consumers made choices about the future of their water provision services that flew in the face of rational, classical economic assumptions.

6.3 Section I: Institutional Arrangements and Consumer Vulnerability

6.3.1 The Cost of Gathering Consumer Information

> *Transaction risk tends to increase when parties have less access to and information about each other.*[131]

The crux of why a regulator is needed in the water sector is to structure and monitor the quality and quantity of services provided by the utility, as well as to protect consumers from usurious pricing that might emerge due to the naturally monopolistic character of the sector. Most discussion of Principal-Agent (P-A) problems between the regulator and the water utility tend to begin at the point at which monitoring the contractual agreement between the two parties commences. However, we can observe P-A dilemmas arising long before this point. The dilemma begins with what we could term an implicit "social contract" between consumers (principals) and government (agents), represented by the regulatory authorities assigned to act on behalf of citizens and to protect their interests. The theory of an implicit social contract holds that by remaining in the territory controlled by government, people give consent to be governed. The social contract and the rights that it provides are neither natural nor permanently fixed; the contract between citizens and the regulator, therefore, acts as means towards an end—the benefit of all—and (according to philosophers such as Locke or Rousseau) is only legitimate to the extent that it meets the general interest. Of course, regulators are neither elected representatives nor selectively chosen by consumers; rather, they are appointed by central government authorities through

[131] Oliver Williamson (2004).

a selection process based on their technical qualifications. Their intended role is to protect the interests of consumers as directly as possible, which is why the general trend has been to create regulatory bodies that operate independently of the rest of government, in order to decrease the chances that their decisions might be influenced by the larger inter-governmental political dynamic.

From this social contract concept, it is reasonable to suggest that any regulatory agency ought to be fully informed about the consumer base before drafting an explicit contractual agreement with a utility company; at the very least, these agents need to know how many consumers there are, what consumers demand—not only what they might be *able* to afford, but what they are actually *willing* to pay—and the type of service consumers *prefer* to have. The majority of the literature confirms the logic of this and contends that in order for water reform to succeed and be sustainable, sector improvements must be service-oriented and demand-driven (Cotton, Sohail and Tayler 1998; Brikke and Rojas 2001; World Bank 2004; DFID 2004). However, correctly forecasting the type of service that will truly satisfy the wide range and variability of consumer preferences is not so straightforward. While the need to acquire this basic household information may seem obvious, in the developing world this task can pose some of the most serious stumbling blocks to reform. From a purely logistical point of view, researching in rapidly sprawling urban centres is an extremely difficult and costly task, due to underdeveloped cadastre systems where many residents do not have titles to their homes, and particularly in areas where residents are unconnected to a formal water and sanitation utility network. While in the developed world government can usually rely on the market to gather information regarding consumer preferences and demand, in the developing world, where the water market is immature and where much of it remains in the informal sector, the preferences of consumers—especially low-income consumers—are usually unknown to government policymakers and those regulating the provision of services. Also, due to the fact that the planning processes undertaken by public water utilities have tended to be internally driven and dominated by supply considerations—that is, because they do not tend to operate by the law of supply and demand—public utility information regarding consumer preferences is also scarce.

Privatisation literature on the issue of decentralisation assures us that lower levels of government, closer to the beneficiary population, have an informational advantage in

identifying citizens' preferences, as well as the flexibility to respond to local conditions. As local governments act on this information, it is assumed that consumers will be willing to pay more for services. In theory, decentralised water services should also improve governments' ability to treat water as an economic good, create incentives for efficient water use, and finance improved service delivery improvements and expansion (Dethier 2000). While these assumptions might hold true in theory, in practice central governments have to act on recommendations and use the information provided by local authorities to determine the appropriate policy and regulatory framework for the water sector. The reality is that this information can be very difficult to get. In the case of Bolivia, as in most places where countries are supporting market-driven sector reform measures, policies and regulations are rarely driven from the bottom-up, despite the existence of decentralised governance structures in the country. More often than not, policies that push for greater participation of the private sector are top down measures, usually derived from, or even modelled upon, the experiences of other countries. Also, a great deal of the intellectual capital that goes into the design of water sector policies, strategies, and regulations involving PSP tends to come from international outsourced advisors, who may be equipped with technical skills in PPP contractual design in general, but who are not likely to be familiar with the specific socio-political nuances of the local water sector context.

The rest of this section highlights four major informational challenges that made it particularly difficult for regulators to understand the preferences of low-income water users. These are predominantly adverse selection problems whereby the regulator's *ignorance of consumers' private information* (state of nature) concerning the treatment and usage of water services led to the design of ineffective incentives (for the consumer and for the private sector). Lack of information, or misinformation, about these preferences limited the regulators' ability to estimate consumer demand correctly and invariably increased the design's stress on progressive tariff structures suitable for the needs of low-income user groups. The second important informational challenge that will be discussed relates to the regulator's *ignorance about the time-cost of adjustment that consumers* (as well as suppliers) faced in adapting to reform. It is clear from the findings that in PSP arrangements, time is a crucial consideration for building public trust and support to sustain reform efforts. The third adverse selection problem is due to *differential risk preferences among consumers*.

Consumer preferences naturally evolve over time, especially as one's consumer identity is strengthened, but government is not always able to observe when consumers switch from one set of preferences to another. Meanwhile, those networks, organisations, and private entities working more closely at the local level with consumers (be they neighbourhood associations, CBOs, or NGOs) can have an informational advantage when it comes to inferring consumer preferences. Opportunistic groups at the local level can, therefore, easily take advantage of the regulator's inability to infer consumer preferences accurately, and further persuade—or even manipulate—consumers to change their set of preferences more radically. Further, there is the *issue of goal incongruence*, where the agent's goal actually differs from that of the principal. This situation can be observed in incidences where regulators do not have incentives to disclose to consumers information about their own preferences or to provide rationalisations for their actions, because they feel that consumers will not have the cognitive capacity to make informed choices on their own (Arrow 1984; Williamson 1981). Discussion around goal incongruence is a fourth informational challenge to be analysed.

6.3.2 Consumer Preferences and Consumption Habits: In-house Water Connections vs. Standposts

> *You cannot think of El Alto as a city, because it is more rural in character than urban.*[132]

As explained in the introductory chapter, the unplanned nature of most low-income urban settlements makes it harder to supply water by conventional means: there is a lack of clear access routes for pipes to be buried in convenient straight runs, and houses have no identifier or address, which makes it difficult to record consumption and deliver bills in a normal way (Nickson and Franceys 2003). To service these populations, public providers have traditionally constructed standposts designed to serve between 200 and 500 people. The standposts are usually located at the end of the pipeline in peripheral areas of the city, which means that along the way other consumers (usually slightly wealthier ones) can install their own pumps to extract water from the mains into their own storage tanks. This greatly reduces the pressure of the standposts, which are usually provided to low-income

[132] Interview with Kristine Komives, La Paz, 29 March 2002.

users free of charge. Unfortunately, the poor quality of the water, combined with the fact that the service is free, destroys any sense of personal responsibility and ownership of particular standposts, invariably creating a situation where posts are often vandalised and where taps are left on permanently, leading to a great deal of wastefulness.

This was certainly the case with La Paz/El Alto. Interviews with households confirmed that local standposts were vandalised with great frequency, with taps often stolen and water run dry. Respondents also explained that two or three trips were usually required to find alternative, relatively functioning, standposts. From the government's perspective, this situation was a clear indication that the practice of using standposts needed to be eliminated, although many users would have preferred to have had improved standposts rather than to see them done away with altogether: "We were never asked what we wanted," explained one respondent. "No one ever bothers to ask us what we really need, especially with something like this where the government already knows what they want to do—and let's face it, the water company can make more money if they don't have standposts."[133] Part of this statement is certainly true. At no time did the government consider alternative options for the provision of water through standposts, and at no time were household studies or consultations with community representatives undertaken before a decision was made to eliminate standpost service provision. However, it is not true that the utility company would be able to make more money off household connections rather than standposts, and this mistaken belief is discussed further below.

Interviews with government officials from three different ministries (the Vice-Ministry of Basic Services, which includes the Ministry of Housing, Ministry of Capitalisation, and Ministry of the Presidency) confirmed that there were four basic reasons for their decision against continuing with standposts; reasons that are quite commonplace across the developing world: (i) the government wanted to contain El Alto's urban sprawl by minimising the extent of illegal housing; (ii) the government wanted to have better control over the quality of the water to reduce the incidences of water-borne disease and infant mortality; (iii) the government was also attempting to deal with sanitation problems, using household connections in an attempt to couple water provision

[133] Interview with a resident of El Alto, 18 October 2003.

with sanitation provision; and (iv) there was political pressure on the government to provide "equal" access to water for all. The last point, which is actually based on an internationally recognised promise that governments are expected—indeed, often pressured—to make, is known as the Universal Service Obligation (USO), where service providers are charged with the legal duty of delivering *equitable access* to all citizens.

Special consideration for the unique rural-urban water sector paradigm of El Alto is also critical to our understanding of why low-cost alternative water and sanitation solutions, such as standposts and pit latrines, were not considered by the government to be viable options. A conspicuous feature of Aymara culture is a great variety of witches, omen-takers, dream interpreters, diviners, herbalists, and medicine-men who practice magical curing techniques but also black magic. Some of these religious and cultural idiosyncrasies present barriers or simply preclude these communities from benefiting from certain forms of modern hygiene. Particularly, there is a belief that evil spirits reside deep within the earth, and that these can escape through holes in the ground, and also a belief that possession of another person's faeces can be used to harm them through witchcraft (Foster 2002). Residents who hold such beliefs prefer to dispose of their faeces anonymously in scattered locations, and without digging holes. In rural parts of Bolivia, such beliefs and practices have less of an impact, but in an urban setting they can obviously have detrimental consequences. These "primitive" customs were one of the justifications used by the government to impose regulations and contractual specifications for piped water and sewerage provision. The government argued that a conventional piped system would not create a conflict with traditional beliefs because the pipes would ultimately return faeces to surface water courses, filtering sewerage back to the mother earth.

According to interviews with local government officials, neighbourhood association leaders, CBOs, NGOs, and former employees of SAMAPA, the government never solicited advice from organisations actively working in the basic services sector in El Alto regarding this cultural constraint. Had they done so, the government might have been better informed as to the preferences of low-income households and might have designed reform measures that provided consumers with a greater degree of choice, empowering them with the ability to choose the type of service most suitable to meet their immediate needs. These respondents did agree with the government regarding some of the habits of

rural Aymara communities; they highlighted the fact that young children were afraid of falling into pit latrines and that women were reluctant to expose their vaginas to a corresponding hole in the *pachamama*, lest it blow an "evil wind up them". However, the respondents believed that these beliefs/cultural constraints could be overcome so long as a community: (i) was made fully aware of the project and convinced of its potential benefits; (ii) was allowed to participate in the project's planning and construction; and (iii) could contribute in the form of direct payment, operation, and/or maintenance of the system. For example, one low-cost initiative, known as the Yakupaj Initiative (Yaku means water in the Quechua language) succeeded in bringing simple water services to 350,000 rural people and basic sanitation to over 100,000 people between 1996 and 2001. To overcome cultural fears related to the *pachamama*, technological adjustments were made to convert pits to septic tanks and existing water-sealed toilets were adapted so that they could be manually flushed with as little as two litres of water, instead of the standard five.

Much debate remains as to whether alternative arrangements such as the Yakupaj Initiative would have been welcomed in El Alto's urban context, or whether they would have been perceived as a second-class alternative. Both government officials and staff at AISA provided evidence to support the argument that when the government relaxed its regulatory constrains and allowed AISA to offer consumers in El Alto alternative lower-cost condominial services, most consumers still opted for a conventional system because they considered the lower-cost option to be inferior (See Section 6.1). However, it should be noted that the price saving on the condominial service was not very significant, and so the potential savings might not have been considered sufficient to merit the risk of opting for it. Either way, it is clear that the government was somewhat ill informed about the preferences of a good majority of El Alto's residents. Improved channels of communication might have provided the government with greater insight into consumer preferences while promoting greater awareness among low-income residents of the health and hygiene benefits of having a household connection.

Had the government been more informed as to the preferences of this user group in the early to mid 1990s, the 1992 Regulations would perhaps have included special provisions for the use of standposts or other alternative arrangements (especially for sanitation, which would not require a connection to the network). Certainly, had the government steered away from branding standposts as "illegal" in the regulatory

framework, AISA might have been allowed to design a system to build metered standposts for selected communities. Metered standposts are being used in peri-urban settlements across the developing world (e.g. in Colombo, Sri Lanka, and in Lusaka, Zambia), and billing is shared by the community. Creating a culture of payment and community ownership around standpost water provision can resolve many of the problems relating to wastefulness and vandalism that tend to come with free standpost provision (Keener, Luengo, and Banerjee 2009).

Given the strength and organisational capacity of El Alto's existing neighbourhood associations, this type of shared collection and payment scheme might have been quite an easy system to implement in practice (although the transaction costs involved in setting up such schemes in a sprawling urban context deserve more research attention). However, it is very important to note that many residents of La Paz/El Alto—in fact, all of the residents interviewed in the course of this research—as well as many external observers and researchers have somehow been led to believe that AISA was in favour of the government's policy of eliminating alternative service provision options when, in fact, AISA would have much preferred to be able to offer its consumers a variety of service choices. According to AISA, providing consumers with options to meet their preferences would have simply been more cost-efficient and would have potentially led to greater consumer satisfaction.[134]

6.3.3 Low Demand and the Inefficiency of the Increasing Block Tariff

> *First of all, it is too cold to take a shower. They [AISA] say that I should have water all the time, but I don't need it all the time. I need it usually on Sunday but by then there seems to be no water left anyway—just a trickle with no pressure.*[135]

The most common complaint from AISA was that the government completely overestimated the demand for water that would emerge from El Alto's consumer base. AISA claimed that the government misled the company into believing that if it would only extend and improve the network and connect directly to households, there would be a

[134] Interview with Roberto Bianchi, AISA Managing Director, 13 December 2002.

[135] Interview with a resident of El Alto, 4 December 2002.

surge in demand. Much of the literature on the La Paz/El Alto case laid the blame for the lack of demand on the fact that household connection charges were too high, and that, because the tariff was pegged to the US dollar, the cost of water became prohibitively high for low-income residents of El Alto when Bolivia's currency devalued in the late 1990s. However, this is not what household respondents claimed during this research. Although most respondents did state that connection charges were high, many of them contributed their time and labour to reduce initial costs, and some benefited from a government grant to allow them to purchase appliances. According to respondents, having access to water via a household connection made life easier in terms of time saved and also because it was "cleaner and more reliable." However, they also explained that if there was a lack of demand, this was simply because their habits and their preferences had remained the same; they continued to use water for predominantly the same purposes as before, and in the same way.

Many of the interviewed residents who had relied on standpost provision prior to receiving a household connection through AISA claimed, for example, that having an in-house connection was "good" but "not necessary", and that it did not necessarily make them happier. For the most part, these residents tended to have a single tap connection, but not a functioning toilet. Although it was not possible to establish the figure exactly, it appeared that over half of the households interviewed had functioning toilets.[136] Interestingly, these same residents explained that they (and many other residents) continued to share water whenever necessary and to pay collectively for the use of water consumed from a tap in one household. Frequently, even in areas where residents had been connected to the network under SEMAPA, respondents would explain that their taps were not working but that it did not matter because a relative next door was supplying them with sufficient water. There is no attempt here to over-romanticise the process by which neighbours would come together to share water, as conflicts did arise. However, the case study demonstrates that, when necessary, consumers were capable of relying on each other

[136] It was beyond the scope of this research project to tackle the issue of sanitation in any depth, even though there are invariably many synergies with water provision. Sanitation is a much more sensitive topic to engage in discussion because respondents are more likely to become embarrassed about the state of their functioning toilet. I picked up on this whenever I asked to be taken to the place in their home where there was a connection to the network.

in much the same way as they had done historically under SEMAPA, and that they could organise payment collection on an informal basis. It cannot be assumed that a strong sense of consumer identity can be adopted overnight as a natural consequence of commercialising services.

On the issue of tariffs, most respondents did not have any idea about how the tariff structure worked, and they were not always aware that by increasing the number of additional families using one household tap they were inadvertently shifting themselves into a higher tariff band. As mentioned in the case summary, the increasing block tariff scheme in the La Paz/El Alto case allowed households (estimated at an average of five persons) to take 30 m^3 per month before the highest price in the block structure took effect. In other words, it established a "lifeline block" below the cost of supply to ensure that basic water needs for life and health would be affordable. Obviously, when three or four households rely on one tap, costs increase and billing statements become more volatile. There is some suggestion in the literature (Nickson and Franceys 2003) that such households should be registered in such a way that the lifeline allowance is increased to match the number of households, but even the authors of this literature acknowledge that in practice the system would be too difficult and complex to administer. The cost to AISA of servicing certain areas of El Alto already barely covered their administrative costs and it was difficult to find reliable employees capable of recording accurate meter readings; to introduce any additional complexity into the task of meter reading would have required prohibitively high increases in administrative costs to AISA.[137] Once again, what we observe through this example is a clash between informal and formal institutional arrangements addressing the provision of water services.

IBT schemes help to set marginal cost pricing [138] and to redistribute income among groups of customers. By setting a price below average revenue for the first block and

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[137] Interview with Roberto Bianchi, Managing Director, AISA, 13 December 2002.

[138] Economic efficiency is promoted when prices reflect the marginal cost of the services provided. In general terms, marginal cost at each level of production includes any additional costs required to produce the next unit. A number of factors can affect marginal cost and its applicability to real world problems. Some of these may be considered market failures, including information asymmetries, the presence of negative or positive externalities, transaction costs, price discrimination, and others.

prices above average revenue in the higher blocks, large water users (usually industrial and commercial entities) subsidise low-income water users. In theory, this creates an optimal means of "second best pricing", pursuing economic efficiency subject to a cost recovery constraint (cost recovery constraints are thought to be endemic to the developing country context). In the absence of information about user preferences, though, the task of designing an IBT structure obviously becomes more difficult. Bolivia's IBT scheme was by no means simple to understand for the majority of households interviewed in this research, and most users certainly had no idea what price they were actually paying for water on a monthly basis. In fact, respondents had severe difficulty interpreting most of what was outlined in their billing statements as well as their penalty charge notices).

Although the new tariff scheme was far less complex than the proceeding scheme, which had included 150 different tariff categories, there were a few major problems with the IBT scheme based on its initial design. In order for low-income consumers in the first block to benefit from the full subsidy, it would have been necessary for these consumers to use water through the *entire* first block—the less water used by a household in this lowest block, the smaller the subsidy from the higher blocks. In general, household consumption in El Alto was low. Further, as mentioned above, the ways in which water was put to use by most households interviewed did not change overnight simply because these households gained access to a tap.

It should further be noted that it is misleading to think that IBTs must be consistent with marginal cost pricing. IBTs result in different customers simultaneously paying different prices for the same service, in this case the provision of water services. Only one of these prices—the prices charged to consumers in the highest block—are equal to the marginal cost. Marginal costs are meant to rise with increased aggregate use, but the block tariff fails to capture the relationship between the consumption of water and price equal to the cost of increased use by that specific consumer (Boland and Whittington 2000). Also, for IBTs to work, households need to have a metered connection to a network. This supposedly acts as an incentive for consumers to make the choice to connect to the utility network, which eventually is meant to lead to positive health externalities for consumers. In the case of La Paz/El Alto, though, consumers were not given the choice as to whether or not to connect to the network, and so the IBT was not really needed as an incentive. Further, there is no existing empirical evidence that proves a correlation between IBTs and

improved health. If there are health benefits to be gained, they are more likely to come from simply being connected to the network, rather than from the allowable volumetric consumption in the lifeline block.

Another problem with the tariff scheme was that the initial tariff design was not directly linked to productivity or investment needs. As mentioned previously, there was no tariff at all for sewerage: customers, who had both water and sewerage installed paid the same as those with only water (2001). The reason there was no sewerage tariff was again due to inadequate information about the sewerage connections and the estimated number of households in need of a connection. It was up to AISA to develop this body of information and then to use it to propose a sewerage tariff during the next round of tariff negotiation with the regulatory agency, the SISAB. Mechanisms for the revision of tariffs were meant to allow for potential rises in labour, chemical, and exchange costs, and were included in the original contract so that adjustments could be made without a complete renegotiation of the contract. Of course, when these adjustments were discussed with the government, they quickly became a heated political issue. Members of civil society organisations and other observers, unfamiliar with the design of the original contract, interpreted any discussion over tariffs as an attempt by AISA to renegotiate the entire contract and directly increase tariff rates.

It is also important to keep in mind that the rates in force in La Paz/El Alto were lower than those of other major Bolivian cities, including the public cooperative of Santa Cruz and the public utility of Cochabamba. Average tariffs in La Paz-El Alto increased by an average of 20 per cent in 1997 but the fix charge, which had previously penalised small consumers was eliminated at the same time (Foster 2003). This meant that most poor families experienced a decline in their monthly water bills, while other wealthier consumers saw a sharp increasefo in their monthly billing statements. It is also important to note that although a 20 per cent average tariff increase is significant, when compared to the average tariffs in neighbouring cities, the average tariff in La Paz-El Alto Also was 31 per cent lower than the average tariff in Santa Cruz and 21 per cent lower than the average tariff in Cochabamba (Martin 2009). Also, compared with other utilities, such as electricity, water remained the least expensive. The message that was received from the household interviews with low-income users of El Alto was that volumetric charges were not a significant concern.

Table 6-1: Initial Tariff Structure for Aguas de Illimani (AISA)139 (varies by user category and monthly water consumption)

Tariff US$/cubic meter[140]	Domestic[141]	Commercial	Industrial
1.1826	301 m³	21 m³ and above	1 m³ and above
0.6642	151 to 300 m³	1 to 20 m³	
0.4428	31 to 150 m³		
0.2214	1 to 30 m³		

(Komives 1998)

[139] This is the tariff structure designed for the first five years of the contractual arrangement.

[140] Indexed to the US Dollar.

[141] Ninety-nine per cent of all domestic consumers use less than 150 cubic meters of water per month, meaning that very few customers ever pay the same unit cost as commercial or industrial consumers.

Table 6-2: Effective Per Unit Price of Water for Households with In-House Water Connections in Sample Neighbourhood Areas of La Paz and El Alto

	Avg. monthly water consumption	Avg. monthly revenue	Price per cubic meter of water
El Alto – North	7 m³	$1.54	$0.22
El Alto – South	11 m³	$2.44	$0.22
La Paz – Tacagua	10 m³	$2.21	$0.22
La Paz – Cota Cota	60 m³	$20.53	$0.34

(Komives 1998)

6.3.4 Time-Cost in Adjusting to Reform

> *The most important characterization which we apply to the bargaining process is that it is fundamentally time dependent. It is widely appreciated that the passage of time has a cost in terms of both dollars and the sacrifice of utility, which stems from the postponement of consumption… If it did not matter when the parties agreed, it would not matter or not they agreed at all.*[142]
>
> *In a way, the SISAB (regulatory agency) seems to have been set up only to provide comfort to the private sector not to the public.*[143]

It is important to reiterate the way in which this research project defines "the transaction" as it relates to the case study. The transaction—the investment between both parties (buyer-AISA and seller-GoB) in terms of financial and time cost—was initiated the moment bidding documents were drawn up and negotiated to form a private consortium for the La Paz/EL Alto concession. The exchange, or trade, between the GoB and the AISA consortium continued through to the abrupt termination of the transaction seven years later—at least 18 years ahead of the expected date at which the transaction was meant either to draw to a close or be extended for another period of time (potentially another 25–35 years, in line with typical PPP concession estimated time-frames). Consequently, the overall life span of the transaction being analysed is seven years.

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[142] Cross (1969).

[143] Interview with an El Alto resident,17 January 2003.

One aspect of regulatory reform that is overlooked by the literature is the way in which consumers are meant to adapt to their new role within a completely new regulatory culture. The literature contends that within the traditional model of public service provision (where autonomous regulatory agents are not considered necessary), consumers have tended to feel powerless. In theory, PSP is meant to solve this problem by acting as a catalyst for the establishment of a stronger consumer identity, and providing consumers with voice, choice, and regulatory culture to empower citizens and facilitate direct consumer participation in the monitoring of service providers. The Bolivian regulatory framework, designed during the mid-1990s, was created with the expectation that consumers would finally be able to participate actively through three regulatory channels.[144] The reforms facilitated consumers with: (i) the right to launch *complaints*, in the first instance directly to utility companies, and then to the SISAB; (ii) the ability to *appeal* their grievances if/when the SISAB provided an unsatisfactory response to these complaints; and (iii) the right to express their opinion at *public hearings* summoned by the SISAB as a consultative mechanism for its most important decisions.

Obviously, for such a system to work in practice, these regulatory institutions (their mandate and purpose) need to be understood and supported by those members of the population that the agencies are foremost meant to protect. Although Bolivia's new regulatory framework may have created the progressive structure to support a newly empowered consumer-base, it did not necessarily equip the population with the tools and capacity to act upon its new regulatory rights. Clear and simple procedures for consumers to engage with regulatory authorities should have been presented in enough time for the population to become familiar with the new tools and mechanisms at their disposal and so use them effectively. From the perspective of many of those interviewed for this research, "the SISAB was not really created by the people" to help govern the water sector and

[144] The regulatory reform that took shape during the mid-1990s created this system, which included five sector-specific superintendencies/regulatory agencies, one superintendency responsible for dealing with the appeals process, and a General Superintendency, SIRESE, responsible for overseeing/coordinating efforts of the various sector-specific agencies.

protect consumer interest; rather, it was created in order "to look 'good' so that the private companies would come."[145]

Central government authorities do not deny that Bolivia's transition to a regulated water market system was rushed. However, they contend that such a major institutional overhaul would always attract significant opposition, and that taking too long to transition to such a system bears the risk of institutional reform simply not taking place. According to one government official, "everyone talks about participation as if it is the answer to every institutional impasse, but participation itself more often than that leads to a stalemate, especially in sectors such as water and energy."[146] Findings indicate that the government did not attempt to undertake any participatory programs during this period. Still, government officials argue that people were provided with a five-year window of opportunity between the time the first set of sector regulations were introduced (the 1992 Regulations) and the time the government decided to introduce PSP. From their perspective, five years should have been enough time to adjust to the idea that household water and sanitation network connections would be the only legally acceptable type of service provision. It is certainly unclear just how much the government invested in making the case for this legal requirement known to the public. When probed, government officials explained that they often relied upon SAMAPA to act as the intermediary for legal and regulatory messages regarding the water sector. Given what we know about the case, though, SAMAPA never took the government's 1992 regulations seriously, so consumers themselves had no incentive to transition to this requirement during the initial five-year period.

Ironically, much of the analysis surrounding the relationship between regulatory authorities and *private* utility operators assumes that a P-A dilemma arises because the utility has an informational advantage over the regulator (on the day-to-day operations of the firm), which gives them more power or leverage over the regulator. However, when comparing this relationship to the relationship between the regulator and a *public* utility—a utility often run by a politically appointed manager—the power of the regulator to hold the

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[145] Interview with El Alto resident, 10 November 2003.

[146] Interview with Vice-minister Jose Barragán.

utility accountable for non-compliance with regulatory standards is actually much more limited. Private enterprise, unregulated, will respond only to human need that is expressed as economic demand, which is why the needs of the poor might be neglected. According to AISA, "government is in a much better position to lay down the rules and regulations within which private enterprises have to operate and if it wants to, it can weigh those regulations in favour of the poor."[147] This statement may be true, and it was certainly validated by the Vice-Minister of Basic Services, but it is unclear whether consumers have the ability (or willingness) to uphold new rules and regulations governing the water sector. Even though it had been the government who ultimately created the conflict between the utility operator and consumers by creating a legal requirement to connect to the network, consumers were angrier with the utility company for *taking the government reforms seriously* than they were with the government.

A number of questions also remain. How long should it take to transition consumers to a new style of governance and regulatory oversight with a formalised market-based service provision system? What type of participatory measures can be utilised to create greater consumer buy-in to reform efforts and increase the likelihood of meeting the demands and preferences of this particular group of consumers? Deepening our understanding of the clash between informal and formal perceptions of water can provide some answers, in particular identifying where the issue of water rights might overlap with other sources of social unease. Other answers can be found only by engaging directly with communities. Sustained success in water and sanitation programmes depends on catalysing real demand and real participation to liberate community determination and resources, and this is relevant to every other problem of poverty and community development.

The question of *how to transition water users* to a new regulatory system and market-based approach to service provision should be at the forefront of the debate on PSP in the sector. The transaction costs that stem from large-scale community outreach and information sharing about the potential benefits of reform, the new rights that consumers will be awarded, the new set of responsibilities that consumers will have to bear, and the

[147] Interview with Bianchi, Managing Director, AISA, 2002.

new tools at their disposal to act upon their consumer rights, are all no doubt high. After all, these costs are in addition to the costs of creating and distributing education material related to good hygiene practices. However, the cost of mistakenly assuming that consumers will adapt naturally to reform measures, without specific social policies and programmes in place to ease their apprehension and vulnerability, is a much greater risk to the sustainability of water sector reform and PSP. These transaction costs were certainly not factored into the planning of the La Paz/El Alto concession.

6.3.5 Building Confidence and Establishing Consumer Identity

> *Sure, people complain much more now that water has been privatised. That's because there is someone specifically to complain to and to complain about. When water was in public hands we simply resigned ourselves to the idea that we had poor government services, there was no one in particular that we could hold accountable. The same was for transport. Now we complain more and we demand more. Not only have our services been upgraded, we've been upgraded: we are now paying consumers with more sophisticated preferences.*[148]

The most revealing aspect of the time-cost of adjusting to reform was discovering just how long it took for people to establish a *consumer culture* or *consumer identity* in El Alto. Household interviews took place five years after some households had been upgraded to the new network, and yet most respondents seemed reluctant to take up complaints with AISA and enact their new consumer rights. For the most part, consumers would first seek support from a community leader or NAL. However, consumer rights should not be confused with entitlements. Most of those interviewed felt that they were "entitled" to water, as it was perceived as a natural resource and a public good—but they held their government ultimately accountable for their situation, not AISA, as clearly stated by many residents who adamantly believed that the government had sold their natural resources off to the French, to the Americans, and to the World Bank so that these entities could make money off Bolivia's natural resources.[149] It seemed odd at first that the same politically charged individuals who would stage mass demonstrations against the government would

[148] Interview with London resident.

[149] Various interviews in El Alto.

be so apathetic when it came to direct (administrative) action against AISA. It needs to be considered how long it takes for a person to develop a sense of consumer identity.

Some insights come from new approaches, which analyse consumption and its behavioural choices and practices as social and cultural rather than psychological or economic phenomena. Consumer Culture Theory (CCT) refers to a family of theoretical perspectives that address the dynamic relationship, and possible tensions, that exist between individual consumer behaviour and social, cultural, and ideological structures that are mediated by markets. It is "the consumption of market-made commodities and desire-inducing marketing symbols [that] is central to consumer culture, and yet the perpetuation and reproduction of this system is largely dependent upon the exercise of free personal choice in the private sphere" (Arnould and Thompson 2005). One focal issue in CCT is thus the question of consumer freedom. Are consumers truly free to pursue and develop their own motives, preferences, experiences, and behaviours? Or does culture determine these factors to such a degree that consumer freedom is limited or illusory? We have gained some insight into the ways in which El Alto's social structure (social norms and cultural values) may have influenced consumer freedom and sense of identity, but additional research is needed. Particularly, there is a need for more research in other sectors relating to socio-historic patterning of consumption in cases where PSP has been introduced to improve the relationship between service provider and recipient client.

It would also be interesting to find out whether consumers develop a consumer identity more quickly in other sectors where transitions were made from public to private service provision, such as telecoms. Unlike water and sanitation, telecoms is a competitive sector, and therefore might lend itself to a more rapid manifestation of consumer culture and identity because it offers consumers choices. It could be argued that there was some degree of choice provided to many households in El Alto, in that they could opt in or out of the condominial network provision, but perhaps these households felt pressured into the decision they made. Although is not entirely clear, it would seem that all households who had the option of condominial services decided to opt for them (at least in the beginning, before complaints and suspicion grew about these services being inferior to the traditional network connection), and this would indicate some degree of social pressure to make the choice (this will be discussed further in the next section). It would be extremely interesting to return to La Paz/El Alto and continue to explore, at a deeper level, how institutional and

social structures systematically influence consumption and reciprocally, and the relationships between consumers' experiences, belief systems, and practices. It would also be interesting to observe the way in which consumer identity in the water sector has evolved (or not evolved) since the utility was placed back in the hands of the government.

6.3.6 Differential Risk Preferences: Moving From One Set of Preferences to Another

Water services are an obligation, not a charitable act.[150]

Over the years, El Alto's condominial programme has received a great deal of attention from the international development community. It continues to be cited by many as a successful example of community participation and as a case study to prove that government, the private sector, NGOs, and the community are capable of working together toward a mutually beneficial goal. Others, though, disagree: in their interpretation, AISA found it difficult to establish an NGO partner, and it therefore ended up working directly with the community, setting up special pilot project offices to support areas where condominial projects were in operation.[151] Although the condominial program had many supporters and has been the subject of various development reports, it is important to keep in mind that most of the people living in El Alto had never even heard of the programme and it barely scratched the surface of the sanitation problems faced by the city.[152] Still, there are two interesting points that emerged from the condominial programme. The first is that in order for the project to go ahead, the government made a big step in agreeing to relax some of its technical standards, which had legally precluded the use of such a system and/or the use of any "alternative" service provision options.[153] This regulatory compromise, which was carried out under informal agreements between AISA and various

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[150] Taken from a document prepared for World Water Day, 200 by Dr Rosalind Stanwell, World Health Organisation.

[151] Interview with Ken Kaplan, Director, Building Partners for Development. Kaplan participated in a multisector partnership program which supported the condominial approach with AISA, SIDA, and the World Bank's WSP.

[152] This finding came from the initial household survey and was later confirmed by government authorities and AISA management.

[153] The condominial system allowed for the use of smaller-diameter pipes laid at relatively shallow depths in areas where were they would not be subject to heavy loads from above. As mentioned in Chapter 3, AISA agreed to allow neighbourhood groups to make their own arrangements for network installation if they so desired. The leaders of some communities, for example, would try to save costs and time by collecting money from residents and outsourcing the construction of the network to a local contractor/specific member of the community.

neighbourhood groups, successfully connected approximately 2,000 out of 7,000 households in 2002. The effect of this regulatory flexibility proves that government regulation can be malleable (when willing) and adjust as new information (including technological innovation) becomes available, possibly leading to positive welfare outcomes.

A second point is that despite the lower-cost option that the condominial programme offered consumers, AISA soon discovered that even in some of the poorest communities, residents were opting out of the lower-cost scheme in favour of the more conventional, higher-cost water and sewerage system. The decision of consumers to demand higher-cost conventional connections was based on nothing more than the suspicion that 'alternative' solutions meant second-class solutions. In the case of Brazil, where condominial technologies were first developed, the government did not offer low-income consumers an option between condominial and conventional services. Certain areas of the city of Brasilia (as well as other cities) were simply selected by the government and the alternative system was implemented. The government of Bolivia, in contrast, made a policy decision to allow consumers the freedom to choose between the two options.[154] It remains somewhat unclear as to why the government made only this particular exception for an alternative system of provision. Perhaps there was pressure from the international development community or from AISA, but respondents never fully rationalised why this approach was allowed and/or why other low-cost innovations were not tried. Although AISA acknowledged its preference for allowing standposts for those consumers who preferred them and acknowledged their interest in working with private small-scale service providers to service those areas that were hardest to reach, the government felt it could not justify allowing some consumers to receive what it believed to be substandard provision.

The progression of switching from one set of preferences to another as one's consumer identity becomes more sophisticated is certainly greatly enhanced and nurtured by a market-based service provision culture. As mentioned previously, if governments fail to offer consumers choices to meet their various preferences, they may unwittingly stunt

[154] Interview with the SISAB.

the development of consumer identity and minimise a consumer's sense of ownership and responsibility for services rendered. Still, the complexity of combining alternative service provision with conventional service provision is significant, especially in circumstances where *price* alone may not be the only determinant motivating the choices that consumers make in the water sector. It would be interesting to explore further the transaction costs involved when such alternative arrangements are offered to consumers. Another important point with regard to providing consumers with choices is that a choice between two types of service options may not be sufficient, and there needs to be a whole range available to consumers. It would have been interesting to observe what consumers might have preferred had they been offered a more substantial lower-cost alternative, such as the type of service offered through the Yakupaj Project as described in Section 4. Overall, the point here is that given how difficult it is for the government to determine *ex-ante* the way in which consumers' demands and preferences may sway and/or progress, the government should have facilitated AISA with greater regulatory flexibility so that it was not constrained by policy and could rely directly upon demand trends as indicated by the market.

6.3.7 Participation

> *The root cause of the failure of so many water and sanitation projects has been the assumption that the problem is primarily technological and can therefore be resolved by engineers. Proceeding on this basis, the planners themselves define the problems that must be overcome and the priorities that must be met. There is no space for consultation with the community, and no consideration of how the technical solution arrived at will fit with the cultural, socio-economic and environmental realities of the recipient community. The result is a total collapse of understanding between provider and recipient, and, ultimately, the community's refusal to use, pay for, and maintain the service.*[155]

As mentioned above, low-income residents interviewed in El Alto reiterated that they were more comfortable voicing their complaints with NALs than they were with AISA, the SISAB, or municipal authorities. When asked to rank the level of responsiveness of these four agencies, they ranked NALs as "most responsive", AISA as "responsive", and

[155] Mariela Garcia, sociologist at CINARA Institute in Cali, Colombia.

municipal authorities and the SISAB as "unresponsive." High profile members of local CBOs such as the Cordinadora del Agua and of NALs such as the FEJUVE sought both to serve and stimulate public interest in social issues around water privatisation, and were popular public personas widely known across many neighbourhoods in El Alto. Residents would listen to these figures speak on the radio and find them convincing, while by contrast there were no specific members of the SISAB or AISA whose names were known to residents.

Stakeholders most vulnerable to the potentially negative impacts of reform, such as those living in El Alto, were a perfect target for NALs and certain CBOs, as they could easily be persuaded into believing that their public actions (involvement in protests and strikes) were necessary to protect the greater good of their community. Despite the fact that the majority of interviewed consumers believed that their WSS had improved dramatically, these same groups also believed (or were led to believe) that they could afford risking a return to lower-grade service provision in order to bring about greater social change for their community. NALs and CBOs had greater access and reach at the local level than AISA or the government, and although in some instances these groups were acting with the best interest of consumers at heart, it cannot be denied that a separate political agenda also motivated their interests and actions.

The objective of this section is not to paint a completely negative picture of NALs or of any other community association in El Alto. Bolivia is characterised by a large variety of local institutions, including an estimated 67 different types of associations active across the country, which make significant contributions to individual household welfare (Grootaert and Narayan 2004). Although these community organisations vary in terms of inclusiveness and quality, they are a strong and necessary force in connecting poor people to municipal governments and to markets. Government policies to support social capital formation through membership in such community associations should not necessarily diminish. However, government support needs to be more nuanced in order to take into account the local social relations and power structures that exist within some of these informal institutions. At the very least, in the case of La Paz/EL Alto, government-sponsored community-outreach programmes should have been equipped with the tools to provide consumer groups with an alternative perspective regarding the benefits of water

sector reform and PSP, in order to combat the negative messages presented by NALs and CBOs.

Similarly, AISA could have done more to reach out to communities; at the very least, it could have assembled a small team of people solely responsible for community consultations in order for residents to become more familiar with people within the company. This practice has been successful in other cities, such as Cartagena in Colombia, where a long history of political clientelism, corruption, and racism permeate into an "us" vs. "them"—or a "haves" vs. "haves not"—culture in a similar way as the situation in La Paz/El Alto. The difference with the PPP established in Cartagena, though, is that the utility, ACUACAR,[156] created a team with one particular person designated as the intermediary between consumers and the utility. This representative is a familiar name among community groups, trusted and respected even in neighbourhoods that remain outside the agreed concession area of ACUACAR (Barbery 2003). Part of the reason why such a relationship with the community works in Cartagena can perhaps be attributed to the fact that regulators allowed ACUACAR the flexibility to respond to the unique needs of different peri-urban communities. The company was allowed to reach out on its own accord and partner with local NGOs/CBOs to design alternative service provision arrangements and to support alternative billing arrangements based on community-driven initiatives (Nickson 2002; Barbery 2003). Bolivia's regulations prevented AISA from having the same degree of flexibility.

Another reason why AISA struggled to gain the trust of community members was because of some naïve or insensitive corporate public relations decisions. For example, many AISA billboards, which were distributed across the adjoining cities, featured images of blond, blue eyed children happily swimming in a pool below the slogan "More Water, More Life". The slogan demonstrated how disconnected AISA appeared to be from the realities faced by the majority of the population it served. After witnessing the success of community participation in El Alto's condominial programme, where various community

[156] In December 1994, the city of Cartagena and Aguas de Barcelona (AgBar) established a mixed-ownership company called Aguas de Cartagena SAESP. (ACUACAR) to improve and extend water and sanitation services (WSS) to the city's 900,000 inhabitants.

members were actively involved in the planning, building, and operating of their own water and sanitation systems, AISA did eventually decide to hire additional people with backgrounds in social and community work to help integrate more closely with communities and to build trust,[157] but the decision was tardy and, given the power of those closest to the beneficiary community, AISA needed to invest much more in changing its public image. Private companies may lack specialist experience in the field of social work and community outreach, but this does not imply incompatibility. In fact, interviews conducted with private water utilities in other developing countries also reveals a strong willingness to work in partnership with non-profit making schemes and to learn lessons from social workers engaged at the local level. Although this willingness is almost certainly motivated by a belief that these lessons might ultimately turn out to improve profitability for the company in the long term, it still exemplifies compatibility in terms of potential welfare outcomes.

How participation happens in practice should not be overly romanticised. It takes a great deal of work and involves a great deal of risk, not only for consumers but also for utility operators. As was explained in Chapter 4, the relationship between a private utility operator and consumers is often built upon tenuous foundations, simply due to opposing perceptions of how water should be treated (as an economic vs. a public good). Informal partnership arrangements with community groups that might enhance participation are more complicated and delicate under this type of environment. Also, participation usually requires some degree of local leadership, and local leaders are not immune to corruption. Take for example AISA's attempt at increasing community participation (and support for reform) by continuing some pre-concession informal payment arrangements with neighbourhood groups for water and sewerage installations. NALs entered into an informal partnership with AISA and made arrangements directly with residents to collect money and to hire contractors to construct the local network. About two-thirds of these agreements had problems such as missing money, incompetent or unscrupulous contractors, or poor quality materials used in construction. Engaging in these types of informal arrangements carries risks and associated costs that should not be ignored.

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[157] Various interviews with AISA staff.

Although in recent years civil society has become a powerful impetus in water policy formulation at the local, national, and global level, there continues to be a severe lack of synergy among civil society stakeholders in terms of their ability/willingness to trust government and private sector stakeholders when implementing projects jointly. Not only are utility operators apprehensive of the risks associated in informal partnerships with community members, but some CBOs and NGOs are also apprehensive that, by entering into partnerships with the private sector, they will be co-opted, or be perceived as being co-opted, into propping up policies and practices that support PSP. Similarly, when deeply rooted animosity and mistrust exist between government and representative community groups, the government can also create obstacles for cooperation between utility operators and community groups and indirectly (or directly) prevent local-level participation. For example, the government of Bolivia certainly considered some members of the FEJUVE to be "violent anarchists whose ambitions are solely political and not to help the poor improve access to services."[158] This distrust often led the government to regard civil society in El Alto as a homogeneous and monolithic group, which ultimately perpetuated the "us vs. them" mentality.

Regardless of the challenge of engaging with community representatives, many would still argue that the success—or rather the sustainability—of any water project depends on the participation of citizens. "Local communities must be actively involved in decisions about the trade-offs between standards, cost and affordability," says a report on funding the Johannesburg targets written by Cambridge Economic Policy Associates. For Mr. Von Braun of IFPRI, "the answer to water pricing is efficient institutions of user associations that can negotiate with higher-level bodies. "What is driving demand for drinking water is not so much price, but the capacity to politically articulate," he adds. "In some parts of the world the poor have become more articulate through decentralisation, devolution and more democracy, and what is on the top of their agenda is clean water." While the chances of a programme succeeding perhaps increase through greater participation, the cost of participation programs cannot be ignored. Referring back to the experience of community participation in the condominial program, households

[158] Former President Goni in an interview with PBS, 2006.

contributed with their own labour and social workers were recruited to: (i) help organise the community into condominial units; (ii) train the community in construction techniques; and (iii) supervise construction. In the case of water service, the savings achieved through community participation were about the same as the costs of organising the community, so that there were no net cost savings associated with community involvement (see: Foster 2001).[159]

There is a further issue that cannot be ignored when we talk of participation: goal incongruence. There are individuals with years of experience in participation who believe that, more often than not, goal incongruence between central government objectives and community objectives comes to a head despite huge investment in community outreach and participation. The bargaining power over certain issues may switch between community and government, but "ultimately one party wins and the other loses—when these types of circumstances arise, no compromise is reached and no concessions are made—and let's face it, the government usually wins because they are convinced that they know what's best for the people."[160] Bounded rationality is a condition in which individuals are intendedly rational in their desire to maximise economic benefits, but are subject to limited cognitive competence as a result of imperfect information. Governments sometimes acknowledge this when designing policies that they believe to be in the best interest of citizens, but where citizens are supposedly constrained by their cognitive capacity; in other words, when governments believe that people "don't know what's good for them". Until now, arguments have been put forth that greater access to information about consumer needs and preferences should facilitate governments with the tools to design more appropriate and innovative institutional arrangements that better meet social welfare objectives.

This bottom-up, community knows best, approach is certainly quite popular in development circles today, but what of those situations in which consumers have preferences that are simply incongruous with government priorities? What about those

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[159] It should be noted, however, that in the case of sanitation cost savings from community participation did rise by 5 per cent.

[160] Interview with Diego Zavaleta, Technical Secretary of National Dialogue, Bolivia.

situations—should they exist—in which water users might not know what's good for them? How does the subject of bounded rationality fit into the participation equation in practice? We need to acknowledge that for many low-income residents, water and sanitation are a simply a long way down the list of priorities, while at the top are things that are felt to have a more direct impact on day-to-day living and family income. Job creation and improvements in transport and electricity are often seen as more pressing, and, particularly for low-income populations, words such as "hygiene" remain fairly abstract concepts and the link between health and productivity or income is even more abstract. [161]

6.3.8 Vulnerability

> *Psychological and institutional structures of power have always cast them [urban poor] in the role of supplicants. The poor are not seen as agents of change: they are seen as passive recipients of favours bestowed or withheld by the people in power.*[162]

> *The water that comes out into the sink is much better now than before. Before you could even see bugs come out with the water and it smelled of excrement. Still now the water is not transparent, it is cloudy and it smells of chemicals. Either way we have to treat the water before we drink it.*[163]

> *Fist one bill comes and then another for something else. I didn't pay my water bill and then all of sudden my electricity was turned off. Now I have to operate my shop with no light and no water.*[164]

Institutions are certainly a source of vulnerability, but they are also affected by the vulnerability of those they are meant to serve. Further, a weak institutional environment promotes vulnerability in the definition of property rights and in exchange. However, while this vulnerability might be further perpetuated by inadequate institutional arrangements, institutions can alternatively use the tools the at their disposal—policies, regulations, and contractual incentives—to support partnerships in the water sector that might reduce risks for consumers; in this way, consumers may be more likely to benefit

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[161] Interview with Claude Besse, SIRESE.

[162] Interview with Diego Zavaleta, Technical Secretary of National Dialogue, Bolivia.

[163] Interview with a resident of El Alto.

[164] Interview with a resident of El Alto.

from reform. However, just as there is a wide range of variation in consumer preferences, there is also variation in the degree to which consumers are willing to take on risk. The more vulnerable a person/household is (in terms of exposure to a range of adverse events), then the more likely it is that he or she will choose low-risk institutional arrangements, sometimes at the cost of lower average productivity. Most of the analysis of risk in PPP arrangements tends to focus on the tools governments use to balance the risks shouldered by the private utility (construction cost risk, demand risk, operating risk, regulatory risk, obsolescence risk, foreign exchange risk, and political risk). The risks to the private sector operating in unfamiliar developing country settings are unquestionably high, and the balancing act between government and the private utility will be discussed in Section II. However, government must also be aware of risk from the perspective of consumers, so that it can implement measures to incentivise consumers to take on the risks that also arise in PPP arrangements.

Many researchers fall into the trap of perceiving El Alto as one large, sprawling urban slum. This is mostly because the government does not have comprehensive household data showing the variability between households living in different zones/neighbourhoods of El Alto. Researchers are left to make assumptions using largely out-dated data based on predominantly aggregated measures of household income that fail to present an accurate picture of the huge wealth disparity between certain areas. This lack of disaggregated data constrains our ability to view El Alto as a multi-faceted and heterogeneous community. Although predominantly inhabited by residents of indigenous origins, the assets of El Alto residents vary considerably from one zone to another, and, consequently, the preferences and risks households are willing to take, and are able to afford, must also vary considerably.

"No one that I know qualified for credit,"[165] explained one resident in El Alto, when asked about the micro-credit scheme offered to households to help finance the US$ 400-worth of materials required to construct a fully equipped bathroom. The frequently cited results of the El Alto Pilot Project, where three-quarters of the households that applied for credit were approved, paint a misleading picture of the micro-credit dynamic

[165] Interview with resident in El Alto.

and the risk appetite of most households. First, the pilot project helped to provide 1,977 households with water connections and 4,050 with sewerage connections; however, only one-quarter of these households ever applied for credit despite the assistance of social workers on hand to help them through the application process. This quarter, a tiny subset of the population that was already fortunate enough to be a part of the pilot program, also had incomes that were substantially higher than average for El Alto. The credit program's intention of providing households with a loan on a 32-month term, at an interest rate of 1.92 per cent per month, was simply inappropriate, because it carried too much risk on an investment that would never yield a direct financial return for individual households. It is clear, through examples such as this, that time was never taken to consider the amount of risk that households could afford to take in realising the government's dream of universal services for all.

There were also households that might have been able to afford the monthly water usage payment at some times, but which for one reason or another were unable to do so for a long enough period to avoid a temporary disconnection. One resident confided that it was "cheaper to move house than to pay our fine and a reconnection charge." One perhaps serious issue addressed by only two collaborating researchers relates to the fact that many residents of El Alto experienced hidden costs caused by not having a water meter: because many areas of El Alto had not yet been supplied with a meter, prices were fixed by AISA according to the value of their housing. Houses valued at less than US$ 25,000 were asked to pay US$ 2.38 monthly for their connection, compared with US$0.75-$0.88 per month for those with installed meters (Laurie and Crespo 2007). This significant difference was due to the increasing block tariff structure, which afforded residents in a lower consumption bracket with a cheaper price per cubic meter. This significant differential between what some residents were paying compared to others in the same income bracket should not have been allowed to occur. Some residents, in this predicament, felt they had no option but to remain disconnected.

6.3.9 Universal Service Obligations and the Consequence of a Rights-Based Approach to Service Delivery

From a business perspective, Talbot (2002) identifies tighter contracts and regulation as possible deterrents, in that the general country and financial risks are exacerbated by "unreasonable contractual constraints" and "unreasonable regulator power and

involvement." Further difficulties for private water operators include "an emphasis on unrealistic service levels", "attempts to apply European standards in developing countries", and "the explicit demand for 'connections for all' in developing countries." Talbot finally rejected the sustainability of introducing full cost recovery from users in developing countries, arguing that the notion that "water pays for water is no longer realistic in developing countries: even Europe and the US subsidise services" and that "service users can't pay for the level of investments required, not for social projects" (Talbot 2002).[166]

Why are governments in the developing world placing such pressures on water utilities? Ask any politician this and they will iterate the same response: there is extreme political pressure on governments to provide the same quality of water to all users. While there is no reason why governments should relinquish their responsibility to meet this USO, we have observed that the politicisation of water rights can have major implications for shifting user preferences—shifts that can invariably interfere with the potential normal functioning of the water market. Time and again across the developing world, we witness politicians who make the promise of equal access to services a hallmark of their campaigns, and we hear emotive speeches based upon "rights-based" arguments that state that water provision is not a charitable act, but the *obligation* of the state and the *right* of each individual. The rights-based approach provides claimants with a legal framework, based on human rights law, for action within their own political system. This approach has the potential to empower individuals to demand, as a minimum, that water quality and quantity must suffice to meet basic human needs in terms of drinking, bathing, cleaning, cooking, and sanitation, but it also has the potential to create expectations that are far beyond the capacity of utilities to provide. Such promises also emphasise the public good perspective of water rather than the economic benefit, which can lead to further challenges in meeting USO with the help of the private sector. The rights-based approach does not necessarily contradict the market-based approach to service provision, but rights-based literature tends to confuse matters with the claim that water systems that exclude certain groups who cannot afford to pay user fees are inconsistent with human rights.

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[166] Paper and speech presented at the World Water Forum, 2002.

6.3.10 Subsidising the Private Sector

> *Ultimately, if Bolivians are going to get real access for water, it's going to have to be subsidised—and most likely it's going to have to be subsidised in some form of foreign assistance.*[167]

> *When I tried to introduce an OBA scheme in El Alto, in order to make up for the shortfalls in coverage stipulated under the AISA contract, I was met with a great deal of resistance from the Junats Vecinales and the Cordinadora de Agua. They believed that by implementing this grant scheme together with AISA—a grant scheme that would have basically subsidised the cost of expansion into areas not covered by the contract—the government was subsidising the 'private sector'. The public simply did not understand that this was actually a subsidy targeted at them.*[168]

One of the biggest drawbacks to cross-subsidy schemes in the water sector is that no additional funding is injected into the system, the amount that can be raised through cross-subsidy being limited to the existing customer base. This puts a limit on the financial resources that can be directed to social priorities to meet welfare objectives, and on the corresponding obligations that can be imposed on the private sector. One alternative to cross-subsidies could be to supplement some public funding into the design of water concessions in situations where certain targets with low financial returns are imposed on the private operator (be they requirements to serve low-income areas or meet certain environmental criteria). The problem is that this can be misconstrued to mean that the public sector is subsidising the private sector.

In late 2003, the Ministry of Basic Services tried to provide AISA with a grant based on its good performance as a company. The company had already complied with its expansion mandate as outlined in the contract for the initial five years, and was on target for the second five years of operation. However, two remaining districts of El Alto remained outside the contractually agreed concession area, and to expand into these areas without making any adjustments to the existing tariff structure would have generated overall losses for AISA. The SISAB had decided against increasing tariffs in 2001, when they had the opportunity to do so, but opted instead to increase slightly the cost of household connections (see Section II; 7.4). Unsurprisingly, these remaining unconnected

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[167] Telephone interview with Jim Shultz, Democracy Centre, Cochabamba, 13 January 2003.

[168] Interview with Jose Barragán, 23 January 2003.

areas of El Alto were made up of residents who would find it much more difficult to pay for the charge. For this reason, the Vice-Ministry of Basic Services decided that in order to meet the government's social objectives of servicing this area, they needed to inject additional financial resources into the partnership arrangement. One way to do this was to award the utility with what is known as an output-based aid (OBA) grant.[169] OBA is a strategy for supporting the delivery of basic services that depend at least in part on public funding. In essence, disbursement of public funding (including proceeds of bank loans or grants) is tied to the delivery of specified outputs or services by private firms or NGOs. OBA approaches to providing public funds to support the delivery of basic services have been successfully implemented in a range of sectors (Brook and Smith 2001), but experiences of OBA schemes in the water sector were relatively nascent at the time the minister wanted to utilise them.

Beyond interview discussions regarding the OBA scheme, the VMSB did not provide specific financial information regarding the exact amount of financial resources they were prepared to contribute. At the time when the interviews were conducted, the government had only recently introduced the idea of implementing OBA schemes across the country, both in order to reward utilities performing well, and, indirectly, to meet welfare objectives. Given that utility operators across the country were finding it difficult to generate the economic returns necessary to service some low-income areas, the Vice-Ministry had high hopes for the success of the scheme and had plans to replicate the scheme for various other EPSAS. Unfortunately, the Vice-Ministry faced too much resistance from the public. By 2003, the Water Coordinator and NALs had grown quite powerful and these civil society leaders accused the government of trying to subsidise the private sector. Using figures based on global profits earned by AISA's largest shareholder, Suez, these groups misguided residents into believing that AISA would be profiting from the OBA grant, whereas, in reality, those benefiting the most from the scheme would have been those neighbourhoods that remained outside the concession area. Without the exact financial details, it is difficult to explain exactly how the scheme would have affected each

[169] The general concept of OBA, as well as its potential benefits and pitfalls for various infrastructure sectors, is by described Brook and Smith (2001). OBA contrasts with the traditional approach of directing public funding to the financing of assets or other inputs used by public sector service providers.

individual household and what the OBA scheme might have achieved. However, the point here is that whatever relief the grant might have provided for users to move to formal network utility service provision, the notion that the government was seen to be subsidising the private sector prevented the scheme from taking off. The government contends that this type of barrier to reform is commonplace; on the face of it, PSP may provide greater opportunities for innovation and creativity in meeting social objectives, because it more efficiently frees up resources, but a lack of consumer trust limits the level of creativity.

6.4 Section II: Distribution of Regulatory Rights

6.4.1 Switching Costs, Games, and Regulatory Capture

> *The inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the third world.*[170]

> *People play "silly" games because they are not quite so smart as we typically assume in our analysis. The rules of the game… are all akin to equilibrium expectations; the product of long-term experience by a society of boundedly rational and retrospective individuals… The inertia we see in institutions mirrors the inertia we see in equilibrium expectations, and the ways of groping for more efficient institutions—gradual evolution of institutions, the adaption of institutions to sudden drastic changes in the environment, more conscious and purposeful breaking-out of well-known equilibrium patters and (perhaps) plunging into a period of disequilibrium, and everything between these—mirror similar sorts of changes to equilibrium expectations.*[171]

As mentioned above, it is convenient to think of legal frameworks affecting water provision as consisting of two distinct though inter-related components. One component is comprised of substantive laws—the institutional *environment* described in Chapter 5—which express the values, rights, and vision of the water sector, including the obligations or responsibilities of citizens toward water consumption and conservation. The other component consists of processes for resolving disputes: the institutional *arrangements* through which stakeholders respond to one another, cooperate, bargain, and adjudicate. There is no doubt that Bolivian legislation and regulation relating to water services is

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[170] North (1990).

[171] David M. Kreps, *Game theory and Economic Modelling* (1990: 182–183).

complex. At the time in which the concession model for La Paz/El Alto was agreed upon, much of the legal framework was outdated and new regulations for the sector were in their infancy. A great deal of weight therefore was placed upon the AISA concession contract. Equally, because of the nascent regulatory oversight of the sector,[172] there were also some "moral codes", or expected informal rules of engagement between the consortium of investors and utility operators, and the government. The following section uses findings from the La Paz/El Alto case to dissect issues of sequencing good governance, risk, and incentives. It demonstrates that many of the regulatory difficulties that arose during the seven years in which AISA serviced the adjacent cities were only marginally due to inadequacies in the design of the initial contract. Although certain aspects of the contract were in need of revision or renegotiation, the shifting regulatory and institutional dynamics, as well as the highly politicised games that were played between stakeholders (utility operators, regulatory authorities, line ministries, NALs, and other advocacy groups), failed to provide an incentive structure for cooperation, collaboration, and compromise. In other words, seemingly unjust and unfair management of the legal system may have corrupted moral sentiments on both sides, ultimately demoting what had been expected to be a long-term (possibly permanent) relationship between players into a finite, highly emotive, and extremely politicised environment where there was sure to be only one winner and one loser. Ultimately, in these circumstances a new contract, or a revision of the existing contract, would still not have resolved the conflict or restored trust between the various players involved.

Although the GoB began taking steps in 1994 to create an independent water regulator through the SISAB, the specific powers and responsibilities of the regulator were not established until three years later, in 1997. The 1997 Regulations provided the SISAB with greater control over the water sector, by specifying that all entities (public or private) with the responsibility of water or sanitation service provision to the public needed to be granted a concession contract from the SISAB in order to provide services. Because the 1997 Regulations did not define service level or quality requirements for the concessionaires, nor did they set coverage standards or tariffs, these obligations were

[172] As noted in Chapter 4, the SISAB began operating virtually at the same time as AISA.

meant to be included in each individual concession contract and defined by other existing and future regulations. As explained in Chapter 4, the La Paz/El Alto concession contract was handed over to the SISAB and the Ministry of Basic Services after it had already been designed, negotiated, and agreed upon under the auspices of the Ministry of Capitalisation.[173] It is important to note at this point that in no other country in Latin America are regulatory agencies responsible for granting concessions or licenses; the power is usually with municipalities. Whether the contract could have been better articulated to meet the demands of the sector had experts been involved from the Municipality or the Ministry of Basic Services (specifically the Water Directorate), was a major source of contention during the period of this research. The previous section would suggest that provisions to meet the needs of the most vulnerable consumers might actually have been met had better-informed government representatives been active in the early stages of the PPP process, but that the government preferred to utilise the technical knowhow of the transaction oriented Ministry of Capitalisation. However, this would be too easy an explanation for what happened. Regardless of who within government might have been better suited to negotiate the terms of the contract, every single member of government interviewed for this research believed that writing a "complete" concession contract, provisioning for every eventuality that could occur over a 25–40 year period, is simply an impossible task.

An incomplete contract—one that purposely leaves out, or highlights, a number of key aspects to be resolved over time as new information becomes more available and as consumer preferences develop—is a much more realistic option for PSP. Regulation is a continuing task of contract monitoring, enforcement, and renegotiation (Armstrong, Cowan, and Vickers 1994), and the success of PPPs is dependent on the way in which regulatory institutions govern and manage those risks (undertaken by consumers as well as

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[173] As mentioned above, between 1994 and 1997 the inter-governmental hierarchy of power over the water (and most other sectors) was dominated by the Ministry of Capitalisation (MoC). This ministry successfully initiated a "capitalisation program" in 1994, which partially privatised six of the country's main industries and was at the forefront of engagement with international private investors. The ministry was composed of staff members knowledgeable in structuring and negotiating privatisation arrangements. At the time, it was therefore deemed appropriate that the tendering, bidding, and contract negotiation of the La Paz/El Alto water utility be carried out by the MoC.

service providers) in order to provide the right balance of incentives (Savedoff and Spiller 1999). While the previous section of this chapter focused on the transaction costs stemming from institutional arrangements between government and consumers, the current section focuses on the types of transaction costs that emerged due to information and bargaining asymmetries, and from a misalignment of incentives and general sense of distrust that emerged between the GoB and AISA. These costs, which went beyond disputes over contract "compliance", prevented stakeholders from adapting to demographic, social, political, and economic changes that occurred in the country, and this is where trust becomes a fundamental component to the sustainability of any PPP arrangement. What the case of LA Paz/El Alto demonstrates is a situation where agents' beliefs with regard to how the "game" (of water and sanitation provision through a concession model) should be played were altered by a change in political environment.

In classical game theory, agents have a set of choices, which are fixed *a priori*, but the approaches to these choices have multiple equilibria. In other words, an institution (in this case, the regulatory body, the SISAB) can be viewed as an equilibrium phenomenon and its actions can be seen as a shift from one equilibrium to another. How does this shift happen? In Nash Equilibrium, no rational agent will find it beneficial to change his or her strategy unilaterally, but if all possible actions are objectively known and fixed, some rational agents can perceive the possibility of a better equilibrium, either through deductive reasoning or by learning from "best practice" elsewhere, and thus become engaged in activity that makes its choice a focal point. Often such a rational role is expected from the government. The government (itself an agent) has its own incentives, but also limitations in cognition, reasoning, and persuasion (Aoki 2001). Consequently, it is unclear whether the government is capable of leading the coordination necessary to move from one equilibrium to another, or even willing to do so. The process of institutional change, therefore, could be conceived as one in which agents are induced to re-assess and revise their game models.

However, a problem arises in that it is difficult to generate a new, shared belief system between the agents—and only through a *shared* belief system can equilibrium be restored. If institutions are nothing more than a set of laws and regulations, then they would be more malleable and could be changed by legislation or government decree, but if we conceive of institutions as a shared system of beliefs about how the game is being

repeatedly played, then they must be viewed as stable and durable with an unwavering set of values. Arrow (1974) explains that institutions have their own codes of communication, and that when an institution reflects particular values, those working within the institution and those who support it (various stakeholders) will adapt their own values to accord with those of the institution. This is an important theoretical insight, because in the case of Bolivia the SISAB was an institution created for the sole purpose of regulating concessions. Every water utility across the country was asked to create a concession contract with the SISAB in an attempt to instil a "commercial" commitment to treating water as an economic good, with the assumption that utilities would behave more efficiently as a result. The SISAB was built on a market-based philosophical mandate and a belief that these values would lead to improved access across the country; the La Paz/El Alto Concession was meant to mark the beginning of the proliferation of this value. It was going to prove to all the sceptics that a market-based approach to water was the best way forward. The values of the institution—of the SISAB—were therefore aligned with those of AISA, as they shared the same market-based philosophical belief system and approach to service delivery. These shared values would, at least in theory, make up for any gaps in the design of the original contract, because, ultimately, the SISAB would have to uphold the free-market rules of the game.

As the political climate began to change, tensions began to rise between the Vice-Ministry of Basic Services (the policy agents) and the SISAB (regulatory agents). At the heart of this was a disagreement over who in the government was really responsible for protecting its citizens. Jose Barragán, the Vice-Minister for Basic Services, felt that the SISAB "had stopped fulfilling that mandate."[174] Public choice theory reminds us that one of the root causes of regulatory failure is the capture of regulators by the industry being regulated; this happens when regulatory agents begin to identify with the interests of the regulated rather than the public they are ultimately meant to protect. This is not to say that regulatory agencies eventually become corrupt; rather, they are ultimately "captured" by the institutional values to which they are meant to adhere. Policy agents, in contrast, cannot be captured by their policies, because ultimately their institutional values are the

[174] Interview with Jose Barragán, 23 January 2003.

democratic "will of the people", and when the will of the people changes so to will the policies of those institutions. However, in the case of regulatory agents (not only those that were supported in Bolivia, but those created around the world to regulate the "market" across almost all sectors of the economy), their institutional values do not waver in the face of public opinion. Also, individuals within an institution compete among themselves to accumulate assets and competences in a direction that enhances further the power and values of the institution. It is important not to forget that many former employees of SAMAPA transferred to the SISAB when it was created, including the Superintendent of the SISAB, Johnny Cuellar, who had been SAMAPA's lead operations manager for at least a decade before the AISA takeover. In 2000, Cuellar was designated the role of Superintendent, and in 2001 he also decided to take on the role of General Director of ADERASA (Association of Water Regulatory Entities of the Americas), which involves facilitating collaboration around common initiatives in the field of regulation. ADERASA—or rather the values of ADERASA—are also shared with the World Bank's PPIAF (Public-Private Infrastructure Advisory Facility), which has allocated funding and promoted best practice and distance training for member regulatory agencies since 2003.

It was quite striking at first to discover how many residents believed that the only reason they had a regulatory agency was because without it they would not be able to attract foreign investment. Investors' perceived credibility that regulations will bring about intended and agreed-upon outcomes, and the perceived commitment of government to adhere to current regulatory rules, is critical to the partnership. Within the post-concession environment, the regulator must not be seen to be reducing the prices and profits of privately regulated businesses opportunistically. If we look at trust in "exchange" terms, and as the currency of a system's power (Parsons 1963), a high level of trust gives authorities the power to "invest in" new commitments, which further enhances public trust, whereas a low level of trust sets the stage for aggressive political protest and, if sufficiently widespread, political instability (Parsons 1963; Coleman 1993). Where trust is high, transaction partners will spend less time and resources on monitoring whether the other party is shirking or fulfilling the "spirit of the agreement", and if the exchange partner is confident that the other party will not be opportunistic, both parties can devote fewer resources to monitoring. Trust may also reduce transaction costs by reducing the amount of time and resources that transacting parties spend on *ex post* bargaining and haggling over problems that arise in the execution of transacting. A high level of trust means that each

party will assume that the other is acting in good faith and will interpret behaviours more positively (Uzzi 1997). With mutual confidence that inequities will be fairly addressed and remedied, there are lower *ex post* costs. On the other hand, a lack of trust may cause transacting parties to suppress potentially relevant information that would be useful for resolving conflicts.

As discussed above, the relationship between the regulatory and the regulated, whether formal (contractual) or informal (Arrow's value-based codes of conduct), is vulnerable to post-contract opportunism on the part of either the firm or the regulator. There is a great deal of literature suggesting that when there is trust, requirements for enforcement and monitoring are reduced (Paldam and Svendsen 2004; Butter and Mosch 2003), while, inversely, distrust means more enforcement and monitoring, and a greater likelihood of disputes, and these invariably lead to higher transaction costs. However, the unique factors in the water and sanitation sector need to be remembered: water and sewerage distribution networks continue to have natural monopoly characteristics due to economies of scale (because installing pipe networks in parallel is simply be too expensive) and scope (as co-ordination is cheaper within one organisation than in two organisations). Regardless of whether networks are publicly or privately operated, this simply reduces the possibility for competition, and in this type of uncompetitive environment a regulatory agent might be perceived not simply as an agency captured by shared values within the firm, but as captured by the firm itself. This hopefully lends insight into why *policy agents* were able increasingly to represent the "people" in the battle against AISA, while *regulatory agents* of the SISAB continued to defend AISA's position. Ultimately, *policy agents* had the space to act against AISA and rally around populist opinion over what should be done to service certain disputed areas of El Alto, while *regulatory agents* did not have this luxury. For regulatory agents to act in this way would have altered the rules of the game between the regulator and the regulated such that neither player (neither AISA nor the SISAB) would have been able to play cooperatively in the future; breaking trust between the pro-market regulatory institution and the firm could have spiralled into institutional instability for all other pro-market regulatory agencies across other sectors, as the system of predicted and normative beliefs that had guided both agents until then would have ended.

6.4.2 Disputes Over Coverage Area

> *Without water there is no life, so really it is life that the company is depriving the people of in El Alto… Aguas de Illimani committed to cover all of the city of El Alto and they haven't done it.*[175]

> *You can't assign the company with obligations that are outside the contract.*[176]

The AISA concession contract explicitly defined the geographic area that the utility operator was obligated to serve and the expansion agreements for the first ten years were agreed upon amicably and early on in the PPP process. During the first five years, AISA made 52,000 water connections in El Alto and asserted that by doing so it had reached its target of 100 per cent coverage. As explained in Chapter 3, AISA's original projections were set at connections to 72,000 households. According to the SISAB, however, there was an unexpected slowdown of El Alto's population growth between 1999 and 2001, and so the government, together with AISA, modified this particular target.[177] Modifying the target did not require any formal renegotiation of the contract.

During the first five years of AISA's operation—which was before the Cochabamaba water conflicts began—the relationship between AISA and the government "was more professional and less political"[178] and therefore allowed for greater reciprocity based on trust and cooperation. In terms of sewerage connections, AISA had performed above what had been contractually required: it was ten years ahead of schedule, having reached 35,945 sewerage connections by August 2001. This translated into 54 per cent coverage, when the target had been 41 per cent coverage.

Attaining 100 per cent water coverage should not be interpreted literally. Due to a number of technicalities, including some disagreement as to the geographic concession coverage boundaries, how the area is defined, and what is meant by a "connection," slight

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[175] Interview with Julian Perez, an advisor to the Federation of El Alto Neighbourhoods, 3 October 2003.

[176] Interview with Alberto Chávez Vargas, AISA Director of Operations, 14 October 2003.

[177] An audit of AISA conducted by Pozo and Associates in May 2006 (see audit summary, Appendix D) found no evidence to support this demographic slowdown. By their calculations, AISA should have been fined USD 949,400 (USD 189.88 x USD 500).

[178] Interview with Alberto Chávez Vargas, AISA Director of Operations, 14 October 2003.

tensions began to emerge among neighbourhood associations as to AISA's claims and the perception that the SISAB was lending full support to the company. The first tariff adjustment, meanwhile, was due in late 2001. AISA agreed to make an additional 15,000 new water connections in a specific area just outside the originally-defined service area as detailed in the contract, to make up for not having had to make as many connections as expected during the first five years. In line with the contract, the company would have to continue making connections to households based on population growth, which was estimated to amount to another 21,000 households. In terms of sewerage, the company was ahead of schedule, and, therefore, there was nothing contractually that the SISAB could do to require additional expansion. However, perhaps because AISA feared public pressure, it agreed to make 13,800 new sewerage connections, increasing its coverage from 54 per cent to 56 per cent by 2006.[179]

AISA and the SISAB agreed that a 12.5 per cent increase in revenues was needed to meet these targets, but they did not agree as to how the company would go about increasing revenues. AISA claimed that tariffs needed to be increased in order to meet further expansion targets, but there was already increasing pressure on government from industrial consumers who felt that their tariffs were unfairly high. By the end of 2001, the SISAB had to make a decision on tariffs to be maintained for the following five years. Rather than increase the tariff for water (there was still no tariff for sewerage), the government decided to increase water connection fees from USD 189 and USD 240 for water and sewerage, respectively. The SISAB also made some changes in calculating depreciation, allowing some of the utility's assets to be depreciated over 40 years rather than 30 years. Overall, this represented 7.5 per cent of the 12.5 per cent increase in revenues that AISA required to make the expansion possible. A year later, in July 2002, through negotiations with the World Bank and the government an agreement was made to exchange some of AISA's debt with World Bank and additional international funding. This resolved the pending 5 per cent in revenues.

When interviews were first carried out with staff at the Vice-Ministry for Basic Services, the government generally showed its support for AISA. Toward the end of 2003,

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[179] AISA figures, 2002.

however, as tensions mounted over the concession, Jose Barragán, the Vice-Minister of Basic Services, began to change his stance toward AISA. After a number of meetings with community groups, Barragán made a public announcement in which he stated that "The [AISA] contract is unacceptable. It leaves 200,000 people without water. If the company is willing to expand service to 200,000 people then we can talk about it. If Aguas de Ilimani is not prepared to solve the problem, I'll join with the people in El Alto and demand that the company leave."

6.4.3 Conclusions: Enabling and Disabling Institutional Arrangements

There are four main conclusions from this chapter. The first is that we must call into question the implicit assumption that government always acts in the interest of low-income consumers, as *informational problems* may: (i) cause regulators unwittingly to implement regulations that are not in the best interest of low-income households; (ii) prevent government from including certain pro-poor measures in the initial design of a PPP contract; and/or (iii) limit the freedom to take appropriate regulatory actions when necessary. In the Principal-Agent (P-A) literature, regulation tends to be viewed as a game between various players with different degrees of recourse. In the normative context, the government is generally viewed as a single entity with a set of policy tools and a perfect ability to use these tools for the sake of maximising social welfare (Laffont and Martimort 2001). While this simplified model of *one* agent and *one* principal may work in theoretical discussion, in practice we find that the internal organisation of a government consists of a multitude of players with many different interests (some hidden, some explicit), as well as highly politicised, hierarchical power relationships that are often non-linear. In practice, there is rarely such a thing as a single welfare-optimising government entity, because that would presuppose that there is a single welfare-optimising vision of a government made up of several layers of micro-social welfare optimising agents: some elected and some politically appointed, and some responsible for setting policy, others for regulating it, and still others to implement the governing equation (usually, the face of government with respect to the people).

The second conclusion relates to the cost of setting up institutional arrangements that better reflect or support both the formal and the informal institutional environment. Government and international investors must face up to the realisation that information transfer is critical for building support around new sector-specific institutional

arrangements at the local level; particularly when these arrangements embrace a new type of ideology. In other words, each sector (whether it be water, telecoms, mining, gas, or transport) carries with it a unique long history, and attached to this history is a value system created by its members. The costs caused by conflicting values over water as a commodity might have been reduced if more attention had been given at the onset of reform to the powerful energy generated in ideological conflict. A conflict over price can more easily be resolved than a conflict over ideology. The less importance a government or a firm gives to resolving the root causes of an ideological conflict, the wider the gap becomes between value systems. The wider the gap, the less information transfer occurs, and the less information transfer occurs, the greater chance that either side in the conflict might be manipulated by exogenous forces.

In the current case study, many low-income residents were ideologically opposed to the notion of water being turned into profits for a French multinational and were disillusioned by a government seemingly ill-equipped to rally its citizens around market-driven policies. They were therefore prepared to risk going back to poor quality water provision for the sake of ideology. It is certainly beyond the scope of this study to ascertain whether local political opposition groups manipulated all the interviewed respondents, but the ease with which political opposition groups were able to exploit this ideological conflict in the pursuit of power is certain. Governments around the world should learn from the mistakes of the Government of Bolivia. The pursuit of welfare maximisation, by definition, always begins with the best of intentions, but there needs to be greater public buy-in around policy-shifts; people cannot be patronised into believing that something is in their best interest when they do not understand *why* it is in their best interest. Herein lies the time-cost factor: it takes time to build consensus, time to adjust, and time to build trust, and time costs must be factored into the process of reform, particularly where private sector, profit-driven welfare maximisation principals are at the heart of reform efforts.

The third conclusion relates to the cost of understanding consumer preferences, cultural nuances, and constraints to the usage of the product being sold. In Chapter 8, some of the lessons observed in this case with regard to the mismatch between supply and demand will be applied to other sectors. Whatever the sector, it is critical that this mismatch is resolved through more investment in demand research and more research on alternative arrangements or innovations. This should occur not only in relation to the

product or technology on offer, but also in terms of billing and collection channels, and whether consumers have the financial capacity to deal with the shocks that come with any type of reform. As policy-makers reach out to better understand the needs and preferences of low-income populations, they inadvertently help to establish trust with the community and are inadvertently more prepared to engage with foreign investors eager to engage in their country. This also creates greater faith in the democratic process and system. Decentralisation is critical for making this possible, but it has to be real devolution of power. It is worth recalling a statement made by the head of infrastructure planning for the city of El Alto, housed within the Mayor's office. He asked if a copy of the AISA contract could be given to him "because none of the city officials in the Mayor's office of El Alto had ever been privy to it." This false pretence of decentralisation is ineffective for incentivising democratic participation.

In theory, PSP in the water sector is meant to allow consumers greater control over the quality of service they receive from their providers. It is meant to create a greater sense of customer self-determination in a sector historically immune to a culture of accountability. Perhaps, had civil society really understood and/or appreciated the benefits that potentially come from the commodification of water service provision, these different forms of modernity could have complemented one another. If we follow the line of thought of a modern property rights perspective, the rights that consumers acquired in the case of the La Paz/El Alto concession provided consumers—especially low-income consumers—with the capability to utilise property rights (in this case in the form of consumer rights) for the first time. The surveys and interviews conducted in this research project further show that the formalisation of water service provision through PSP also provided an enabling environment in which a new sense of consumer identity could emerge among a population (the vast majority of households living in La Paz/El Alto) long deprived of consumer rights. However, the consumers were not really given freedom of choice. Can consumers be free 'inside' market structures, especially ones that are not even really competitive? What role do market processes play in constraining or enabling consumer freedom? And what type of protection from shock does this freedom afford?

This brings us to a final thought. There is no question that developing a private infrastructure project is a complex task. It not only requires firms and governments to conduct due diligence, prepare proposals, undertake marketing, conduct bidding processes,

negotiate deals, and find sources of funding; it also requires firms, governments, *and* consumers to agree to function within a regulatory system that is constantly evolving and in which new tools (regulatory incentives/disincentives, social programmes, and financial incentives) might be introduced (at any time) in order to assist with the functioning and sustainability of the relationship between consumers, government, and the private sector. This is not to say that firms and consumers have to commit to working within a dysfunctional regulatory system. What it does mean, though, is that in the real world, a regulatory system must contain the flexibility to adjust to the changing demands of the sector and its consumers, especially in cases where the needs and preferences of consumers are not well known at the onset of reform. If given this flexibility, regulatory agents can act on new information that becomes available to them over time and take actions—that is, make use of new tools or incentives—when necessary. However, the question of regulatory capture is a significant one. While the actions taken by the regulator may be justified from the perspective of an outsider (as far as simple gaming logic would suggest), the question of public choice is a serious one and needs to be addressed across all sectors, particularly where there is a lack of competition.

Chapter 7. [External] Institutional Environment: Understanding the Systemic Constraints to PSP in the Water Sector

7.1 Introduction

This chapter addresses the third and final research question outlined in the dissertation--whether there were any additional factors, not considered within the specific literature on water sector from involving PSP that may have contributed to the tensions and challenges of reform. Arguments will be presented to support the idea that systemic barriers, beyond the control of stakeholders involved, constrained the space for partnership innovation and flexibility during the process of reform. These systemic barriers made it extremely challenging to align incentives between the various players involved in the process of reform. There is a great deal to be learned for policy makers, private investors, development practitioners, civil society organisations and consumers by incorporating a wider analysis of systemic constraints to Public-Private-Partnerships.

7.2 Limitations on Financial Flows

7.2.1 Macro-economic Considerations and Capital Market Constraints

> *It is a basic tenet of accounting that investors, not customers, fund capital projects. The risk-takers then recover their outlay, with profit, when the project produces a product for sale. This is the heart, soul and justification of the system called 'capitalism'. That's the theory. But when a monopoly operator gets its fist around a city's water spigots, it can pump the funds for capital projects from captive customers rather than shareholders.*[180]

Two things went very wrong for Bolivia in the 1980s. At the time, the reigning economic model across Latin America was import substitution, which meant a very insular type of economy with high tariff walls and a lot of protection. The government was keen to industrialise in this environment, and while this was not a mistaken policy *per se*, it was combined with a great deal of growth generated by petrodollars, the boom created by all the money circulating around the world due to the big increase in petroleum prices. During the late 1970s banks had begun lending a great deal of money to Bolivia for its

[180] Gregory Palast, *The Observer*, 23 April 2000.

industrialisation initiatives; this had been under the assumption that "countries do not go broke", and this paradigm ultimately led bankers to make a series of unwise lending decisions. Eventually, Bolivia could not meet its large debt repayments, and the money invested in Bolivia by foreign banks stopped being rolled over. Although the government of Bolivia (GoB) did not allow the country to go bankrupt, it simply stopped paying its loans back. The GoB, like many other Latin American countries, had simply borrowed too much, and given its inflexible economy at the time (e.g. exchange rates were fixed), once inflation began it became very attractive to import and very difficult to export. As the debt crisis continued, the government was unwilling to cut back its fiscal policies, and so invariably the country ended up with no credit rating, no capacity to borrow, and unable to control escalating inflation. Then, in the early 1980s, Bolivia was hit by another shock caused by the severe drop in the price of raw materials and commodities.

A poor macroeconomic climate, unclear positions on regional investment rules, the lack of a new national investment code, and an unfavourable history of relations with the foreign private sector all resulted in overseas investment in Bolivia averaging a mere USD 11 million from 1983–1987. The only significant inflows into the economy during the 1980s were from international sources such as the IMF, the World Bank, and the IDB, whose balance of payments support propped up the economy. Latin America's so-called "lost decade" of the 1980s translated into inflation of over 25,000 per cent for Bolivia in 1985 (Sachs 2002), and this inflationary period had major implications across every sector of society. Due to the continuous depreciation of its tax base, government spending was especially affected: the government was able to collect only 7 per cent of its needs through taxes, and there was no capacity to borrow. On a day-to-day basis, this translated into a culture of survival through speculation and corruption. In order to make money, people would buy products at the official price and sell at the black-market rate; people would stand in line to buy just about anything, because whatever could be bought could then be sold on for more money a few days later. This resulted in a widespread scarcity of goods. Further, because the foreign exchange rates were fixed, the government would sell dollars to the importers at a subsidised price, and the importers would then resell the dollars to suppliers (who were often *not* supplying what they were actually receiving payment for) on the black market. This led to an immense amount of corruption, social unrest, political instability, and ultimately the institutional breakdown of the Bolivian government. Meanwhile, anyone with a fixed salary—such as public servants and teachers, etc.—grew

increasingly impoverished with each passing day. The poor became poorer, losing most of their savings, and the middle class was squeezed, while the rich (equipped with the skills and means to hedge their bets by buying dollars) became richer, ultimately widening inequality across the country.

This is relevant to the water sector as a Public-Private-Partnership (PPP). The literature on Public-Private-Partnerships (PPP) identifies the preconditions for successful infrastructure projects and areas of risk, particularly institutional and political risks that lead to currency devaluation. It is difficult to determine how ideal conditions and ideal contractors can be guaranteed unless there is a clear understanding of each stakeholder's vulnerability and of their short, medium, and long-term interests. It is no secret that in order to attract international investment finance PPPs have to meet the requirements of investors, who are reluctant to accept currency risk, and it is therefore critical to consider thoroughly the macro-economic history and volatility of a country when structuring PPPs in the water sector. Given Bolivia's hyperinflationary period, it should come as no surprise that Aguas de Illimani's (AISA) international investors wanted to limit their exposure to currency risk by indexing tariffs to the value of US dollar; this would preserve the real value of profits generated by local operations and of payments in hard currency to subcontracted subsidiaries. There has been much criticism that the La Paz/El Alto concession contract specified this provision without sufficiently explaining why. Critics complained that indexing tariffs to the dollar shifted too much of the currency risk onto (already vulnerable) consumers (Hall 2002; Laurie 2005), placing the blame on "risk averse, greedy corporations" rather than on the government. However, they did not offer any alternative solution as to how to remedy what is effectively a macro-economic systemic constraint on PSP in the sector.

The reality is that even stronger economies supporting concession arrangements are at risk of currency devaluation. For example, the original concession agreement for the city of Manila partially relieved consumers from currency risk by providing concessionaires to recover additional costs incurred in the previous operating year as a result of currency devaluation, with interest and in instalments (Esguerra 2002). Following the Asian crisis in July 1997, the Philippine Peso (PHP) devaluated from PHP 26.00 = USD 1.00 in December 1996 to PHP 50.00 = USD 1.00 by the end of 2000. The concession agreement was renegotiated in October 2001 and the Foreign Currency Differential Adjustment

(FCDA) was introduced as a mechanism to allow operators to pass on all the costs of currency devaluation to consumers automatically and on a quarterly basis (Esguerra 2002). Of course, international private water companies also have a commitment to their shareholders to protect the commercial returns of their project, but the reality is that even the most detailed contracts cannot necessarily be designed to protect companies sufficiently from the burden of currency risk. When, for example, the Argentine economy collapsed in 2001, the water utility operating in Buenos Aires, which was also structured as a PPP concession, took a major hit because it had not negotiated enough protection for itself. Ultimately, the utility was forced to default on an interest payment to the Inter-American Development Bank (for a USD 140m water sector loan) and this action resulted in the US rating agency, Standard & Poors, downgrading Aguas Argentinas' credit rating from "CC" to "D" (S&P 2002). Presumably, shareholders would have been very angry at this outcome, which resulted in resistance to future investment proposals planned for the city. A lower credit rating also translates into more expensive future credit for the company, even if loans become available to finance future network investments.

Although the principle for distributing risks is widely accepted, the determination of what risks can or cannot be meaningfully controlled by the concessionaire can give rise to intensive negotiation followed by often unsuccessful and bitter renegotiations. The good faith approach (Miller 1992 and Miller and Whitford 2002) assumes that PSP will tend to result in a combination of lower costs and less risk for the public sector, but stresses that in a true joint venture all risks, costs, and payments must be shared proportionately. According to Klein and Roger (1998), risks that the concessionaire can control less effectively than its customers should not generally be shifted to the concessionaire. Still, it also seems unfair that consumers should have to bear the brunt of the risk in currency devaluation. Shifting risks to consumers that the concessionaire cannot control does not increase their net costs and this helps to reduce the likelihood of contract renegotiation (Hukka and Katko 2003). Still, the point remains that despite provisions made in concession contracts and/or other institutional arrangements designed to protect investors and consumers, complete protection against currency risk in PSP arrangements involving foreign investment remains unattainable.

Although most of the consumers interviewed for this research did not say specifically that Bolivia's local currency devaluation affected their ability to pay, the

steady depreciation of the *boliviano* against the dollar did mean that the amount in *bolivianos* people paid for water rose by about 33 per cent over the five-year period of the PPP concession. One must appreciate that from the perspective of consumers, especially low-income consumers who in some cases had only recently adapted to the practice of interpreting billing statements and functioning within the more formalised utility provision framework, it can be quite difficult to distinguish between an increase in price due to currency devaluation and an increase in price due to a tariff rise. For these users, who do not necessarily understand *why* prices have increased, such increases still translate into an *unexpectedly* higher expense for their water and sanitation services. In some cases it can also translate into users feeling that they have been tricked by their government and robbed by their service providers. It is of course important to keep in mind that the vast majority of consumers interviewed did *not* say that their services were *too expensive* to afford, but rather that they were *more expensive* than before and *more expensive* than they assumed they would be. Nonetheless, for local anti-privatisation interest groups, bent on propagating the idea that private utilities engage in exploitative practices, any confusion or frustration over price increases was used to manipulate consumers into thinking that water companies had reneged on promises of keeping tariffs constant.

It is important to remember that the stability of a county's macro-economic environment and the extent to which its domestic capital market and borrowing capacity are developed directly impact the way in which PPP arrangements in the water sector can be structured and risk be reduced. In most developing countries, there is virtually no ability to raise long-term debt and equity on the scale required to finance infrastructure projects, because domestic markets tend to be too immature. The average term available in most countries is less than seven years, and often not at competitive rates. Local capital markets usually lack mechanisms to enhance the conditions of finance, especially for small and medium size cities, and most institutional investors lack the regulatory flexibility and the long-term investment horizon required for the financing of local infrastructure projects. For Bolivia, developing its domestic capital market will take quite some time, even though securities have been trading since the *Bolsa Boliviana de Valores S.A*. was established in 1989. The Securities Law (Law 1834, 1998) laid the groundwork for creating a truly modern securities exchange, but social unrest and economic disruptions have slowed its development (US State Dept. 2005). Nonetheless, over the last few years several Bolivian companies and some foreign firms have been able to leverage funding through local capital

markets. Bolivian accounting and reporting procedures do not fully conform to world standards and Bolivian firms commonly maintain several sets of books: one for tax authorities, one for bankers, and another for management.[181] Even so, the Securities Law of 1998 provides a sound institutional basis for the development of a capital market. Capital markets broaden the spectrum of risks available to investors, and thereby make savings and investment more attractive (Marathe, Noel and Sirtaine 2004). This could have a potentially powerful impact on the financing of water sector investments in the future: capital markets can accommodate the wide array of risks encountered in the sector, including equity risk in sovereign and sub-sovereign private sector finance, public debt, and structured debt finance for sovereign and sub-sovereign infrastructure program finance. The roles of infrastructure private equity funds, bond underwriters, and credit rating agencies are critical factors here. Capital markets could potentially also provide risk mitigation products to facilitate PSP by providing cover for sovereign and sub-sovereign policy risks, including political risk, convertibility risk, transfer risk, and sub-sovereign breach of contract risk.

Integrating capital market constraints into the wider discussion of water sector reform is of critical importance for analysing the possibilities for future growth in the water sector. Tailor-made approaches involving innovative financial instruments to fit the local contextual environment may trigger dramatic institutional change at the local level, which invariably may also help to spur municipal capacity for planning water sector initiatives. According to the literature, governments can complement capital market development with municipal capacity building and institutional strengthening by: (i) improving information systems, accounting and budgeting procedures, and/or legislation; (ii) introducing bankruptcy legislation; (iii) allowing municipalities greater control of their own sources of revenue/taxes; (iv) improving the predictability of intergovernmental transfers so that municipalities can plan strategically for investments whilst also giving assurances that transfers will match clearly specified objectives; and (v) making a clear separation of fiscal and financial systems (Barbery, Inel, and Noel 1998; Marathe, Noel *et al* 2004). These development programmes may help to pave the way for municipalities to

[181] Interview with Diego Zavaltea, Technical Secretary of National Dialogue, Bolivia, 28 January 2004.

raise local resources and to access domestic financial markets, which will in turn strengthen the institutional framework for PSP in the water sector and enable more innovative institutional arrangements between local, regional, and global partners for development.

In order to address some of the aforementioned capital market constraints to borrowing, in January 2000 the European Bank for Reconstruction and Development (EBRD) decided to experiment for the first time with an investment in a water project that would shift currency risk away from local consumers/taxpayers. They did this by issuing their first local currency loan, equivalent to €21m, to a municipally-owned Polish water company, MWiK (Bydgoszcz) (Lobina 2000). By lending in local currency, the EBRD was able not only to avoid the foreign exchange risk, but also to improve the credit-worthiness of a project that generated solely local currency income. This invariably improved the possibility of future borrowing for further investment and development. There are, of course, barriers to local currency lending,[182] and only certain institutions, such as the EBRD, are ultimately willing to assume the risk. Also, many countries in Central and Eastern Europe, where EBRD is active, meet the criteria for local currency lending. Lower-income countries such as Bolivia, where local currency lending is most needed to finance the water sector, are still struggling to develop an adequate market infrastructure, especially in relation to a local institutional investor base and credit culture. It remains that for these countries, such systemic barriers need to be fully understood and addressed as a part of larger efforts to reform the water sector.

7.2.2 Legal and Regulatory Borrowing Constraints for Municipalities and Municipally-Owned Water Companies

In order to meet IFM guidelines (including the HIPC requirements) [183] and recommendations for achieving macroeconomic stability, the government of Bolivia put in place many restrictions on municipal borrowing. In 2006, neither debt service nor debt

[182] Barriers include: (i) factors in a country's existing exchange rate policy, including the surrender of independent national monetary and exchange rate policies, the adoption of a currency board, or macroeconomic instability; (ii) poorly regulated and/or capitalised banking systems; (iii) a lack of credible market indices and liquidity money markets; (iv) high domestic interest rates; and (iv) an inadequate market infrastructure (EBRD 2008).

[183] HIPC, or the Highly Indebted Poor Countries program.

stock could exceed 20 per cent of current revenues. However, the legal framework for sub-national/municipal borrowing did provide for diverse and innovative financial instruments, for which municipalities were free to solicit from any financial entity, either public or private. Municipalities were, and continue to be, allowed to create "sinking funds", for example dedicated to the repayment of specific loans/bonds. There are also clear procedures for the collateralisation of a variety of assets and revenue streams, such as tax and non-tax income, physical assets, and capital investments. Local governments can also formally guarantee credit for municipal enterprises through the use of promissory notes, transfers from the central government, and physical assets. It is unclear, though, whether these guarantees are counted as part of the municipal debt, and this ultimately leads to difficulty in pricing municipal credit.

The regulatory framework remains inconsistent when it comes to municipal borrowing restrictions. In particular, the Organic Municipal Law requiring prior authorisation for indebtedness, and Law 1654, which gives authorisation rights to Regional governors (the Norms of Decentralisation), do not concur either with the Norm on Public Credit, which details the certification process for municipal debt, or with norms outlined by the Ministry of Finance (in Law 1178) which regulate borrowing through the central government[184] and which stipulate debt service ratios of 20 per cent and debt stock ratios of 200 per cent. Also, in addition to the existing limits on debt service and debt stock, the IMF implemented consolidated annual debt ceilings both for municipalities and regions—regions are allowed to borrow only on a short-term basis and exclusively from the central government. Interviews with central and local government officials confirm the growing demand for municipal credit. Even though the law allows for municipalities and municipal companies such as water and sanitation utilities (or EPSAS, as they are referred to in Bolivia[185]) to borrow from commercial banks, contractors, and suppliers, the reality is that municipalities are almost entirely dependent on the financial intermediary, FNDR (the National Fund for Regional Development), controlled by the Ministry of the President. Since 1987, short-, medium-, and long-term financing for municipalities has been provided

[184] The Financial Law 1998.

[185] *Empresas Privadas de Servicios de Agua y Saneamiento*.

almost exclusively by FNDR, which monopolises over 90 per cent of the total market share for sub-national entities. FNDR is also responsible for the allocation of external grants and transfers from the central government and for offers of technical assistance to municipalities in the preparation of project proposals.

Bolivia's banking system is still too underdeveloped to offer adequate long-term funds to municipalities, although financial regulations (Law 1178) allow for municipalities to apply for commercial bank financing and to pledge future transfers from the central government as guarantees. Unfortunately, however, despite the progressive decentralisation reforms, almost all central government transfers are already earmarked for specific purposes and therefore cannot be effectively used as collateral. Municipalities are legally allowed to pledge municipal physical assets as guarantees (for example, water treatment plants and/or other potential water utility property and machinery), but in practice these assets are typically not considered by the Superintendency of Banks to serve as a *real* guarantee. According to staff at the Superintendency of Banks, this is partly due to the fact that Bolivia's judicial system is extremely weak and bureaucratic: in the case of default it is estimated to take at least six years for a commercial bank to collect its assets, and there is little confidence that the law protecting the lender will ever be enforced.

Information pertaining to municipal revenues, expenditures, indebtedness, and the programming and execution of municipal investments is quite inconsistent among government agencies.[186] Despite the Government of Bolivia (GoB) claiming to have made advances there is no standard for tracking the flow of information between the Vice-Ministry of Popular Participation and Municipal Development and the Vice-Ministry of Basic Services. Neither the Central Bank, the Superintendency of Finance, nor the FNDR have an information system in place to share this crucial data between agencies, and this does nothing to strengthen the creditworthiness of municipalities. Meanwhile, all grants obtained from international financial institutions and multilateral/bilateral donors that are allocated to local governments, EPSAS, and other municipal companies are channelled

[186] The FNDR's estimates are different from those provided by the municipality of La Paz and El Alto, and from those provided by the Superintendency of Finance.

through the FNDR or through three other centrally controlled funds.[187] Criteria for the allocation of these grants vary greatly and there is no ranking of individual investment projects. As a result, local governments and EPSAS face considerable uncertainties in planning their investment programs and in designing financing plans to undertake them. Lastly, many consider the FNDR to be a highly politicised institution rather than a strictly commercial financial intermediary. This is mainly because the Fund is overseen directly by the Ministry of the President rather than the Ministry of Finance, where it would be perhaps more appropriately placed.

We know that compared to other public services, water supply and sanitation systems are exceptionally capital-intensive, due to the high costs of maintenance and utility network expansion. While borrowing through central government and/or public financial intermediaries (like FNDR or any other centrally controlled regional/municipal development fund) might provide cities with much-needed long term finance at somewhat attractive rates, the case of Bolivia demonstrates that credit for certain locations may be politically driven and/or inefficiently allocated. The case is not dissimilar from that of many other developing country contexts: municipalities across the globe face considerable uncertainties in planning their investment programs for water and sanitation services and in designing financing plans with which to undertake them. The time it actually takes to receive grants and other central government transfers and the lack of transparency in the allocation of these funds severely hamper the development of a municipal credit market to support water infrastructure needs. Centrally controlled regional/municipal development funds such as the FNDR exist across the developing world, and although most were originally designed to act as transitional institutions geared toward strengthening municipal credit markets, these funds as yet have not evolved into market-oriented suppliers of credit. Instead, they continue to exist as monopolistic public institutions, crowding out potential private sector lenders and investors that might otherwise be interested in the sub-national infrastructure market. The consequence of this is a systemic constraint on water sector reform and the commercialisation of water utilities.

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[187] *Fondo de desarollo Campesino, Financiera de Desarollo Santa Cruz and Naciona Financiera Boliviana.*

Under the public finance model, local governments borrow on their own account through loans or bond issues, but their borrowings are counted against general government debt, inevitably constraining central government borrowing capacity. Given that the benefit from infrastructure investment can span several decades there is a strong argument to be made that future generations should participate in its financing, but increasing taxes at the local level is simply not always politically achievable. In order for municipalities to access long-term finance, the obvious course of action is to access innovative financial instruments to tap into domestic and international capital markets directly.[188] As is the case in many developed countries, capital markets can play a critical role in mobilising resources for infrastructure finance in water and sanitation, in allocating resources among infrastructure finance programs and projects, and in mitigating the risks of any private participation (domestic private investment and/or international private investment). However, as noted above, most cities in the developing world context are not yet equipped to use debt instruments to finance their investment needs on their own. Although capital market tools could and need to be adapted to meet the financial demands of municipal investment, building an open, diversified, and competitive sub-national credit market in any developing country involves a variety of risks that, once again, depend on a country's unique fiscal framework for decentralisation, and on legal and regulatory frameworks for municipal borrowing. The limitations to the public finance model outlined above are certainly not unique to Bolivia, but the case-study helps to demonstrate with more specificity how systemic financial barriers, external to water sector norms and regulations, affect the ability for municipalities to invest in upgrading their water and sanitation services.

In addition to these financial, legal, and regulatory challenges to municipal borrowing, and to the lack of capital market options, the biggest challenge under the public finance model remains a political problem that is shared globally. There are 30 countries across the developing world, hosting 90 per cent of the 1.1 billion people who lack access

[188] Debt finance is often more attractive than equity finance, not only because the costs of raising the funds (for example arrangement fees with a bank or the issue costs of a bond) are lower, but because the annual return required to attract investors is less than is the case for equity.

to clean water. According to a WHO/UNICEF report released in 2000, only two out of these thirty countries prioritised and budgeted for water and sanitation within their poverty reduction strategy programs (PRSP). This is an indication of two correlating problems: (i) the lack of political will at the central government level to prioritise water and sanitation over other sectors, as the water and sanitation sector does not demonstrate immediate productivity gains for the economy; and (ii) that governments find it simply too expensive to make the substantial improvements necessary without borrowing significantly, and so they opt instead to focus on other sectors. This translates into developing countries spending (on average) less than 0.25 per cent of their income (in percentage of total income) on water supply and sanitation. There are three main financial flows available to the global water sector, but direct public sector funding accounts for between 70–75 per cent of total water provision investment (Annamraju *et al* 2001). Given the minimal prioritisation of the sector by governments, it should seem obvious that municipalities, and municipally-owned water companies, must look to other sources of finance to meet the growing demands the sector requires.

7.3 Systemic Constraints ODA Investment Flows

> *An often premature or simply unrealistic belief is that any business must be good business and that the private sector has unlimited funds*[189]

> *One of the most important ways in which MFIs [multilateral finance institutions] can increase funding for water is through the much greater use of their guarantee programmes to leverage other kinds of finance*[190]

There are three main categories of water financing flows: *long-term flows*, based on end payers (water users, tax payers) and capital market access (bonds); *medium-term flows*, based on transfers (ODA, donors); and *short-term flows*, from cash facilities (public banks/intermediaries, private banks, private investors, and also donors). The largest financial flow comes from the first category: long-term financial flows delivered via the utility, paid for by water consumers through tariffs, and via the government budget through

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[189] J.F. Talbot, the chief executive of SAUR International (the fourth largest water company in the world), rejecting the assumption that privatisation would automatically tap into private funds or have the financial capacity to deliver the required investment (Talbot 2002).

[190] Camdessus (2003: 26).

direct budget allocations and subsidies, paid for by taxpayers. The second-largest financial flow to the water sector comes from the private sector, which accounts for 20–25 per cent of total investment (Berg and Holt 2002). [191] From 1990–2000, private foreign and local investment amounted to only USD 36 billion for the global water sector (World Bank 2002), and most of this investment was not channelled to the lowest income countries. This is very low when compared to other sectors, such as telecommunication and electricity, in which USD 292 and USD 197 billion respectively were invested during the same period (Gray 2001). Given that the cost-benefit ratio of water and sanitation investments is high when all benefits are included, standing at around between USD 5 and USD 11 economic benefit per USD 1 invested (Schouten and Schwartz 2007), it is frustrating that willingness to invest in the sector is so low. Infrastructure investment levels today very roughly average at 40–50 per cent of what they were 10–15 years ago (Estache 2004), and we know that very little of this can be attributed to more efficient service delivery. Donor funding for the sector, which represented only 5–10 per cent of the investment flows to the sector, declined by more than half between 1995 and 2002. Partly to blame for the decline in donor finance was the great hope for large private-sector contributions in infrastructure.

Figure 7-1: ODA Commitments

(GLAAS 2010; WHO 2010)

[191] These estimates were first made by DFID (2002) and have since been confirmed by World Bank estimates (*Briceno et al.* 2004), but they are nonetheless rough estimates, as a significant amount of data was unavailable at the times these estimates were made.

Overseas Development Aid (ODA) started to decline in the 1990s, with infrastructure commitments from development banks falling from USD 18 billion in 1996 to USD 13.5 billion in 1999. Historical data show that more than 8 per cent of total ODA was allocated to sanitation and drinking water at that time (Annamraju *et al* 2001), with other social infrastructure sectors receiving lower percentages; from 1997–2008, however, the proportion fell from 8 per cent to 5 per cent (see table below). Today the private sector is thought to provide more infrastructure financing than does ODA (Estache 2004), but there are no official statistics to demonstrate this decisively. According to the World Bank's PPI database, private sector commitments to developing countries from 1990–2002 totalled USD 805 billion, or USD 62 billion a year, but this average masks enormous fluctuations and is based on infrastructure investment in general rather than just for water. The most recent note produced for the OECD Horizontal Programme on Water, in June 2010,[192] contains the most recent statistics on ODA financing for water supply and sanitation, but it does not cover private funding. Given the extent of current fiscal consolidation and considering the trends in aid flows during previous recessions from 1977 through to 2007, some researchers suggest that ODA could fall by as much as 20 to 25 per cent in the current economic crisis and a decade for flows to recover (Dang, Knack, and Rogers 2009). This probably represents a worst-case scenario. The same OECD note also calculates that the donor community committed an average of USD 7.2 billion for 2007–2008.

Unfortunately, estimates of the cost of achieving the 2015 Millennium Development Goal target of halving the proportion of people without sustainable access to safe drinking water and sanitation continue to vary widely, in part due to data and methodological inconsistencies in calculating access, but particularly because data on water supply and sanitation are often reported together, hindering efforts to disaggregate them. Also, it is virtually impossible to estimate accurately the current financing gap at the global level given the lack of up-to-date data on actual combined spending by governments and households on water supply and sanitation in developing countries (WHO, 2011). Since 2000, many studies have nonetheless attempted to estimate the cost of attaining one

[192] See www.oecd.org/dac/stats/water.

or both of the components of the MDG target for water and sanitation at the global (Global Water Partnership 2000; Water Supply and Sanitation Collaborative Council 2000) and regional (Mehta 2003; Asian Development Bank 2005; Danish Ministry of Environment 2004) levels. Reviews of these studies give the global level range as between USD 9–30 billion per year (Fonseca *et* al 2004; Toubkiss 2006). The wide range of discrepancies is largely explained by methodological differences in terms of assumptions around unit cost. Studies also often fail to incorporate the costs of maintaining existing coverage levels (operating, maintaining, monitoring, and replacing existing infrastructure and facilities). Toubkiss (2006) concludes that approximately USD 10 billion per year would be required to supply low-cost water and sanitation services to people who are not currently supplied, and a further USD 15 to USD 20 billion a year to provide them with a higher level of service and to maintain current levels of service to people who are already supplied. Another component in the variability of sanitation is technology choice: a low-cost household-improved latrine can provide both safety and privacy, yet waterborne sewerage must also include the cost of treatment to reduce health and environmental risks from the discharged wastewater. Toubkiss further concludes that in addition to the above costs, approximately USD 80 billion must be projected solely for collecting and treating household wastewater. A more recent study by Hutton and Bartram for the World Health Organisation (2008) estimates that the total spending, excluding programme costs, required to meet the water component of the MDG target is USD 42 billion, while for sanitation it is USD 142 billion. However, in terms of the estimated total spending on water and sanitation required, including maintaining and replacing existing infrastructure and facilities and extending coverage to existing and future increases in population, the figure is roughly USD 360 billion for each service annually from 2005 to 2014. This much larger figure rightly includes the hidden costs associated with the investment required to prevent the existing covered population from falling back into the *unimproved* coverage category, which has until now been left out of most other estimates.

The lack of understanding as to what the financing demands of the sector truly are represents a significant systemic constraint to the global commitment to meet the MDG targets, but studies such as those conducted by Hutton and Bartram are at least highlighting costs that have previously been ignored. Still, as Hutton and Bartram (2008) explain, “cost results are only as good as the information feeding into the quantitative model and as the model’s assumptions.” In order to address the systemic constraint of assessing accurately

demand and the financing gap to meeting MDG targets (which will by no means solve the problem of access), we must address existing uncertainties, including: (i) the lack of representative unit costs of diverse water and sanitation improvements for different regions; (ii) the lack of distinction in unit costs between rural and urban areas; (iii) the lack of globally compiled data on water and sanitation improvement options chosen by governments and households; and (iv) the inconsistency in coverage rates revealed by different household surveys applied across the country (Hutton and Bartram 2008) . As ODA statistics improve, a more realistic and potentially even more daunting task will present itself to the donor community.

Another consideration for ODA is the character of the aid being channelled to the water and sanitation sector. Although the bulk of ODA is extended in the form of grants, over half of ODA to water and sanitation in 2007–2008 took the form of loans. These loans are of course concessional and must contain a grant component; if at least 25 per cent if the loan satisfies the ODA criteria, the whole amount is recorded as ODA.[193] What we have observed in the case of Bolivia, and in other countries that fall into the HIPC category, is an incapacity to fulfil some of these financial commitments, and this raises the question as to whether the character of ODA funding for the water and sanitation sector needs to be changed. According to Bulow and Rogoff (2005), institutional weaknesses provide the simplest explanation for why the poorest countries lack access to international financial markets, and they argue that this also explains why the loans of multilateral banks are non-recoverable and why these countries should not have access to soft loans either. According to Radelet (2005) loans carry perverse incentives because they can create pressures on creditors to make new loans to allow countries to repay old debts, whereas grants can be devised to generate positive incentives. A further explanation, as described in the first section of this chapter, is that these countries lack access because their economies are too volatile. Financial markets, as we know, do not handle economic volatility well when it comes to sovereign creditors. The lack of efficient procedures for settling debts in the case

[193] The grant element is expressed as the percentage which the present value of the expected stream of repayments falls short of the repayments that would have been generated at a given reference rate of interest (in OECD 10 per cent). Thus the grant element is nil for a loan at less than 10 per cent, it is 100 per cent for a grant, and it lies between these two figures for a loan at less than 10 per cent interest.

of unexpected shocks makes it particularly difficult to cancel debt when needed. The HIPC debt reduction initiative was in many ways proof of the failure of the ODA soft loan strategy, and since 2000 the *grants-versus-loans* controversy has led to the cancellation of USD 56 billion in loans owed to the World Bank, the African Development Bank, and the IMF. However, it is one thing to agree on cancelling a debt, and another to consider that a loan instrument should be foregone. As to the question of whether grants are more efficient than loans in improving access to water and sanitation, there are so far no obvious answers. Some work has been carried out that correlates the effect of loans versus grants on economic growth (Nunnenkamp and Thiele 2010), but for the water and sanitation sector more research evaluating the benefits of both is needed. In theory, modern ODA has the capability to use a wide range of financial instruments, from direct subsidies to market loans, guarantees, and state contingent debt, in addition to traditional grant instruments. The traditional view of ODA is that it offers either direct grants or concessional loans but ODA has the capacity to mix taxpayers' money with a number of financial instruments to create flexible and innovative financial solutions.

The Camdessus report on financing water for the poor, presented at the Third World Water Forum at Kyoto in March 2003, was written partly as a response to fears of increasing reluctance by private sector stakeholders to engage in PPPs in developing countries, and partly to address the question of how to finance water infrastructure to meet the goals outlined in the MDGs for 2015.[194] The devices proposed by the Camdessus report include the use of aid and IFI money to help provide guarantees against political risks, to finance private sector tendering costs, and to reduce currency risk. In other words, the Camdessus report makes a call to the international community to create innovative institutional arrangements at the global level to improve the enabling environment for investment in the water sector, in particular through risk-reducing arrangements such as guarantee instruments from the development banks: "One of the most important ways in which multilateral finance institutions can increase funding for water is through the much greater use of their guarantee programmes to leverage other kinds of finance [and this

[194] The report was written by James Winpenny as a contribution of the World Panel on Financing Water Infrastructure, chaired by former Managing Director of the International Monetary Fund (IMF) Michel Camdessus.

could] be assisted through the use of aid money in the creation of a Revolving Fund or funds consisting of grant money to finance the preparation and structuring costs of complex projects, including private sector participation and other innovative structures" (Camdessus and Winpenny 2003). The report goes on to describe the way in which the fund could be used to cover legal, financial, and technical advisory costs in project preparation, tendering, and/or negotiation. Ultimately, the fund could help to reduce currency risk by using public sector funds to create a devaluation liquidity backstopping facility (Camdessus and Winpenny 2003).

Drinking water revolving funds are nothing new. In the United States there are plenty of examples of state-funded revolving funds that provide significant financial incentives for municipal (and privately owned/managed) drinking water systems to finance needed drinking water infrastructure improvements, including treatment plants, distribution mains, and storage facilities, etc. These state-level bond banks were created to support borrowing by small municipalities, who otherwise would find it difficult to tap the capital markets directly. A bond bank is basically a state-sponsored intermediary that is allowed to borrow from the capital market, usually with some state or federal credit enhancement. It then lends on to participating local governments by purchasing their bonds or providing them with direct loans. By pooling debt in this manner significant savings can be realised through reductions in marketing costs and reduced spreads due to a higher credit rating, larger issue size, and wider investor coverage (USAID, 2003). Most of the US state-sponsored funds provide subsidised low-interest rate financing for the construction of certain water infrastructure projects. Each time financings are repaid, money is made available for new financing—essentially a revolving fund. Grants are distributed and interest rates are even reduced to zero per cent in instances where communities demonstrate financial hardship.

As developing countries simply have less state funds available to adopt fully the US revolving fund model, it seems difficult to imagine that a country like Bolivia could sustainably support this model. However, designing a fund structured as a *public-private* revolving water fund is worthy of further research. Ideally, the fund could be supported by a mixture of (i) global institutional investors (including large pension funds and university endowment funds) and other private equity investors such as the International Finance Corporation (IFC), the Inter-American Investment Corporation (IIC), the European Bank

for Reconstruction, the Development (EBRD), and new private equity players to support the financing of utility capital investments, upgrading, expansion, research, and development; (ii) using targeted grant support from European and US utility industry CSR budgets; (iii) using targeted grants from donors for public outreach and hygiene education; and (iv) using targeted government subsidies such as out-put based aid (OBA) to assist utilities in expanding into less-profitable, low-income urban areas. Such a fund could offer more sustainable solutions to leveraging the amount of financial resources required to meet the water sector demands of the developing world, and to tackle some of the systemic constraints discussed further in the sections below and including (i) market concentration/lack of competition in the sector; (ii) the lack of technological innovation; and (iii) information dissemination. Ultimately, the fund would act as a bridge between utility companies and the capital market, which is what is currently lacking. If we return our attention to the case of the La Paz/ EL Alto concession, and to the problems faced by consumers in the serviced areas of the cities when they experienced the external shock of the currency devaluation, it would seem that new, more modern, mechanisms supported by ODA to deal with such *vulnerability to shocks* could be useful in future cases. Further discussion of the intricacies of the exact structure of these financial instruments is beyond the scope of this research, but more research on the use and effectiveness of ODA financial instruments, targeted towards the water and sanitation sector specifically, certainly deserves greater attention.

7.4 Systemic Barriers to Competition: International Water Market Concentration

> *Without stricter rules on market dominance and a phase out of the existing market distortions in favour of some big players, the European utilities market will be dominated by a handful of oligopolies. This is a threat to the functioning of the market and the democratic control of vital public services."*[195]

> *If only we had been able to bundle gas and water services in La Paz and ElAlto—we would have simultaneously dealt with demand-side constraints and most likely made it cheaper for everyone at the same time.*[196]

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[195] Claude Turmes, rapporteur of European Parliament for the directive on liberalisation of the electricity market.

[196] Interview with Claude Besse, Superintendent, SIRESE, 28 January 2004.

Another systemic constraint to sector reform, which we observe in the case of Bolivia, but which is also common across the developing world, is the limited scope for competition. This is tied in part to the monopoly characteristic of water network provision and in part to the fact that there is currently only a small selection of international providers available. According to the Private Participation in Infrastructure (PPI) database, the top 10 per cent of the largest firms—defined by the number of transactions that each company has undertaken—have been awarded about half of the total number of infrastructure PPP contracts. Even in the traditional public procurement context, the degree of competition is in general limited (Estache 2006). In the water industry, six multinational water enterprises are globally dominant (Foster 2005): Aguas Barcelona, Bechtel, Thames Water, SUEZ (whose water division used to be known as Ondeo or Lyonnaise des Eaux), Violia (previously part of Vivendi, and also known as Generale des Eaux), and Saur. The latter three French companies dominate the world private market: Veolia alone has been awarded 51 contracts, and SUEZ has won 50 transactions in the developing world. This gives them a share of 70 per cent globally and 56 per cent in lower and middle income countries; they control operations for four-fifths of the people served by international PPPs in low- and middle-income countries, and provide two-thirds of the total investment (Franceys 2003).

Entry into the concentrated global water industry is difficult even for well-established corporations already active in numerous infrastructure sectors. Some attribute this to the power of larger firms to distort markets and to the lack of enforcement of anti-competitive laws (Lobina and Hall 2002), while others highlight the specialist nature of the industry (Nickson and Franceys 2003). Since 1990, a few large energy groups have attempted to break into the water market, but with little success: the US-based energy company Enron acquired the UK company Wessex Water, and then formed an international company, Azurix (Hall, 2007). This proved to be a failure, with Enron deciding to break up Azurix and sell its assets even before Enron's accounting brought about its own collapse. Azurix' failure was partly due to the poor results obtained when bidding against Veolia and SUEZ because it could not afford to accept initial lower-profit ratios in order to win a tender (Lobina and Hall 2003). One of the main reasons why companies such as Veolia and SUEZ are better able to bid aggressively when it comes to winning a tender is because they have diversified their portfolios both vertically and horizontally, bundling the services they provide. Many European multi-utilities now

provide energy, water, waste, and telecommunication services (see Table 7.2), and the trend towards market concentration is set to continue across Europe. The situation can be described as an oligopoly: the combined four leading firms control 60–100 per cent of the market, and barriers to entry persist. The literature[197] points to seven adverse effects associated with oligopoly in utilities:

1. Prices will not track costs. Instead, prices will tend to reflect corporate strategies and the bargaining power of individual players.
2. Profit levels will be higher than those that would prevail under effective competition or capable regulation.
3. Network technology and design will be driven by the demands of the largest users rather than the infrastructure requirements of the region or nation.
4. There will be an inducement to disinvest in the network whenever alternative investment opportunities appear to offer a higher return. This will result in a denigration of both infrastructure and quality of service.
5. Oligopoly pricing can lead to price rigidity for many services when costs fall, so that consumers of these services will not participate in attendant savings.
6. The gains from network and coordination economies will not necessarily accrue to those classes of customers who serve to bring them about. Some customer classes will not enjoy network benefits in proportion to their contribution to the success of the network.
7. Societal goals, such as universal service, conservation, and infrastructure enhancement, may not be consistent with the goals of tight oligopoly. As a consequence, society will have to bear an additional burden to achieve these objectives.

Table 7-1: Service Provision of Multi-Utilities

	Energy	Water	Waste	Communications
Suez	X	X	X	X
Vivendi	X	X	X	X

[197] See: Trebing (1997 & 1999).

RWE	X	X	X	X
Eon	X	X	X	X
EdF	X	X		
Endesa	X	X		
ENEL	X	X	X	

There is therefore no doubt that market concentration can have economic and social downsides, but while it is not the intention of this research to argue in favour of market concentration, findings from the La Paz/EL Alto case highlight other factors that need to be considered in the debate, particularly: (i) the significant efficiencies to be gained from bundling services, including savings and risk mitigation associated with pooled reserves; (ii) economies of scale and scope; and (iii) the ability to match diverse usage or demand patterns. Of course, any efficiency gains are assumed first by the firm, and possibly translate into greater profit margins, but they can also translate into gains for consumers. This was strongly argued by Claude Besse, the former superintendent of SIRESE, the GoB's umbrella supervisory agency overseeing all sector-specific regulatory agencies. He explained that Bolivia would have had a great deal to gain from replicating the bundling practice of the major European utility companies.[198] According to Besse, had the government awarded SUEZ with a PPP concession that bundled, for example, the provision of gas, electricity, water, and sanitation, this would have not only helped to increase the demand for water (because water could be heated and ultimately be more enjoyable to consume), but it would have allowed the firm to employ creative tactics to recoup costs in some sectors (such as gas/electricity) in order to make further investment in less lucrative sectors (such as water/sanitation expansion in El Alto). Besse pointed out that this would have helped, rather than hindered, the government to meet its universal service policy objectives. Equally significantly, administrative efficiency gains—in the form of the issuance of one bill for all services per month—would have potentially been passed on to consumers in the form of savings. Further, and beyond monetary savings, the

[198] Interview with Claude Besse, 28 January 2003.

overall ease of having one bill for all services would have made things easier on consumers psychologically.

From Besse's perspective, the overall welfare gains to consumers in El Alto would have far-outweighed the risk of market concentration. As for the regulatory hurdles to monitoring one firm's control over multiple sectors, he believes that contracts should be designed well to ensure prices track costs regardless of whether services are bundled, and even if the firm has a diversified portfolio of sector investments. Such a contract would also be able to require a minimum level of investment in the water and sanitation sector (with specified targets and performance-based grant schemes) to combat any incentives to disinvest in the sector in favour of other sectors. Further, in relation to bargaining power asymmetries between corporate agents and government, Besse argued that the GoB (or any government) would be able to exert more power over a hypothetical oligopoly because a firm with vested interests in so many different areas of the country's economy would simply have too much to lose by pulling out. However, it is clear from the case that contracts are immensely complex to write and enforce, because one has to specify in advance all the relevant contingencies and how performance should depend upon each contingency. In addition, and as previously explained in Chapter Six, having all the rules set out in detail can make it more difficult for informal renegotiation, and gives less flexibility if certain elements of the contract are identified as unsustainable *ex post*. This was the case with the discrepancy over the concession area to be covered by Aguas de Illimani, which originally under-estimated the areas of service in El Alto. Even so, Jose Barragán, the former Vice-Minister of Basic Services, Johnny Cuellar, former regulator of SISAB, and Claude Besse, former regulator of SIRESE, all agreed that a bundled services approach in Bolivia should have been given further consideration, as part of the wider sector reforms implemented in the late 1990s.

Maria Sicilia, Senior Electricity Markets Expert at the OECD further explains the benefits of market concentration across other utility sectors:

> *After a number of years' experience with market reform, the energy sector, and electricity supply in particular, has recently attracted allegations of collusion or cartelisation, or claims that the liberalised retail electricity market operates in ways that do not work for the benefit of end-consumers. These concerns have been articulated by consumer organisations for some time. The main reason argued is*

> *that, in highly concentrated markets, vertically integrated firms with significant market power are, in some way or another, ripping off consumers. Taking an economic-based approach, EU and Australian Competition authorities consider that there are no market thresholds for defining dominance—as even a low market share may be compatible with dominance in the energy sector. Furthermore, it is the abuse of, not the existence of, a dominant position that is prohibited by antitrust law. Current economic thinking tells us that all sorts of conduct by dominant firms can be anti-competitive but there can also be substantial benefits associated with precisely the same forms of behaviour, which in fact not only characterize normal competitive markets, but can be crucial to the effective functioning of normal competitive markets. It is therefore inappropriate to take measures against large vertically integrated firms simply based on their market shares*.[199]

More research is needed to explore further both the positive and the negative implications of water market concentration at each stage of the PPP process, because there may in fact be instances where market concentration can drive welfare-maximising principles and generate efficiencies. A study by Atushi Iimi (2008), for example, evaluates the trade-off between increasing competition during the PPP auction/bidding stage and potential economies of scale in service operation. In the Latin America region, the average number of bidders for a PPP is merely 2.2, while globally the number tends to range from three to six (World Bank, PPI database). This paper quantifies the optimal size of PPP contracts in the sector and considers the respective benefits of bundling water-related services (although not across sectors), or unbundling them into smaller-scale contracts to attract other market players and to increase competition. Interestingly, the findings conclude that competition should in some cases be sacrificed in order to achieve economies of scale. Iimi and Estache (2008), also study joint bidding during public procurement auctions, empirically addresses whether such bidding is pro-or anti-competitive, and they find that there is no strong evidence that joint bidding practices are incompatible with competition policy, aside from in a few cases. In road procurements, coalitional bidding involving both local and foreign firms has been found pro-competitive,

[199] Interview with Maria Sicilia, Senior Electricity Markets Expert at the OECD, 28 May 2010.

while in the water and sewage sector local joint bidding may be useful to draw out better offers from potential contractors. However, they found that joint bidding composed of *only* foreign companies is mostly considered anticompetitive.

The question has been raised as to whether the purpose of regulatory supervision of natural monopolies, as specified in theory, should be to try to replicate the results that a competitive market would achieve by way of allocative and productive efficiency (Morin and Hilman 1994). This would mean that regulators would act as a substitute for the market, even taking on some of the functions of a competitor. However, can a regulatory body truly compel a regulated utility to behave much in the same way as it would behave if free from regulation but subject to market forces of competition? Such theoretical notions of how regulatory functions should manifest do not seem to take account of the role that regulators play on a day-to-day basis—as intermediaries and apolitical technical institutions, which fit within a complex mix of government ministries, municipalities, service providers, civil society, and development agencies—when they are not specifically reviewing a contract compliance. Regulatory agencies in practice seem to have much more than "contract compliance" as their remit, and Bolivia's SISSAB certainly did not have either the mandate or the capacity to replicate the results of a competitive water market. To address the issue of market concentration, perhaps we should focus first on coming to accept regulatory institutions for what they are and how they function in reality, instead of creating make-believe institutional assumptions and building unrealistic expectations among consumers as to what regulatory agencies are able to achieve. Acquiescence and even enthusiasm for cooperation between business and government is achievable as PSP in the water sector evolves and as business leaders come to realise that regulatory supervision can act in their interest as well as in that of the public. Perhaps if we become more honest about the purpose of regulatory agents, pragmatism in business attitudes will begin to lean toward ideological change on their own, without the heavy hand of regulatory agents; perhaps utility companies will come to recognise that they are acting against their shareholder's long-term interests by ignoring pollution, climate change, and social policy objectives (such as extending networks, at an initial financial loss to the firm, to low income consumers). Polarisation between corporate giants and government does not make sense, and managers, investors, and governments need to discover new ways to reconcile financial, political, and regulatory targets. If we recognise the usefulness of market concentration and cooperatively exploit this concentration for the ultimate benefit of the

consumer, we may be able to turn a systemic constraint into a resourceful tool to address seriously the existing demand for clean water.

7.5 Systemic Barriers to the Development of New Technologies

From a technological standpoint, a pipe is hard to beat. Pipes, pumps, and valves are all mature technologies, but they also represent the largest equipment supply segments in the water industry. The global technology focus in the water and sanitation sector is now on pipeline rehabilitation, which is probably the most pressing and costly water investment category across the developed and developing world. There are other small innovations in wastewater treatment, disinfection technologies, and technological improvements to desalination membranes, but these all have very restricted market potential. In the developing country context, it is difficult to find any discussion around new technologies being adopted by urban water utilities. Also, it was primarily the donor community that funded the research that formed the backbone of the lower-cost condominial technology, which was first adopted in Brazil and later in La Paz/El Alto. In places where modern new technologies have been introduced, they are sometimes met with opposition and a preference for more traditional/indigenous technologies or approaches to provision. Technological solutions to servicing the poor are evolving slowly and seemingly continue to revolve around condominial services and/or standpipes as the lower cost alternative for the poor. However, research relating to technological *advancements* in the construction or provision of water through either of these options, particularly standpipes, is virtually impossible to find. Although there is more innovation in the area of simplified, low-cost sanitation provision, there are still very few sanitation technology options available for urban utilities to adopt.[200] Technological solutions to meet the needs of consumers would ideally come from engineers and other industry professionals working at the local level, designing local-level solutions with the support of a research and development (R&D) team within an existing utility, but it is doubtful whether Aguas de Illimani (or many other utilities operating in the developing country context) would have had the resources available to fund R&D or to address the complex socio-technological relationships that

[200] These technologies are fully described in several documents (e.g. Mara 1996, 2006; Winblad and Simpson-Hebert 2004).

exist between consumers and providers more generally. However, this systemic issue is not only prevalent in low-income countries.

A report by the Council for Science and Technology (2009) highlights the growing concern that the skills base in the global water industry is in decline; it surveyed all the major water companies across Europe and found that each company reported difficulties in recruiting skilled people, both technicians and those at graduate levels. Such a decline in Europe and the USA does not bode well for developing countries, as utilities are often quiet reliant on technology and skills transfer from more developed economies. Using data from the UK water industry, the same report demonstrates that there has also been a fall in research and development (R&D) since privatisation. Although some innovation is occurring, most research concentrates on the supply chain; this is predominantly in the area of water treatment, where regulation has primarily focused on end-of-pipe quality standards. The evidence from ten of the UK's major water and sewerage companies shows that there has been a downturn in R&D since privatisation, where investment is currently around the GBP 18 million mark compared to around GBP 45 million in the late 1990s. This translates into an R&D spend against turnover of less than 0.5 per cent for water companies. The report concludes that the reductions reflect a combination of factors: (i) pressures on operating costs to keep water charges as low as possible; (ii) changes in ownership and management styles that place greater emphasis on short-term profitability; and (iii) the end of the large research programmes of the 1990s, which were driven by the European Directives on Drinking Water and Urban Wastewater treatment. Water companies themselves have suggested that innovation has been stifled because the risk appetite is much lower today than it once was, as some of the most speculative endeavours funded historically (and in use today) in the water and other sectors would not be undertaken under the tough regulatory structure of the present day. The central question raised in the paper was whether the price cap regulatory formula places too little emphasis on delivering capital investment (including R&D) rather than on providing incentives for water companies to deliver efficiencies in operating expenditure. By its nature, the outputs of R&D are uncertain and the costs associated with both development and implementation even more so, even well into the later stages of the development. The result is that if the combined costs of introducing and operating new technology are not cost-beneficial, such technology is very unlikely to be introduced by a company. This is particularly the case

with revolutionary or step-change technologies, which by their nature require significant implementation costs and effort.

Between 1998 and 2009, a total of USD 1.12 billion of venture capital was invested in developing new water technologies (Kwok *et al* 2009), but this was a tiny amount given the huge amount of interest the clean technology sector has attracted. , ERI and Zenon Environmental--the two most successful start-ups since 1980--took more than a decade to have an impact on the market. This indicates that good technologies are being held back in the water industry, in part by the lack of research and development, and in part by the challenge of reaching the market. Once again, companies like, Veolia, SUEZ, GE Water, and Siemens Water Technologies, which have wide international distribution networks, are better placed than venture capitalists to back new technologies which bring money and encouragement that are not necessarily supported by the market. Even though there is booming interest in the water technology sector, utilities are very reluctant to try new technologies due to conservative. And while other utility industries (i.e. energy and telecoms) deregulation has helped open the door for new technology development, the same cannot be said for the water and sewerage sector. From what was observed in the case of La Paz/ El Alto, new, lower-cost solutions may not even be welcomed by consumers if they suspect utility suppliers of providing them with lower-quality technologies. The point, however, remains that if utilities are unable to set (or are constrained from setting) tariffs at a level that would give sufficient commercial return on capital, they will simply not have funds available to put towards research, training, the development/testing of new technologies, or innovative approaches to delivery. This is clearly visible with regard to utilities in the developing-country context, but the same types of constraint can be seen to be a systemic constraint on the international water utility industry as a whole. In general, innovation within the water industry is too fragmented; the industry needs to do a better job in connecting to the R&D base in universities or other research organisations to access leading-edge technologies. They also need to be able to plug into information-sharing networks, which enable technologies to be shared.

7.6 Consumer Advocacy Groups and Media Bias

> *Corporate donations and lobbies often drown out the voices of workers, consumers, women, environmentalists and other interest and citizen groups…(and) the concerns of local people, intellectuals, environmentalists*

> *and other groups are often ignored until they develop into protests and major confrontations. (UNDP Human Development Report 2002)*
>
> *Private interests do not take better care of natural resources than public interests. Consider the extractive industries, such as mining, that have destroyed the land in order to extract as much of a given commodity as is possible. Now think about public parks. If private interests owned these priceless treasures, many of them would likely be covered with housing developments and unavailable to the public. Consumers, especially poor ones, are not benefiting from this water monopoly. Corporate shareholders naturally get maximum profit; we should not expect them to be social service agencies. Privatised water will never deliver safe and affordable water for all.* [201]
>
> *The water war showed us that it's possible to change our lives, collectively; that even if our enemy is very powerful, he's not invincible. We learned that, maybe capitalism can privatize everything, but what it can never privatize is our capacity to dream. And as long as we have the capacity to dream, we have the obligation to keep struggling for a better world. (Oscar Olivera, speaking about the Bolivian conflict)*[202]

Rarely do we hear about the power that advocacy groups can have in drowning out the voices of local people, workers, pensioners, minorities, women, and children. Generally, it is assumed that any consumer advocacy group acts on behalf of consumers, and that they are the true representative voice of the people, especially the poor and marginalised members of society. But this assumption is somewhat naïve. The first 20 hits in a simple Google search of the words "water" and "Bolivia" take curious searchers to sites managed by a range of consumer advocacy groups and anti-privatisation campaigners, or to personal websites managed primarily by non-Bolivians, including students, journalists, and anti-globalisation and human rights activists.[203] The first four hits in Google Books search begin with: *Cochabamba: Water War in Bolivia* by Oscar Olivera, followed by *Out of the Mainstream: Water Rights Politics and Identity* by Rutgerd Boelens, David Getches, Armando Guevara-Gil, and then *Water Wars: Privatization, Pollution and Profit* by

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[201] Wenonah Hauter, Director Water for All Campaign, 15 July 2005.

[202] Interview with Jeff Conant, International Research and Communications Coordinator for Food and Water Watch, 14 January 2009.

[203] This exercise was repeated on numerous occasions; the most recent Google search was conducted in July 2009.

Vandana Shiva, followed by *Blue Gold: The Fight to Stop the Corporate Theft of the World's Water* by Maude Barlow and Tony Clarke. The titles of the books clearly reflect which way the authors lean on the topic of PSP in the water sector, and the remainder of the list continues in much in the same way down the entire first visible Google results page. These, and many other books and papers with a similar slant against PSP, were reviewed as part of this research endeavour and they did provide insightful findings and analysis surrounding the conflict over water rights and PSP, even if at times there was clear evidence of bias against PSP. However, what the list of hits demonstrates is that the discourse dominating web-based information dissemination across the globe is somewhat one-sided and therefore misleading. Although there is a significant amount of information, including links to articles, books, and documentaries promoting alternative perspectives with a more positive slant on PSP, they are less easy to find—especially with regard to Bolivia's specific experience with PSP. This not only presents a barrier for young researchers starting out on a quest to understand the complexities involved in water sector reform, but for anyone interested in the issue. Since early 2000, various international consumer advocacy and human rights groups as well as global social movements against privatisation have taken a particular interest in the plight of Bolivians. Many of these groups have either established local offices in Bolivia or partnered with local associations in order to combat the so-called monsters of our time: globalisation and privatisation. These groups, especially those with ties to major international consumer advocacy groups in Canada and the United Sates, consist of many members with just the right mix of naiveté about water sector issues and policy reform in the developing country context. What has made these local organisations powerful, though, was that they could rely on financial resources and strong social networks from abroad to enhance their community reach at the local as well as the international level. The power of these groups to distort information and misrepresent the voices of consumers is the fourth systemic constraint to water sector reform and PSP identified as part of this research.

The Democracy Center, a San Francisco-based organisation, opened its offices in Cochabamba specifically to support the civil uprisings of 2000. The well-intentioned organisation works globally to advance human rights through a unique combination of investigation and reporting, training citizens in the art of public advocacy and organising international "citizen campaigns". In the ten years since it began operations in Bolivia, the Democracy Center has raised the profile of Bolivian causes across the globe, documenting

and reporting on Bolivia's role as a test lab for conservative global economic policies. The Center is funded largely through grants from George Soros' Open Society Institute, and in 2000 it was the only on-going source of international reporting of the Water War in Cochabamba; it consequently became one of the strongest voices promoting international activism against PSP in Bolivia. It is important to note that none of the seven staff members at the centre have academic backgrounds or professional experience in the water and sanitation sector: they are, by and large, political activists who use the multimedia-journalism platform as their medium of communication. There were various other international advocacy groups that also became interested in the plight of Bolivians during the Water War: the Canadian Union of Public Employees, for example, created a formal partnership with the Cochabamba Federation of Factory Workers in 2000, while other groups demonstrated their unity with Bolivians more creatively: in one solidarity action, the New Zealand Water Pressure Group hosed down their local Bolivian consulate office with a bright red fire truck, boldly displaying signs reading, "Bolivia, the world is watching you".

As part of this research, interviews were conducted with Jim Shultz, the director of the Democracy Centre in Cochabamba, and with Maj Fiil, the Campaign Coordinator of Water for All, an American consumer advocacy group turning over USD 10 million each year; Ms Fil established the African Water Network of anti-privatisation movements in 24 African countries. Both these organisations provide significant resource contributions to rally against the commercialisation of water and against private sector investment, and they supported the mobilisation of groups opposed to PSP across Bolivia. During the interviews, specific questions were asked regarding the methods the organisations employed in order to help people in Bolivia to understand their rights and entitlements to water provision. For the most part, the representatives explained that they offered free advocacy materials, including newsletter inserts, hand-out materials for training, and curricula for university courses. They also offered (and continue to offer) workshops, training, and counselling across the full range of advocacy activities, including: strategy development, media advocacy, organising and coalition building, lobbying, and influencing public officials. In other words, it seemed that there was a significant amount of advocacy-for- the-sake-of-advocacy training taking place, with a particularly one-sided, often superficial understanding of the deeper issue. While incredibly passionate about the plight of Bolivia's poor, it was surprising to discover just how little understanding

representatives of these organisations actually had about the differences between the Cochabamba case and the La Paz/El Alto case. Most had extremely simplistic ideas about PSP and most voiced the same—somewhat scripted—account of the plight of the Bolivians: that "multinational water corporations were making a profit off Bolivia's poor and that the poor were paying the biggest cost of reforms." Our discussions revolved primarily around the Cochabamba case, with the outcomes of the La Paz/El Alto case (and many others taken from across Latin America and even Africa) sewn into their argumentation as a matter of impassioned principle, rather than because they could substantiate claims with empirical evidence or clear understanding. Interestingly, not one of the advocacy organisations active in Bolivia used the resources at their disposal to conduct household consumer surveys in either of the cities (before, during, or after the water conflicts began), which might have provided them with a more honest interpretation of the needs and preferences of consumers, not to mention of the degree to which many consumers were actually pleased with reform outcomes in the La Pa/El Alto case.

Over the last 10 years, Jim Shultz, has successfully grown his organisation's global profile, and he continues to extend its mandate for social justice. The organisation's most recent project was to launch a "Get Goni" campaign on behalf of "all Bolivians", which is a plea to have the former president extradited to face charges of extra-judicial killings in the Black October Massacres (as they have since been termed). Shultz's impassioned support of Bolivia began in the water sector, but today, on his website, he claims that it is his "personal mission to spread the word across the world and make sure the former president is brought back to Bolivia to face legal charges for his mishandling of the protests back in 2003."[204] He writes on his blog that "Among most Bolivians his [Goni] name has become synonymous with gross acts of corruption and the giveaway of all of the nation's major industries to foreign corporations. More important, for more than sixty Bolivian families, Mr. Sánchez de Lozada's name has become synonymous, along with that of Mr. Sánchez Berzaín, for the smug impunity that allowed them to order the killings of their families followed by happy and wealthy lives in Maryland and Miami under U.S. protection."

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[204] As stated on Jim Shultz's Democracy Centre blog.

Other independent media groups that played a role in the downfall of AISA included the Independent Media Center, better known as Indymedia. It describes itself as "the voice of those without a voice", and it was created by various independent and alternative media organisations and international activists in 1999 for the purpose of providing grassroots coverage of the World Trade Organization (WTO) protests in Seattle; Indymedia became very involved in Bolivia between 2000 and 2005, acting as a clearinghouse of information for journalists and providing up-to-the-minute reports, photos, audio, and video footage through their website. Another media group, called One World Media, also posted a great deal of material relating to the Cochabamba water conflict, including a documentary entitled *The Water Is Ours, Damn It!*, which featured emotive interviews with a wide range of people who were involved in forcing the government of Bolivia to back down. It is very easy to post a publication on any of these media sites and the organisations assist in translating articles from any language into Spanish, Quetchua, and Aymara. Through this on-line journalistic medium, just about anyone with an opinion about water has a voice.

Surprisingly, the scholarly literature about populism has paid very limited attention to the contribution of the media, and especially news media, to the surge of populism in Latin America. The proliferation of technological advancements and online knowledge transfer has fuelled the ambitions of newsrooms across the world to give more attention to socio-economic and political issues of the developing world. However, a problem arises when journalists prioritise advocacy through emotive, attention-grabbing story lines rather than accuracy. With full access and control of the news outlets that reach the masses, and answerable to no-one, media has become a powerful tool for fraud and manipulation. A full understanding of the populist phenomenon cannot be achieved without studying mass communication perspectives and media-related dynamics; while there exists extensive research on media influences on politics, campaigns, election outcomes, and political leaders, little has been written on how the media work as *initiators* or even as *catalysts* of populist sentiments (even less with regard to how this has affected PSP in the water sector directly). Some interesting recent research identified television media bias (domestic and international coverage) as directly helping to prop up neo-populist politicians in Latin America by orientating their coverage of campaigns toward the atomised poor (Boas 2005), while a book by Gianpietro Mazzoleni *et al.* (2003) does a good job in reflecting media-related factors in the rise of populist ideas and movements and, in particular, how

existing neo-populist politicians attempt to gain access to the news media. The existing literature also recognises that in many political contexts, the media may stand as a "Fourth Estate", pursuing goals that either converge with or diverge from the mainstream political climate, and that the mass media themselves act as *players* in the political game, intentionally and unintentionally endorsing or opposing populist stances and policies.

What is clear from the findings of this La Paz/El Alto case study is that the main points of contact for the aforementioned advocacy groups and media organisations during the period of conflict in Bolivia (2000–2005) were with Bolivia's Neighbourhood Association Leaders (NALs), and that the NALs played an excellent reciprocal game by tapping into the power of these advocacy groups. A year prior to the cancellation of the AISA contract, in 2004, the Director for the Clean Water Program for Catholic Relief Services in Bolivia—an NGO with a long history, spanning several decades, of actively working in Bolivia's water sector with marginalised, low-income communities across the country—explained that these advocacy groups were destroying any possibilities for compromise and reconciliation around reforms. He then chuckled about the irony of how international advocacy groups complain of the monopolistic practices of large water multinationals, when they "do everything in their power to monopolise the channels of information to the public and the poor in developing countries like Bolivia." He further went on to explain that "the amount of on-line reportage of the events that transpired in the water sector between 2000 and 2006 by these organisations would suggest that the uprisings in Cochabamba represented the will of the Bolivian poor against the will of money-hungry multinational corporate agents, when in fact those involved in the uprising in Cochabamba were predominantly of middle income background (including some fairly well-off land owners) rather than the poor. The unique circumstances of La Paz/EL Alto were never properly disaggregated from the wider socio-political conflict."[205]

Over the same period in which the anti-privatisation movement was gaining strength in Bolivia, so too was the anti- (water) privatisation movement in the United States, as labour unions and the watchdog group Public Citizen waged an 18-month-long

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[205] Various interviews took place with Franscisco Guachalla: 10 December 2002; 20 January 2003; 18 January 2004, and telephone interview 4 February 2005.

campaign to halt the trend toward privatisation across the country. The group lobbied heavily in the US Congress in 2001 and 2002 to remove language from a bill advocating public-private-partnerships, and Public Citizen said that the bill "jeopardizes public access to safe and affordable drinking water and adequate wastewater treatment by making federal assistance conditional on the recipient's consideration of privatisation."[206] A coalition of municipal water companies and public interest groups formed an anti-privatisation lobby that called on Congress to increase grants and loans to USD 57 billion over five years to improve public utilities' infrastructure; the campaigners eventually won their battle and a bill that might have helped to support the emergence of more PPPs was completely abandoned. This is an unfortunate example of the polarisation that occurred through the last decade; a polarisation that led to organisations originally focused on protecting the environment, improving affordable access to clean water, or on preventing climate change, becoming instead organisations primarily concerned with weakening capitalist ideology.

The lack of quality control behind the anti-privatisation messages being propagated around the world is disconcerting. There is something very wrong about someone sitting in an Internet café across the Atlantic and with no understanding of the particularities of the Bolivian context having greater reach to the residents of La Paz/El Alto than elected government authorities and water and sanitation specialists. This is perhaps a lesson to governments that they need to update their communication methods to compete for community outreach and information dissemination. In particular, more financial and human resources are required for government to address this systemic constraint to PSP in the water sector, so that government policymakers can compete on a level playing field with these powerful (globally supported) voices. Although one might think that private utilities such as AISA would be equipped with sufficient financial resources to initiate powerful public relations campaigns around PSP, this is not always possible. Cledan Mandri-Perrott, the former utility manager of Trinidad and Tobago Water, explained in an interview that in 1999, while the utility was undertaking a PPP Management contract with the UK's Severn Trent, the contract was abruptly terminated after civil discontent and

[206] Telephone interview with Maj Fiil, Campaign Coordinator, Water for All, 5 March 2006.

popular uprisings over contractual disputes. At the time that he and his company were being "attacked in the press and radio, Severn Trent had a policy against [his] speaking with the media and engaging in any public relations campaigns." According to Mandri-Perrott, this was "simply out of fear that the company's predominantly British shareholders would be resistant against further participation in *risky* activities in developing countries."[207]

The role played by corporate shareholders of the large multinational utilities and the power they exert over the decisions made by utility managers in the field are worthy of additional research. The findings from the current research, however, do shed light on the complexity of public relations and corporate outreach to consumers during periods of turmoil, and on how these may also affect the ways in which contracts are renegotiated. For a company such as SUEZ, the amount of money invested in AISA was miniscule relative to their other investments. By looking at SUEZ's publicly-listed finances during the 2004–2005 period, one can clearly see that less than 2 per cent of SUEZ's consolidated turnover came from South America, while 81 per cent was generated from their activities in Europe.[208] This must surely have implications for spending on everything, from investment in public outreach and information dissemination, to research and development of low-cost technologies, and to public relations campaigns and/or the tedious renegotiation of contracts during periods of political turmoil. Shareholders tend to dislike negative press associated with a firm they have a vested interest in, and although shorter-term profit gains are currently more evident in SUEZ's European and US operations, there is no reason why we should not be making a concerted effort to educate and empower shareholders to take a longer-term view in their support of PPPs in emerging markets. If there is a willingness on the part of shareholders in SUEZ or Severn Trent (or the other giant players in the water sector) to be more active in emerging markets, more strategic approaches to PSP can be designed in partnership with government agencies, regulators, and NGOs to secure more sustainable PPPs, and an appropriately significant weight can be placed on public relations and education campaigns. Of course, ensuring such willingness

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[207] Interview with Cledan Mandri-Perrott, former Managing Director Trinidad and Tobago Water, 3 June 2005, Washington DC.

[208] *SUEZ Environment: Fact and Figures Report for 2004–2005*.

on the part of shareholders is a big uncertainty, but it is a systemic issue affecting the water and sewerage PSP paradigm that needs to be tackled.

7.7 Addressing the Systemic Constraints to Water Sector Reform

The concept of introducing a revolving fund specifically geared toward addressing the needs of the myriad players involved in water sector reform and PSP is an idea that deserves a great deal of academic attention, not only from financial and economic quarters but also from social policy quarters. Much of the discussion around the conceptualisation of such a fund has been geared primarily around the specific financial risk-mitigating tools that are needed, and less so in relation to the institutional structure of the fund and other, non-financial, risk mitigating arrangements that could be offered via the fund. Improving the enabling environment for water sector investment should be conceptualised in a way that simultaneously addresses domestic capital market development, competition, innovation, and, most critically, improved information dissemination with consumers and advocacy around the potential benefits of PSP.

It is also imperative for the ODA community that we accurately assess demand and the financing gap to meet our MDG targets by (i) determining a representative unit costs of diverse water and sanitation improvements for different regions; (ii) creating a specified distinction in unit costs between rural and urban areas; (iii) compiling data on water and sanitation improvement options chosen by governments and households; and (iv) building consistency in coverage rates, as revealed by different household surveys applied across the country. Improving the statistical and knowledge base of the problem we are currently facing will help ODA to consider more innovative options for channelling resources, and consequently the character of aid to the water sector will invariably improve.

Chapter 8. Public-Private-Partnerships at the Crossroads: Conclusions and Policy Considerations

On 29 July 2010, The United Nations voted 124 to zero in favour of recognising a human right to water.

8.1 The Public Sphere

If you put the federal government in charge of the Sahara Desert, in five years there would be a shortage of sand.[209]

The good news is that global awareness and concern over the precarious state of the water sector have increased significantly over the last decade. In every direction, there seems to be someone campaigning either on behalf of the precious resource or on behalf of those who lack access to it. Even the latest James Bond film, *Quantum of Solace*, tackled the issue of water privatisation—in fact, the storyline of the film revolves around a greedy multinational water company's attempt to help overthrow none other than Bolivia's left leaning government in order to exploit the country's water resources and profiteer off the indigenous population. Although the film can be applauded for being topical and creating awareness about the value of water and the vulnerabilities of those without access, the film unfortunately sends the wrong message about PSP. This is the bad news. Over the last decade we have witnessed increasing public concern over PSP in almost every sector of the economy—transport, health, education, energy, telecoms, domestic security, and international military operations. The financial crisis of 2008–2009 further exacerbated this sentiment and marked a systemic transformation of the global capitalist system, which we are still experiencing in 2012.

We are currently witnessing a backlash not only against the private sector and the so-called "fat-cat" culture bred through capitalism, but also against the very essence of our liberal economic ideals with regard to regulation, market-led growth, and even trade. Across Europe and the United States there is a resurgence in the debate over to what extent governments should interfere in the functioning of the market and how equipped the market is to take care of the casualties when markets fail. There is also a great deal of

[209] Milton Friedman (1975).

speculation as to what the character of our new economic paradigm will be. What the global financial crisis ultimately revealed is that market forces on their own cannot always be trusted to create price signals consistent with broader social objectives. This may translate into a new paradigm in which governments play a greater role in setting prices, managing currencies, and creating environmental incentives, but it would be a mistake to chastise the private sector in the process for simply doing what it does best under a for-profit model.

The irony of the privatisation debate in the water sector is that, in most parts of the world, water utilities were never completely privatised. PSP has always meant private sector *participation* and PPP has always meant public-private-*partnership*. The rationale of the 1990s was relatively straightforward: the original intention of the PPP framework was to combine private sector incentive structures and, in tandem, strengthen public governance oversight by creating independent regulatory institutions where previously there had been none, as well as to develop new laws and myriad regulations aimed at protecting consumers and the environment. The failure of PSP in the case of Bolivia exemplifies the imperative need re-open the debate about the long-term outlook for PSP in the provision of water, and to draw new conceptual dividing-lines between government and private enterprise that are better understood by the people. In the first instance, this will require politicians across party lines to do their best as pragmatists to depoliticise the issue and address the needs of the sector. In the second instance, it will require all stakeholders active in the water sector to rid themselves of *a priori* ideologies and replace them with an openness and a willingness to consider creative solutions to improving access to the poor; some of these solutions may involve PSP and some may not.

Why is there a disconnect between the positive perception that consumers have towards improvements made to their water and sanitation services under PSP arrangements and the negative perceptions that consumers have towards private sector participation in the provision of these services?

This question--the primary question driving this research endeavour--can be applied to other sectors beyond water and sanitation. The health sector is prime example of a space where people demonstrate extreme ambivalence about private sector participation. Just like the debate over water, individuals are torn between their ideological beliefs that everyone should be entitled to free healthcare and their rational acknowledgement that efficiencies

might be possible through PSP in some areas of health service provision. Ultimately, much of this debate comes down to a question of language. The way in which we define and articulate the ideas around what “public”, “private” and “partnership” really mean. I believe we need to work very hard as a society to re-evaluate the lines we have demarcated between the "private/corporate" and the "public/government" as a first step in achieving the welfare demands of our global society. If we, as a global society, are meant to collectively assure the conditions in which people can be healthy--be it through improved access to clean water or improved access to health services as the case may be--than our collective self includes all of us: from the private individual, to the local community representatives, the local government, local private enterprises, service providers, practioners, central government, private banks, cooperative banks, utility operators, regulators, large private corporations, foundations, educational institutions--we are a diverse collective force each with a unique capacity to add value to programs and projects that are in the best interest of our fellow community members.

Much like the debate around PSP in health care provision in the UK, the debate over the role of the private sector in water and sanitation service provision has created a false dichotomy that has led to a distorted conceptualisation of the truth. With health care, Americans make the assumption that despite the expense of their system, the privatised model will deliver greater innovation and greater satisfaction than the “socialised medicine” model of other countries. In a mirror image of the false dichotomy, the British take the polar opposite view, based on an assumption that American-style privatisation, which would potentially double their costs and reduce scope of their health care, is the only available alternative to the NHS. In clinging to these false dichotomies, the US and Britain have ignored the multitude of other countries, such as France, Switzerland, Germany, Canada, Austria, Sweden, and Japan, that have mixed public-private provision and deliver far better outcomes and greater consumer satisfaction that the British system, at far lower cost than is the case in the USA (Kaletsky 2010).

In Chapter 5 we discussed the ways in which Bolivia's informal institutional environment--its historical traditions, cultural values and fear of multi-nationals posed some of the greatest challenges to the process of sector reform because this environment perpetuated the false dichotomy between the public and the private sector. The chapter deconstructed areas of tension and highlighted areas where compromise might have been

achieved if more effort had been made to (i) understand rural-urban demographics, social norms and community-oriented practices, (ii) spiritual sentiment towards the pachamama, (iii) lack of trust in multinational corporations--including development organisations, and the (iv) historical political relationship between the people and the land in El Alto. Equipped with this information, appropriate social policies could have been integrated within the policy reform process to create greater solidarity among the public around the idea of a PPP. Retrospectively, it seems quite evident that areas of existing conflict between the informal and formal rules of the water provision paradigm need to be fully considered and ultimately resolved before formal engagement with the private sector can take place. On a practical level, without public solidarity around reform measures, a government will simply be unable to nurture a *partnership* with the private sector, even under the best regulatory environment, because the relationship will always feel antagonistic. In other words, PPPs cannot be pushed on consumers; private sector solutions must be demanded by consumers and it is up to public leaders to make the case for PSP. While complete buy-in of reforms are nearly impossible to achieve in any democracy, at the very least, major campaigns and public debates must take place with a focus on reaching out to households most vulnerable to the impact of reforms. This should be a carefully considered process, where households come to understand exactly how reforms will translate for them on a day-to-day basis; it should also involve a long enough period for policy-makers to receive feedback from households, NGOs, and CBOs active in the sector on how to improve reforms or on how to introduce creative risk-mitigating solutions to protect low-income households.

It is apparent from these research findings that infrastructure development projects, supported by the World Bank and other Regional development banks, need to re-evaluate the teams of professionals that are put together to support similar projects, particularly those involving water and other natural resources. Teams involved in PPP projects need to include a wider range of expertise, beyond the traditional financial economist, regulation specialist and water utility expert, to include more social development expertise. Unfortunately, there is a wide spread perception prevailing at the World Bank about non-economic social scientists (professionals with post-graduate degrees in anthropology and

sociology for example) that they lack operational know-how and slow down otherwise economically efficient projects (Hall 2007).[210] Rarely do we find these social scientists involved in assessing and integrating social policy measures in the design and implementation of operational infrastructure projects, where they are clearly needed. This, coupled by the bureaucratic organisational structure that fragments the social agenda of the Bank (Hall 2007), continues to pose a critical challenge for innovating with partnerships in the water and sanitation sector.

The public-private debate ultimately begins in the public sphere and requires pragmatic leadership rather than polarising politicking games. The goal should be to acquire some degree of ideological compromise, or, at the very least, an enlightened awareness of the myriad options and partnership models that exist to support the water sector. All parties must make a commitment to look at the water and sanitation sector more objectively; creating a unifying strategy that crosses political party lines at the country-level and institutional divisions between the myriad stakeholders involved. A unified social policy strategy at the national level would lessen the likelihood that consumers (low-income as well as higher-income consumers) find themselves wedged in the middle of this false dichotomy, and this could potentially decrease the current ease with which special interest groups are able to pile every societal grievance into an unresolvable melting pot of protest soup.

I went into this research endeavour expecting that the issue of *price*—an unaffordable tariff structure—would be at the heart of the conflict over PSP in Bolivia. And I did not expect low-income residents to say that services were better under AISA--that the quality of the water was better, the reliability was better, and the responsiveness of the company was better. I expected consumers to say what the international media was reporting--that they were being ripped off in exchange for bad service. I certainly did not expect that consumers could speak with such praise about their current services under private provision on the one hand and in the same breath say that they would prefer to return to public provision. It was incongruous to me at first. How could a mother or father,

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[210] Social safeguard policies are considered only in extreme cases where a project involves resettlement of indigenous peoples for example (See more on this topic in Hall 2007).

if given the choice, willingly accept returning to a service that in many instances made their children physically ill? My initial reaction was to believe that this was a demonstration of pure human irrationality but it wasn't. These were value-based judgements--choices that were motivated by preferences and influences other than price; choices that one could argue, were not necessarily in their self-interest, but rational choices nonetheless. Understanding the choices and preferences of individuals require anthropological and sociological insights.

Other influences on consumer demands and preferences highlighted in Chapter 5, included the effect that international humanitarian laws had on consumers' sense of entitlement to clean water. The recent unanimous agreement by the UN to recognise the human right to water was an extraordinary demonstration of the growing global concern for improving access for billions of people and sends a message to the citizens of wealthier nations that it is not only our moral responsibility, but our legal responsibility to ensure that our global citizens have access to safe drinking water. However, recognising access to clean water as a human right can lead many to believe that they are entitled to consume unlimited amounts of water; it also can lead many to believe that clean water often bares a high price tag. The UN would have done the sector more justice, and offered more room for innovation through partnerships, had they recognised not only our human right to water but also water's utility value; a value (based on a desire, need, and articulated demand) that carries a financial cost. Acknowledging a "right" to something is a philosophical construct based on our projection of an ideal. This is a good thing so long as the construct is viewed by the people for what it is—an ideal, not a policy strategy for improving access.

Unfortunately, factions of our society who wish to polarise the debate, easily hijack declarations such as these. In response to the aforementioned UN declaration, for example, the Council of Canadians' self-proclaimed Global Water Justice Movement, issues a press release stating: "After over a decade of hard work, the global water justice movement achieved a major victory today as the United Nations General Assembly voted overwhelmingly in favour of recognizing water and sanitation as human rights. This resolution has the overwhelming support of a strong majority of countries, despite a

handful of powerful opponents. It must now be followed-up with a renewed push for water justice."[211] Their statement begs the question, who are these *powerful opponents*? The answer is: no-one. Everyone is in favour of a human right to water. What is critical to our wider discussion around water and sanitation provision is that there are ways of expressing these rights with economically sustainable solutions. Some may do a better job than others, but this may have less to do with the economic model *per se*, and more do to with the socio-political institutional environment that supports the sector—in other words, the challenge of provision is as much (if not more) reliant on the strength and dynamism of the public sphere.

In September 2010, UN Independent Expert Catarina de Albuquerque published her findings on the human rights obligations and their application to non-state service provision. She is unequivocal on the issue: "human rights are neutral as to economic models in general, and models of service provision more specifically". She points out that where private operators do not serve poor neighbourhoods, it is not because they are private operators: "The geographic coverage of services provided by non-state actors is the result of a political decision and a contract proposed by the public authorities; non-state service providers will not extend services to un-served or underserved areas unless explicitly mandated to do so in their contracts", she says, adding that contracts and regulation should also address issues of the price, quantity, and quality of supply. Essentially, Albuquerque is content with the professionalism of private water operators. In her report, she signals greater concern over small informal water vendors, which is very much in line with the perspective of governments across the developing world, that "operating unregulated, [informal water vendors] often provide poor quality services at exorbitant prices". Overall, the report indicates that reaching low income groups is a long-term aspiration rather than something that can be achieved simply by adopting the right to water: "States must develop a national plan, including legislation and other appropriate measures, to progressively achieve the full realization of the rights to water and sanitation,

[211] Global Water Intelligence, July 2010.

including in currently un-served and underserved areas, independent of the modalities of the service provision chosen", she concludes. [212]

Policy Implications: In order to rectify the false dichotomy endemic to the debate around PSP, governments have the power to: (i) Creation a unified long-term social policy agenda at the national level that crosses party lines outlining the primary objectives for reaching communities with clean water and sanitation; (ii) Build inter-governmental consensus around the various approaches to servicing the lowest income communities with services—specifying the range of available options suited to meeting user demand; (iii) Communicate a commitment to strengthening public institutions at the central, as well as the local level, so that consumers build their own understanding of the technological and economic barriers to service provision, which will strengthen their sense of consumer identity; (iv) Build creative programs that enhance community participation in the provision of water and sanitation—not only in terms of digging and building infrastructure, but also by involving residents in the initial design of participatory programs and listening to household suggestions as to how best to improve access; (iv) Modify the language they use in order to avoid polarisation of the debate around PSP—substituting the word *privatisation* with *partnership* is a good starting point; (v) Recognise that sweeping reforms require more time and more outreach--the most vulnerable members of society must be given a platform to voice their concerns and leaders should enter into debates at the most local level; (vi) Direct more funding to support campaigns around PSP and work collaboratively with NGOs and CBOs to nurture a proper feed-back loop between households and policy-makers.

8.2 The Private Sphere

> *In the philanthropic world, the problem is the product; in the business world, the product is the solution. NGOs are forced to 'sell suffering.' The needless focus on sappy narratives often overlooks sophisticated solutions that can't be easily marketed with a T-shirt-clad celebrity holding a small child. --Howard*

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[212] UNHCR Press announcement, Geneva, October 2010. The mandate of the Independent Expert on the issue of human rights obligations related to access to safe drinking water and sanitation was established by the Human Rights Council in March 2008.

Buffet (Warren Buffet's Grandson and new executive director of the Buffet Foundation)

Is it ethical for a utility operating in a poor slum to make a profit from servicing its customers? There are two answers to this question: The first answer is: Yes. The domain of private enterprise is the pursuit of efficiency and growth, the reward for which is profit and water remains a good industry for global investors.[213] There is a profit to be made in the sector and this is ultimately a good thing--a very good thing--for everyone, especially the poor. Private sector innovation, particularly in stimulating technological advances, should serve to stimulate possibilities for improving access for the most vulnerable in our society. Also, one should keep in mind that while the poor often demonstrate cooperative behaviour when it comes to meeting communal water demands—such as sharing access points to water or organising a communal bill-collection savings scheme—there is no reason to suppose that they act in a less capitalistic fashion than any other service provider would act. In the case of El Alto, there were many examples of this, where some households charged other residents who were not connected, or who were having difficulties with their utility network services. It is not known exactly how much those with access points charged unconnected residents, but given what we generally know about informal water vending practices among the urban poor, there is no reason to believe that these households would fail to return a profit from selling their water. It is also important to keep in mind that penalties for those who violate informal communal bill-collection schemes can in some cases be much more severe than the penalties handed out by utility operators. In the peri-urban settlement of Nelson Mandela, outside of Cartagena, Colombia, physical punishment for failing to contribute to the monthly communal pool to pay a water bill was commonplace.[214] The second answer to the question of whether utilities operating in a poor slum should make a profit is: They don't tend to. In the Bolivia case, AISA may have recovered their costs for servicing low-income households in El Alto (barely), but they were able to afford extending services to these areas by offsetting their

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[213] *S&P Water Index*, September 2010.

[214] Interview with community representative in Nelson Mandela, Cartagena (See: Barbery 2005). Interviews were carried out around this topic for a joint Building Partnerships for Development (BPD)/World Bank case study on multi-sector water partnerships in Cartagena, Colombia.

cost of provision for low-income residents, with the provision of services to higher and middle-income residents, commercial, government, and industrial customers.

We learned from this case study that there were not very many "takers" interested in bidding for the La Paz/El Alto concession, but that this may have been because the original offer that the government put on the table may have been unaffordable for most local investors (we do not know for sure because the offer letter was never made public). Based on the case-study findings, we are also aware that former President Goni made a discrete political plea to President Chirac to help direct the attention of the French utility players toward Bolivia. As we explored in Chapters 4, 5 and 6, the push for a PPP concession with SUEZ in La Paz/El Alto was a clever attempt to direct as much capital investment as possible into the poorest areas of El Alto, but it was ultimately a quick fix solution for a sector not yet familiar with market-based solutions to their water woes. But in the rush to meet internationally imposed development targets for access to clean water and sanitation, it isn't all together surprising that governments across the developing world adopted policies that were not always in accordance with, or driven by, the will of the people. While a PSP approach to improving water and sanitation in Bolivia may have appeared perfectly logical on paper, we have learned from the case study that the treatment of water as a commodity is a complex process, particularly when it involves international investment—not only because of currency risk or increased tariffs, but because of how easy it is for consumers to get caught up in the false dichotomy of what PSP represents.

It would be interesting to carry out further research exploring the current sentiment residents in La Paz/El Alto have towards their water and sanitation services. The utility servicing this area is publicly owned but is meant to operate as a commercial enterprise. It would be interesting to interview consumers to ask them whether they realise that the utility operates on a commercial basis. It would also be interesting to discover whether PSP would have been welcomed had Bolivian private sector stakeholders solely owned AISA. In other words, would the treatment of water as an economic good, and the pursuit of sector efficiency through the profit model have been acceptable if the PPP consortium was made up entirely of *national* private sector stakeholders? Was the eventual outcry against PSP in Bolivia (and other similar cases) exacerbated simply because the majority shareholders of AISA were French? This is an important consideration when exploring future water sector reform involving the melange of PSP alternatives. If consumers are

more comfortable with PSP, so long as it is supported by national private companies rather than development institutions, financial lending agencies and policy-makers should direct their attention toward improving the enabling environment for private-sector led growth more generally, and find more ways of encouraging private sector stakeholders to invest in local water and sanitation utilities.

8.3 Public-Private-Partnerships

> *Public-private-partnerships are built to coordinate, align, and add value to work already being done by multiple parties where is clear that no one party can work effectively alone. In the absence of strong public-private partnerships we miss an opportunity--the opportunity to rise above politics and do what's right.*[215]

Chapter 6 demonstrated how the delicate nature of the water sector provides evidence that our behaviour is motivated by a volatile set of preferences, which makes it particularly difficult for policy-makers to manage the reform process and accurately predict reform outcomes. In the Bolivian case, stakeholders severely underestimated the transaction and transition costs involved in the process of reform. In particular, major informational challenges made it particularly difficult for regulators to understand the preferences of low-income water users. These were predominantly adverse selection problems whereby the regulator's ignorance of consumers' private information led to the design of ineffective incentive structures for consumers and AISA. Under-estimating consumer demand due to a lack of information about consumer preferences and consumption habits led to a stress on tariff structures suitable for the needs of low-income user groups. Ignorance about the time-cost of adjustment to reforms resulted in a lack of trust in policy-makers and reform objectives. But at the time of reform during the 1990s, there were numerous networks and active organisations working closely at the local level with consumers; these organisations had an informational advantage, better access to low-income households for the purposes of outreach, hygiene and water usage education. Most critically, however, such organisations could have carried out much needed, large-scale demand studies detailing the preferences of low-income users, which would have demonstrated the government's compassion and commitment to residents. In other words, CBOs, NGOs and

[215] Excerpt from a PPP concept paper prepared by the Bill and Melinda Gates Foundation (2005).

Neighbourhood Associations should have been brought into the partnership paradigm at the onset of the reform process and officially recognised as partnership players in the design of the PPP concession. This might have helped to steer these organisations away from selling narratives of discontent when things started to turn sour for the La Paz/El Alto case, towards working with partners to ultimately sell solutions to the collective problem faced by residents, policy-makers, regulators and the private utility.

Another challenge to water sector partnerships identified in Chapter 6 is in creating a shared philosophical belief system or reaching agreement on a set of new values to be upheld by governing institutions. The new institutional value-system created in Bolivia in 1990s was to embrace a market-based approach to service delivery across a broad range of sectors and to establish regulatory bodies to oversee market players for the very first time. But creating a new value system such as this requires wide institutional consensus that cuts across all government agencies and even party lines; the government did not have such consensus at the time. It takes a many generations to build up institutions and establish trust in the capacity of these institutions to act responsibly and in the best interest of the public.

There has been a great deal of discussion and research geared to assuring a strong and capable institutional environment for supporting PSP in the water sector, but perhaps too much weight has been given to securing sector-specific regulatory agencies and equipping regulatory agents with the skills to negotiate and supervise the performance of private water utilities. A World Bank (2006) publication recognised that after the creation of over 200 regulatory entities worldwide during the past 15 years, there is now ample evidence to show that regulatory systems have failed to achieve the expected sector outcomes. Research carried out by UNRISD argues that regulation often becomes an end in itself rather than a means of achieving social, economic, and environmental objectives for the well-being of the population, and that because of this, agencies encounter extreme difficulties across the developing world (Ugaz 2006). While sector-regulation may be an important feature of the institutional environment, the institutional environment itself embodies more than water regulation.

Allowing more time to pass from one government administration to another may have generated much more long-term support and consumer buy-in of sector reform policies. Also, this would have allowed more time for consumers to embrace the

government's legislation requiring all households to connect to the utility network or to challenge government legislation through less destructive (politically stifling) channels. Meanwhile, SAMAPA could have set in motion its mandate to operate on a commercial basis, updating its management style and restructuring its staff ratio and employee incentive schemes. At the very least, the utility might have been on a better financial footing at the time offer letters were sent out to potential bidders.

To understand exactly what institutional barriers stood in the way of SAMAPA following a path to financial success without the involvement of SUEZ in the concession arrangement would be another research project altogether, but one that would surely be of interest today, with so many countries embracing a renewed sense of nationalism. It is impossible to know for sure, but it seems likely that a PPP owned partly by a consortium of local private investors and partly by government might have a better chance of initiating many of the same commercial practices that AISA instituted, simply because the utility would not suffer from being associated with a multinational company worth billions of dollars. Today, it is unclear whether any of Bolivia's 14 water and sanitation utility operators are currently operating on a commercial basis, although they do continue to be referred to by the government as *Empresas Prestadores de Servicios de Agua*; "*empresa*", meaning "business", remains the defining feature of the terminology associated with provision despite its public-ownership model. It is also unclear whether the municipally-owned utility now servicing La Paz/El Alto has retained any elements of its former identity as AISA with respect to its employee incentive structure, billing practices, fining procedures, or any other of AISA's characteristics. It would be very interesting to build on research from the La Paz/El Alto case to learn what effect the continued process of institutional change from public to private (presented in this dissertation) and back to public government control have had (i) on the day-to-day management and operation of the existing water utility; (ii) on the relationship between the utility and its governing and regulatory institutions; and, particularly, (iii) on consumer perception of the current utility and the treatment of water as a commodity.

Policy implications: What this case study has ultimately revealed is that consumer demand and preferences will determine the sustainability of water sector reforms, not top down, heavy-handed policy makers. Reforms that support PSP must involve social policy strategies that allow for diverse historical contextualisation, that question the proposed

rules for distributing water rights and consumer obligations, that consider extra-communal laws, institutions and markets, and allow for innovative multi-sector partnerships within the traditional PPP paradigm. Understanding anti-privatisation sentiment and the indigenous social movements that occurred across the Andean countries more generally, requires a nuanced analysis that goes beyond the simple public vs. private debate, or the conflict between common and private property, abundance vs. scarcity, economic growth/efficiency vs. subsistence/conservation, rationality vs. local knowhow and tradition.

The failure of the La Paz/El Alto PPP was not caused by the poor being priced out of access to clean water, it was caused by the collective indigenous fear that water resources were being stolen from their land, from their Pachamama. Creating international humanitarian goals to get clean water to the world's poor is ultimately a top down, supply-driven development approach. Although we might not wish to accept this, in just about every area of our global economy, supply-driven development approaches have created unnatural distortions and pressures. We therefore must come to a better understanding of consumer demand in developing nations. We need to learn more about the preferences, vulnerabilities, customs and values of low-income consumers that drive the choices they are willing to make when it comes to water rights and consumption. Supply should be driven by the types of services low-income households are willing to accept, the solutions and compromises that they are willing to make, and, ultimately, what they are willing to pay for services. Otherwise, reform efforts will backfire. Governments across the developing world should learn from the case of Bolivia that consumer buy-in to reform is critical, or else reforms that seem to bring a population one step closer to meeting the UN development targets may actually result in moving two steps back, and they will find achieving these mutually shared global ambitions an even more distant prospect.

Chapter 7 sheds light upon the systemic constraints facing water and sanitation utilities. In all the academic discussion around the role of PSP in water and sanitation provision, there is only a small amount of discourse relating to the role that the development community could play in helping local utility companies in emerging markets access financial markets. While there has been increasing work and academic attention on sub-sovereign finance and capital market development for municipalities and municipal companies over the last decade, there is not enough attention given to helping water and

sanitation utilities access alternative sources of finance. The negative experiences of the development lending community—in particular, the infrastructure development units within development agencies—should give rise to a concerted effort for more internal collaboration between development units at the World Bank and other development institutions. Not only should social policy professionals collaborate in the design of water and sanitation projects but also the private and financial sector units of the bank should be a part of infrastructure lending and technical assistance programmes. Private and financial sector development units within these organisations to provide (i) technical assistance to municipal companies to help them improve their commercial capacity; (ii) technical assistance to improve the legal and regulatory environment for municipal borrowing; (iii) help with structuring PPPs between municipalities and local private institutional investors, and for willing and able commercial utilities; and (iv) assistance in accessing both domestic sources of finance as well as the capital market. A concerted effort to build up properly the financial institutional environment for municipal finance in Bolivia might have been a suitable stepping-stone before establishing a PPP concession. After all, between 1996 and 1998 Bolivia's progressive decentralisation initiatives had only just begun to take shape, independent regulatory agencies had just been created, and the legislation that would lay the groundwork for a modern securities exchange had only just been passed. Allowing a few years for these new institutions to build confidence internally and across government agencies, a few years for citizens to feel the positive gains to Bolivian democracy as a result of the progressive decentralisation and popular participation laws, before inviting bids for PPPs La Paz/El Alto, might have made all the difference.

Ideally, the lessons we have learned from those mistakes made in PPP processes across the globe should help policy-makers and investors to adapt PPPs to better meet the demands of consumers and social policy objectives. One of the best qualities of liberal capitalism is the fact that it is an adaptable system. Throughout its modern history capitalism has evolved with each passing decade, marked by the degree to which it has succeeded in meeting societal social policy objectives, particularly the principle of fair and equitable distribution of services (from welfare to health care, housing, education, water, and sanitation). Social policies are meant to work in tandem with capitalist economic principles, each supporting and feeding on the other to improve the tools at their disposal to meet the greater good of society. Social policy should, therefore, be viewed as the

bridge that links the public sphere with the private sphere. Social policy is the critical essence of a successful PPP, and in its absence every PPP is doomed to fail.

In the water sector we know that the most widespread forms of social policy are *income support* (for example, the establishment of flexible payment methods, connection subsidies, and vouchers) and *tariff adjustment* (for example, the establishment of increasing block tariffs, cross-subsidies, and special tariffs for low-income households). The case of La Paz/El Alto revealed additional areas where social policy interventions are needed. These can be explored by combining New Institutional Economic (NIE) analysis with contemporary social policy discourse and existing development approaches, particularly those within the Sustainable Livelihood (SL) strategy. This strategy categorises the needs of our society into sets of assets that consist of: (i) human capital (health nutrition, education, skills, capacity to work); (ii) natural capital (land, water resources, environmental services, wildlife, biodiversity); (iii) financial capital (savings, credit, pensions, wages); (iv) physical capital (infrastructure, tools, and technology); and (v) social capital (networks, relations of trust, common rules, collective representation, participation). This differentiation more astutely facilitates our understanding of the consequences of institutional arrangements at the micro/household level.

The NIE analytical framework combined with a social policy development strategy that places particular emphasis on the contextual vulnerability of a population, supports social policy objectives in a number of ways. First, it emphasises that institutions (the institutional environment and arrangements, both formal and informal) are a very important part of social capital, together with a culture of trust between transacting or co-operating parties. The institutional arrangements that people are able to engage in also depend upon and affect their relative power (individually or collectively) and determine their access to and gains from other assets. Second, NIE emphasises and gives insights into the importance of access to assets. The benefits that come from access and the incentives for their development depend upon institutional arrangements, and these in turn depend upon the institutional environment, information flows, asset characteristics, vulnerability and sense of power felt by the various stakeholders involved. The physical and economic characteristics of assets in the water and sanitation sector should not be examined without reference to the institutional arrangements, which constrain or promote their use.

A third insight from NIE concerns the importance of information as a resource. This has implications for the valuation of human and physical capital: we have learned from the case study that effective information flow is a critical pre-requisite for the development of the institutional environment, and this may require investment in building literacy (specifically with regard to understanding bills and tariffs), in communications infrastructure or in a culture of openness and information sharing. Finally, NIE analysis can make an important contribution to understanding the value of physical and natural assets. Market valuations, on their own, are inadequate, as they do not take account of transaction costs and risks, or of the transformation costs involved in asset use or production. Identifying different types of institutional arrangements may help reduce transaction costs and risks, and increase asset values for different users. Collective arrangements, both formal and informal partnerships between community groups and utility operators, may facilitate better information transfer with regard to stakeholder behaviour.

The future of the water and sanitation sector is entirely dependent upon the social policy approach used to help utilities harness the added value that the private sector is capable of providing under the right social conditions. Hopefully, the backlash against PSP will begin to let up as more academics, development practitioners, investors, and policy-makers stop taking such a hard-line approach to the subject. Milton Friedman fervently believed that people's savings and spending behaviour were not a function of psychological or cultural factors, but based on rational estimations of wealth. Today, we are fortunate to have a more nuanced interpretation of this view as many economists and social scientist from across a wide spectrum of disciplines have found evidence to the contrary. The recent selection of Nobel laureates for 2010[216] is a clear indication of the value today's society places on understanding the choices people make from an institutional and behavioural perspective. Equally, society is placing greater pressure on social policy-makers to follow up on this deeper-level understanding and to address the complexities of poverty using creative inter-disciplinary ideas. It is the interdisciplinary nature of the field of social policy, which reaches out to encompass traditional economics,

[216] Nobel Laureates in Economics for 2010 included Oliver Williamson and Elinor Ostrom.

institutional economics, behavioural economics, sociology, anthropology, and history, that supports the logic behind social policy's participatory methods in research and development and its asset-based conceptualisation of what it takes to sustain a person's livelihood. Social policy is a critical component to improving the water sector reform process, particularly (although not exclusively) where there is potential for partnership creation with the private sector.

8.4 Final Thoughts

> *[Institutions] are those "humanly devised constraints that structure political, economic and social interaction.*[217]

In the case of Bolivia we observed a struggle by the indigenous poor to reclaim their indigenous heritage and to demand a new social ethic from its governance framework. The conflict over the treatment of water provision was the medium used to rally a largely heterogeneous group of people around a common cause, using private foreign agents an easy scapegoat for dissatisfaction. Irrespective of how Bolivian water utilities will fare in the future, the process of conflict promoted democratic discourse and provided the impetus to empower Bolivia's social movements and to realign Bolivia's largely unrepresentative democratic institutions. However, questions remain as to the impact that this will have on the future of service delivery. By defining the plight of the urban poor within the protective confines of their indigenous heritage, Bolivian leaders may now have backed themselves into a corner on the issue of PSP, and this will make it extremely difficult for leaders to come up with innovative solutions to meet the growing demands for clean water and sanitation. The false dichotomy between the public and the private must be eliminated if we are to see any significant change in the provision of water and sanitation to the world's poor.

In the case of Bolivia, we witnessed the extraordinary power that the public-private debate can have in destabilising the fine balance of a political economy. Today, every sector of the Bolivian economy is back in the hands of the government, and this is because the current government assumes that there is an inherent opposition between capitalist

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[217] Oliver North (1991).

market incentives and democratic demands for social justice. The consequences of the backlash against the liberal reforms of the 1990s have revealed themselves in a variety of ways far beyond water sector policy. President Evo Morales (now serving his second term after winning 63 per cent of the popular vote) has agreed to build an economic union to improve Bolivia's bargaining power with the USA, Europe, and China. Rejecting the US plan for a free-trade agreement of the Americas, the governments of Venezuela, Bolivia, Nicaragua, and Cuba have created a "People's Free Trade Agreement'' to exchange goods and services. This new coalition of countries has embraced the president of Iran, Mahmoud Ahmadinejad, who pledged aid and trade as part of a goodwill tour of Latin America in 2008 and again in 2009.[218] Ahmadinejad signed an agreement with Morales committing Iran to help the Andean country do research on exploiting lithium, the lightweight metal used in batteries for electric cars and other items (Bolivia possesses half the world's known lithium reserves). Morales and Ahmadinejad also signed a joint declaration supporting the right of all nations to the use and development of nuclear energy for peaceful means; Hugo Chavez, who also hopes to start a nuclear energy program, shares this stance.

Only time will tell whether this extreme reaction against the liberal reforms of the 1990s will be worthwhile, but it would be interesting to go back and conduct a similar survey of the same communities in El Alto to gain an understanding of their current levels of satisfaction and their retrospective views on PSP. Six years ago the government reclaimed ownership and operation of the water utility; when the initial phase of this research was carried out it had been five years since the utility had operated under the AISA concession. It is clear that Bolivia's water movements put in place a social and political process that has profoundly affected the course of the country socio-political and economic activity over the last 10 years, forcing policy-makers at the sub-national, national and international-level to explore new models for the distribution and management of water, taking on board more thoughtful consideration of the informal institutional environment. The establishment of a Ministry of Water in 2006 signified a formal institutional shift giving the provision of clean and affordable drinking water, sanitation services and water resources management greater political recognition. Three

[218] *Chicago Tribune*, 25 November 2009.

years later, on January 25, 2009, Article 373 of the new Political Constitution of the State was passed, clearly defining water as a "basic fundamental right for life" for all Bolivian citizens. The new constitution outlined the prominent role the State should play in the management of water: "the State has an obligation to manage, protect and plan the adequate and sustainable use of the water resources, with social participation, guaranteeing access to water to all its inhabitants" (Article 374). In addition, it states that, "the water resources [….] cannot be subject to private appropriations, the water as well as the services, according to the law" (Article 373). What is interesting about the new constitution is that while it makes clear that there is no possibility of Bolivia's water resources to be fully privatised under a full-divestiture model, there appears to be more openness to the private sector when it comes to water service provision. Article 309, which regulates the economic organisation of the State, stipulates that the state public enterprises, within their different objectives, will have to "administer the basic services of potable water and sewerage, directly or through public, community, cooperative or mixed enterprises" (Article 309). The Constitution has therefore left open a possibility for the "public-private partnerships" and other mixed enterprise modalities, such as social enterprises for water services and varied forms of cooperatives.

There are cities across the developing world that experimented with various forms of PPP arrangements to meet their water needs; many of these utilities have since returned to public ownership/management models. In light of this, it might be equally interesting as a second phase to conduct a broader cross-country comparative assessment of consumer perception of private sector and overall levels of satisfaction. It would also be particularly interesting to learn whether these public models have maintained any of the commercial features of their former identity. Acquiring transaction cost data in order to compare the cost of regulating PPP arrangements with the costs of regulating public utilities would be useful for addressing transaction cost issues more generally. While regulation of PPPs helped shine a spotlight on the significance of transaction costs in monitoring contractual compliance, this was partly due to the fact that privately operated firms were obliged to be more transparent. The degree to which public utilities continue to adhere to these regulatory requests would deepen our understanding of the transaction costs of regulating public utilities.

The systemic barriers to water sector reform continue to constrain the space for partnership innovation and flexibility in the provision of water and sanitation, debilitating the possibilities for future collaboration between civil society, government, and the private sector. In everyday practice, social policy-makers are well-positioned to (i) create peace within the informal institutional environment in the treatment of water as a commodity; (ii) help create mechanisms that reduce transaction costs by improving information flow, particularly information directly related to the mismatch between supply and demand; (iii) build-in more complex provisions in contracts (be they public/private) that better protect vulnerable households; (iv) design campaigns that raise awareness around hygiene, saving, billing, and maintenance; (v) support communication strategies that promote multi-directional dialogue between stakeholders; (vi) devise tariff schemes that match not only the ability of users to pay for services, but also their willingness to pay (which should invariably adjust/increase in accordance with improvements in education around water and sanitation); (vii) determine the ways in which out-put based grants might be best targeted towards households with greatest need; and, last but not least (vii) make a concerted effort to break down the false dichotomy that exists between the public and the private sphere.

Bibliography

Abdala, M. A. (1997) *Welfare Effects of Buenos Aires' Water and Sewerage Services Privatization* Washington, DC: World Bank.

Abercrombie, T. (1986) *The Politics of Sacrifice: An Aymara Cosmology in Action*, Chicago: Chicago University Press

Abercrombie, T. (1991) To be Indian, to be Bolivian in Nation-States and Indians in Latin America. In G. Urban and J. Sherzer (ed.) Austin: University of Texas Press.

Adegoke, T., Bos, A., Figueres, C. and Graas, S. (2007) *Partnerships in the Water and Sanitation Sector* Thematic Overview Paper 18, IRC International Water and Sanitation Centre.

Adger, P. A. (2006) *Fairness in Adaptation to Climate Change,* Cambridge: MIT Press.

Adler, P. and Kwon, S. (2002) 'Social Capital: Prospects for a new concept', *Academy of Management Review*, vol 27: pp. 17-33.

Agar, M. (1991) The Right Brain Strikes Back in Using Computers in Qualitative Research. N. Fielding and R. Lee. Newbury Park, Sage Publications.

Aguas de Illimani, (1998) Informe Anual, La Paz: Bolivia.

Ahmed, N. and Sohail, M (2004) 'Stakeholders' response to the private sector participation of water supply utility in Karachi, Pakistan', Water Policy vol. 6, pp. 229-247.

Ajward, M. a. W., Q. (2000) *Bolivia Poverty Assessment* Washington DC: World Bank.

Akerlof, G. (1970)'The Market for Lemons: Quality Uncertainty and the Market Mechanism', *The Quarterly Journal of Economics.* vol. 84 (93): 488-500

Albarracin-Jordan, J. (1996) 'Tiwanaku settlement system: the Integration of nested hierarchies in the Lower Tiwanaku Valley', *Latin American Antiquity*, vol. 7 (3): 183-210.

Albo, X. (1972) 'Dinamica en la estructura intercomunitaria de Jesus de Machaca', *America Indigena,* vol. 32 (3), pp. 773-816.

Albo, X. (1994) 'And from Kataristas to MNRistas? The surprising and bold alliance between Aymaras and neoliberals in Bolivia' in Van Cott, D. (ed) *Indigenous Peoples and Democracy in Latin America,* New York: St Martin's Press.

Albu, M. and Nijiru, C. (2002) "The role of small-scale independent water providers in urban areas." Waterlines International Journal of Appropriate Technologies for Water Supply and Sanitation. vol. 20(3).

Alcazar, L., Manuel, A., and Shirley, M. (2002) "The Buenos Aires Water Concession." World Bank Policy Research Working Paper No. 2311 (The Economics and Politics of Urban Water System Reform): 65-102.

Alencastre, G. A. a. G. D. (1953) 'Fetes et usages des indiens de Langui', *Journal de la Societe des Americanistes,* vol. T.XLII: 1-118.

Alexander, I. a. E., A. (1999) 'The Role of Regulatory Reform and Growth: Lessons from Latin America', TIPS Annual Forum (mimeo), World Bank.

Alexander, I. a. I., T. (1996) 'Price Caps, Rate of Return Regulation and the Cost of Capital', *Public Policy for the Private Sector*, World Bank, pp. 25-28.

Alla, P. M. J. D. M. (1996) 'Sydney Water's PPP', *Journal of the American Water Works Association*, vol. 88 (4), pp. 108-115.

Allen, C. (1988) *The Hold Life Has: Coca and Cultural Identity in an Andean Community*, Washington DC: Smithsonian Institution Press.

Allen, D. W. (1991) 'What Are Transaction Costs', *Research in Law and Economics,* vol. 14: pp. 1-18.

Altaf, M. A. (1996) 'The economics of household response to inadequate water supplies: evidence from Pakistan', *Third World Planning Review,* vol. 16 (1), pp. 41-53.

Ambert, J. C. (1995) *The concession approach to urban water supply and sanitation in the context of the RDP, Seminar – conditions of contract for design-build and turnkey projects, process plants and BOT contracts*, South Africa: Lyonnaise des Eaux.

Anderson, E. J., S.D. (2005)'The Dark Side of Close Relationships', *MIT Sloan Management Review*, vol. 46(3), pp. 75-82.

Andres, F. a. G. (2006) *The Impact of Privatization on the Performance of the Infrastructure Sector: The Case of Electricity Distribution in Latin American Countries*, World Bank Policy Research Working Paper: No. 3936.

Annamraju, S. C., B. and Gutierrez, E. (2001) *Financing water and sanitation: Key issues in increasing resources to the sector*, London: Water Aid.

Annan, K. A. (1998) 'The United Nations and the private sector: a new era', *Natural Resources Forum*, vol. 22(2): 73-74.

Aoki, M. (2001) *Toward a comparative institutional analysis*, Cambridge: MIT Press.

Arkush, E. a. S., Charles (2005) 'Interpreting Conflict in the Ancient Andes', *Current Anthropology*, vol. 46 (1): 13-26.

Armstrong, M. C., S. and Vickers, J. (1994) *Regulatory Reform: Economic Analysis and British Experience*, Cambridge Mass.: MIT Press.

Arnould, E. J. a. T., C.J. (2005) 'Consumer Culture Theory (CCT): Twenty Years of Research', *Journal of Consumer Research*, vol. 31(4), pp. 868-882.

Arrow, K. (1963) *Social Choice and Individual Values,* Yale: Yale University Press.

Arrow, K. (1974), *The Limits of Organization,* New York, Norton.

Arrow, K. (1984) *Collected Papers Vol. 3: Individual Choice under Certainty and Uncertainty,* Cambridge, Mass.: Belknap Press.

Arroyo Moreno, J. (1996) 'Experiences in privatizing public sector environmental services in Peru', *Small Enterprise Development: an International Journal*, vol. 7(3), pp. 37-42.

Artana, D., F. Navajas & S. Urbiztondo (1997) *Argentina: la regulacion econ*o*mica en las concesiones de agua potable y desagues cloacales en Buenos Aires y Corrientes*, Working Paper: Inter-American Development Bank.

Averch, H. a. J., L.L. (1962) 'Behavior of the Firm under Regulatory Constraint', *American Economic Review*, vol. 52, pp. 1052-1069.

Baer, M. (2008) 'Global Water Crisis, Privatization and Bolivian Water War', in Whiteley, J., Ingram, H. and Perry R.W. (eds.) *Water, Place and Equity*, Cambridge, Mass.: MIT Press.

Baker, B. a. T., Sophie (2000). Microinfrastructure: Regulators Must Take Small Operators Seriously. Private Sector and Infrastructure Note. 220, World Bank Group.

Baldivia, J. (1998) 'La Capitalizacion', in *Las Reformas Estructurales en Bolivia*, La Paz: Fundacion Milenio.

Bandaragoda, D. J. a. F., G.R. (1992) *Institutional factors affecting irrigation performance in Pakistan: Research and policy priorities*, Colombo: International Irrigation Management Institute.

Bandelier, A. (1911) 'The ruins at Tiahuanaco', *Proceedings of the American Antiquarian Society*, vol. 21, pp. 218-265.

Barbery, N., Inel, B, Noel, M. (1998) *Reforming the Legal, Regulatory and Supervisory Framework for Borrowing by Subnational Entities (mimeo*) World Bank.

Barbery, N. (1998) *How to Reform the Legal, Regulatory and Supervisory Framework for Sub-sovereign Finance in Bolivia* (mimeo), Washington, DC: World Bank.

Barbery, N. (1999) *Implementation Completition Report (ICR): Bolivia Pension and Financial Sector Reform, Technical Assistance Loan Evaluation*, Washington, DC: World Bank.

Barbery, N. (2003) *Multi-sector Partnerships: Case Study on Cartagena Water and Sanitation Services*, London: Building Partners for Development.

Barja, G. (2000) *Las Leyes Sectoriales y el Sistema de Regulacion Sectorial. in Las Reformas Estructurales en Bolivia*, Tomo II. La Paz: Bolivia Fundacion Milenio.

Barlow, M. a. C., Tony (2002) *Blue Gold: The Fight to Stop the Corporate Theft of the World's Water*, New York: New Press.

Barragan, J., C. Crespo, G, *Donoso, J. Jairo (1998) Mercados e Instituciones de Aguas en Bolivia*, La Paz: Bolivia, Unidad de Analisis de Politicas Sociales y Economicas.

Bartram, J. a. H., G. (2008) *Regional and Global Costs of Attaining the Water Supply and Sanitation Target (Target 10) of the Millennium Development Goals. Public Health and the Environment 2008*, Geneva: WHO.

Barzel, Y. (1985). "Transaction Costs: Are They Just Costs? ." Journal of Institutional and Theoretical Economics, vol. 4 (16).

Basanas, F. Uribe, E. and Willig, R. (1999) *Can privatization deliver?* Infrastructure for Latin America: Inter-American Development Bank.

Batchelor, J. A. B., C.M. (1994) 'Subject, Project or Self? Thoughts on Ethical Dilemmas for Social and Medical Researchers', *Social Science & Medicine*, vol. 39(7), pp. 949-954.

Batley, R. (1994) *Managing Growing Cities: Public and Private Services*, University of Birmingham: International Development Department.

Batley, R. (2006) 'Engaged or Divorced? Cross-service findings on government relations with non-state service providers', *Public Administration and Development,* vol. 26(3), pp. 241-251.

Batley, R. A. (1996) 'Public private relationships and performance in service provision', *Urban Studies,* vol. 33(4-5), pp. 723-751.

Batley, R. A. (1997) *Partnerships in Urban service provision: are they working?* Birmingham Development Research Reporting Service: University of Birmingham.

Batley, R. A. a. L. G. A. (2004) *The Changing Role of Government: The Reform of Public Services in Developing Countries*, Basingstoke: Palgrave.

Battacharya, A. P. and Raffiee, K. (1994) 'An Examination of the Effect of Ownership on the Relative Efficiency of Public and Private Water Utilities', *Land Economics*, vol. 70(2), pp. 197-209.

Bayliss, K. (2000) "The World Bank and Privatisation: a flawed development tool, mimeo." PSIRU London: University of Greenwich.

Bayliss, K. a. H., D. (2001) *Can Risk really be transferred to the private sector? A Review of experiences with utility privatisation*, University of Greenwich: PSIRU.

Beal, J., Crankshaw, O. and Parnell, S. (2000) 'Victims, villains and fixers: the urban environment and Johannesburg's poor', *Journal of Southern African Studies*, vol. 26(4), pp. 833-855.

Becker, G. (1962) 'Investment in Human Capital: A Theoretical Analysis', *Journal of Political Economy*, vol. 70, pp. 9-49

Becker, G. (1993) 'The Economic Way of Looking at Behavior', *Journal of Political Economy*, vol. 101 (3), pp. 385-409.

Becker, G. (2000) *Social Economics: Market Behavior in a Social Environment*, Belknap: Harvard University Press.

Beltran, E. (2003) 'Mujeres del Valle de Cochabamba: Agua, Privatizacion y Conflicto', Global Issues Papers No. 4, Berlin: Heinrich Boll.

Ben-Ner, A. (1994) *Who Benefits from the Non-profit Sector*? Reforming Law and Public Policy Towards Non-profit Organizations. *Yale Law Journal,* vol. 104 (3), pp. 731-762.

Benham, A. and Benham, L. (2000) 'Measuring the Costs of Exchange', In Menard, C. (ed.) *Institutions, Contracts and Organizations: Perspectives from New Institutional Economics*. Cheltenham, UK, Edward Elgar, pp. 367-375.

Bennet, A. (1998) 'Sustainable Public/Private Partnerships for Public Service Delivery', *Natural Resources Forum,* vol. 22 (3), pp. 193-199.

Bennett, E. (1998) *Public-Private Co-operation in the Delivery of Urban Infrastructure Services. PPPUE Background Papers*, UNDP/Yale Collaborative Program.

Berg, S. a. H., L. (2002). "Strategies for private participation: matching vision with performance." Water Utility 21 June (4.3): pp. 49-51.

Besley, T. and Burgess, R. (2002) 'The Political Economy of Government Responsiveness', *Quarterly Journal of Economics*, vol. 117(4), pp. 1415-1451.

Besley, T. and Ghatak, M. (2001) 'Government Versus Private Ownership of Public Goods', *Quarterly Journal of Economics*, vol. 1boel16(4), p. 1343.

Besley, T. and Ghatak, M. (2003) 'Incentives, Choice and Accountability in Public Service Provision', *Oxford Review of Economic Policy,* vol. 19(2), pp. 235-249.

Bhattacharyya, A., E. Parker, K. Raffiee (1994) 'An examination of the effect of ownership on the relative efficiency of public and private water utilities', *Land Economics*, vol. 70(2), pp. 197-209.

Bianchi, R. (2003) *La Experencia de Aguas de Illimami S.A. Financiamiento de los Servicios de Agua y Saneamiento: Opciones y Condiciones*, Washington DC: Inter-American Development Bank.

Blanc A. and Ghesquieres, C. (2006) *Decentralisation et politique de l'eau gratuite en Afrique du Sud: quelle place pour le secteur prive?* Paris: Agence francaise de developpement. No 29.

Blockland, M., O. Braadbaart & K. Schwartz (1999)' Private Business, Public Owners: Government Shareholdings', in Water Enterprises: Netherlands Ministry of Housing.

Boelens, R. (2003) *Local rights and legal recognition: The struggle for indigenous water rights and the cultural politics of participation*, Japan: Third World Water Forum.

Boelens, R. and Davila, G. (1998) *Buscando equidad. Concepciones sobre justicia y equidad en el riego campesino*, The Netherlands: Royal Van Gorcum.

Boelens, R. and Hoogendam, P. (2002) *Water Rights and Empowerment,* The Netherlands: Van Gorcum.

Boelens, R. and Zwarteveen, M. (2003a) 'The politics of Andean water policy reforms: Local and indigenous rights in the context of privatization policies', *Austrian Journal of Development Studies* vol. 19(4), pp. 56-76.

Boelens, R. and Zwarteveen, M. (2003b) *Water, gender and "Andeanity": Conflict or harmony? Gender dimensions of water rights in diverging regimes of representation.* In *Imaging the Andes: Shifting margins of a marginal world*, T. Salman, Zoomers, A. (eds) Amsterdam: Amsterdam University Press.

Boelens, R., Dourojeanni, A. and Hoogendam, P. (2005) *Improving Water Allocations For User Communities in the Andes. Water Rights Reform: Lessons for Institutional Design*, Bruns, B. R. Ringler, C., Meinzen-DIck, R., Washington, DC: International Food Policy Research Institute (IFPRI).

Boje, D. (2001) *Narrative Methods for Organizational and Communication Research*, London: Sage Publications.

Boland, J. and Whittington, D. (2003) 'The Political Economy of Water Tariff Design in Developing Countries: Increasing Block Tariffs versus Uniform Price with Rebate', in Dinar, A. (ed) *The Political Economy of Water Pricing Reforms*, Washington, DC: Oxford University Press & The World Bank.

Bolivia, C. R. S. (2008) *CIVICUS: Civil Society Index Report for Bolivia*, La Paz: Bolivia.

Bourdieu, P. (1999) *Weight of the World: Social Suffering in Contemporary Society*, Stanford: Stanford University Press.

Bortolotti, B., Fantini, M. and Siniscalco, D. (2004) 'Privatisation around the world: Evidence from panel data', *Journal of Public Economics*, vol. 88(1-2), pp. 305-332.

Bortolotti, B. and Siniscalco, D. (2004) *The Challenges of Privatization: an international analysis*, New York: Oxford University Press.

Bourdieu, P. (1972) *Outline of a Theory of Practice*, Cambridge, UK: Cambridge University Press.

Bowie, N. and Freedman, E. (1992) *Ethics and Agency Theory: An Introduction*, New York, Oxford University Press.

Boycko, M. S., A. and Vishny, R. (1996) 'A Theory of Privatization', *Economic Journal*, vol. 106, pp. 249-266.

Bradach, J. and Eccles, R. (1990) 'Price, Authority and Trust', *American Sociological Review*, vol. 15, pp. 97-118.

Brandes, O. M. and Kriwoken, L. (2006) 'Changing Paradigms: Taking the "Soft Path" to Water Sustainability in the Okanagan Basin', *Canadian Water Resources Journal*, vol. 31(2), pp. 75-90.

Brenner, S. N. and Cochran, P. (1991). ' A Stakeholder theory of the firm: Implications for business and society theory and research', *Proceedings of the International Society for Business and Society*, pp. 449-467.

Brikke, F. and Rojas, J. (2001) *Seven Key Principles for sustainable cost recover in the context of community water supply*, Delft, IRC International Water and Sanitation Centre (Draft: occasional paper).

Brinkerhoff, J. and Brinkerhoff, D. (2002)'Government-Nonprofit Relations in Comparative Perspective: Evolution, Themes and New Directions', *Public Administration and Development*, vol. 22, pp. 3-18.

Brinkherhoff, J. (2002). 'Government-NonProfit Partnership: A Defining Framework', Public Administration and Development', vol. 22(1), pp. 19-30.

Briscoe, J. (1992). "Poverty and Water Supply: How to Move Forward." Finance and Development (December): 16-19.

Briscoe, J. and Gann, H.A. (1995) 'Financing water supply and sanitation under Agenda 21', *Natural Resources Forum*, vol. 19(1), pp. 59-70.

Brook Cowen, P. J. (1997a) *Getting the Private Sector Involved in Water: What to do in the Poorest Countries?* World Banks Public Policy for the Private Sector Note (No. 102), Washington, DC: World Bank.

Brook Cowen, P. J. (1997b) *The private sector in water and sanitation - how to get started*, World Bank Public Policy for the Private Sector Note (No. 126), Washington, DC: World Bank.

Brook Cowen, P. J. and Smith, S.M. (2003) *Contracting for Public Services. Output Based Aid and its Applications*, Washington DC: World Bank and IFC.

Brook, P. J. and Locussol, A. (2001) *Easing Tariff Increases: Financing the Transition to Cost-Covering Water Tariffs in Guinea.* In Smith, S. (ed.) *Contracting for Public Services: Output Based Aid and Its Applications*, Washington, DC: World Bank.

Bruggink, T. H. (1982) 'Public vs. Regulated Public Enterprise in the Municipal Water Industry: A Comparison of Operating Costs', *The Quarterly Journal of Economics and Business*, vol. 22(1), pp. 111-125.

Bruns, B. R. and Meinzen-Dick R.S. (2002) *Negotiating Water Rights* New Delhi and London: Vistar Publications and Intermediate Technology Publications.

Bruns, B. R. and Meinzen-Dick R.S. (2000) *Negotiating Water Rights*, London: ITDG.

Bruns, B. R. and Meinzen-Dick, R. (2005) *Frameworks for Water Rights: An Overview of Institutional Operations. Water Rights Reform: Lessons from Institutional Design*. In Burns, B.R., Ringer, C. and Meinzen-Dick, R. (ed.) Washington, DC: International Food Policy Research Institute.

Brysk, A. (2000) *From Tribal Village to Global Village: Indian Rights and International Relations in Latin America*, California: Stanford University Press.

Buchanan, J. (1962). 'The Relevance of Pareto Optimality', *Journal of Political Economy*, vol. 71, pp. 457-469.

Buchanan, J. (1967) *Public Finance in Democratic Process: Fiscal Institutions and Individual Choice*, North Carolina: North Carolina Press.

Budds, J. (2000) *PPP and the Poor in Water and Sanitation. An interim review of documents*, WEDC: University of Loughborough Press.

Budds, J. and McGranahan, G. (2003). 'Are the debates on water privatization missing the point? Experiences from Africa, Asia and Latin America', *Environment & Urbanization* vol. 15(2), pp. 87-114.

Buiswas, A. (2007). 'Water as Human Right in the MENA region: Challenges and Opportunities', *Water and Resources Development*, vol. 23, pp. 209-225.

Buller, H. (1996) 'Privatisation and Europeanization: The Changing Context of Water Supply in Britain and France', *Journal of Environmental Planning and Management*, vol. 39(4), pp. 461-482.

Bulow, J. and Rogoff, K. (1990) 'Cleaning up Third-World Debt Without Getting Taken to the Cleaners', *Journal of Economic Perspectives*, vol. 4(1), pp. 31-42.

Bulow, J. and Rogoff, K. (2005) 'Grants versus Loans for Development Banks', Paper presented at the American Economic Association Meetings: Philadelphia.

Bunker, S. (1987) 'Ritual, respect and refusal: drinking behaviour in an Andean village' *Human Organization,* vol. 46 (4), pp. 334-342.

Bustamante, R. (2002) 'Legislacion del agua en Bolivia. Working Paper. WALIR/Water Law and Indigenous Rights', United Nations Economic Commission for Latin America and Wageningen University, Cochabamba: Bolivia.

Butter, F. and Mosch, R. (2003) 'Trade, Trust and Transaction Costs', Tinbergen Institute Working Paper No. 2003-082/3, Amsterdam: Vrije University.

Cairncross, S. (1992) 'Sanitation and water supply: practical lessons from the Decade', World Bank Water and Sanitation Discussion Paper 9, Washington, DC: World Bank.

Cairncross, S. J. K. (1992) 'Elasticity of demand for water in Khartoum, Sudan', *Social Science & Medicine,* vol. 34, pp. 183-189.

Calancha, A. C. (1978) *Volume 5 of Crónica Moralizada*, Lima, Peru: Universidad Mayor de San Marcos.

Calderon, F. P., A. and Reyna, L. (1992) 'Social Movements: Actors, Theories, Expectations', in Escobar, E. and Alvarez, S. (ed) *The Making of Social Movements in Latin America: Identity, Strategy and Democracy*, Boulder, CO: Westview Press.

Camdessus, M. (2003) 'Financing Water For All. Report of the World Panel on Financing', Water Infrastructure, World Water Council, Kyoto Japan: 3rd World Water Forum.

Canessa, A. (2000)'Contesting Hybridity: Evangelistas and Kataristas in Highland Bolivia', *Journal of Latin American Studies*, vol. 32(1), pp. 115-144.

Canqui, R. C. (1993) *Sociedad y Economia Colonial en el Sur Andino*, La Paz: Bolivia.

Carrasco, P. (1982) *The Political economy of the Aztec and Inca States.* In Collier, R.I. and Wirth, J.D. (ed.) *The Inca and Aztec States 1400-1800 Anthropology and History,* New York: Academic Press.

Carrera, J., Florio, M., and Checchi, D. (2005) "Privatization Discontent and Its Determinants: Evidence from Latin America." *Journal of Development Studies,* vol. 45(3), pp.333-350.

Castro, M. (2002) Local norms and competition for water in Aymara and Atacama communities, Northern Chile. In Boelens, R. and Hoogendam (ed.) Water Rights and Empowerment. The Netherlands: Van Gorcum.

Catholic Relief Services (2008) *Civil Society index (CSI) Bolivia*, La Paz, Bolivia: Catholic Relief Services.

Chacon, R. and Guandinango, A. (2003). Blood for the earth: The Inti Raimi festival among the Cotacachi and Otavalo Indians of highland Ecuador. Paper presented at the annual meeting of the American Anthropological Association, Chicago.

Challen, R. (2000) *Institutions, Transaction Costs and Environmental Policy: Institutional Reform for Water Resources*, In Oates, W. and Folmer, H. (ed.) New Horizons in Environmental Economics Cheltenham: Edward Elgar Publishing.

Chambliss, R. a. S., R.K. (2009) *Making Sense of the Social World: Methods of Investigation*, CA: Pine Forge Press.

Chanda, M. (2000) *Regulating the Water and Sanitation Sector in Zambia,* Lusaka, Zambia: National Water Supply and Sanitation Council.

Chang, Y. T., C.H. Leong & H.G. Lee (1997) *State/private sector relationships in a changing context: Malaysia, Public sector management reform in the Asia-Pacific Region*, UN-DESA for UNDP Regional Bureau for Asia and the Pacific.

Charmaz, K. (2006) *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis,* Thousand Oaks, CA: Sage Publications.

Chary, S. (2002) Public private community partnerships in water supply and sanitation: Sulabh, India. Beyond Boundaries. In Weitz, A. and Franceys, R. (ed.) Manila: Asian Development Bank.

Cheema, G. S. (1988) *Services for the urban poor: policy responses in developing countries.* In Cheema, G.S. (ed.) *Urban Services in developing countries: public and private roles in urban development,* London: Macmillan.

Chillemi, O. a. G., B. (1990) 'Uninformed Customers and Non-profit Organisations: Modelling Contract Failure Theory,' *Economic Letters,* vol. 35, pp. 5-8.

Chong, A. and Lopez-de-Silanes, F. (2003) *The Truth about Privatization in Latin America*, Yale School of Management Working Papers No.: R-486, Yale University.

Chua, A. (1995) 'The Privatization-Nationalization Cycle: the Link between Markets and Ethnicity in Developing Countries', *Columbia Law Review,* vol. 95 (2), pp. 223-303.

Clarke, G. R. G., Kosec, K. and Wallsten, S. (2004) *Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America*', World Bank Policy Research Working Paper No. 158 3445.

Coase, R. (1937) 'Nature of the Firm', *Economica,* vol. 4, pp. 386-405.

Coase, R. (1960) 'The Problem of Social Cost', *Journal of Law and Economics*, vol. 15, pp. 1-44.

Cobo, B. (1979 (1653)) *History of the Inca Empire*, Austin: University of Texas Press.

Coleman, J. (1988) 'Social Capital in the Creation of Human Capital', *The American Journal of Sociology*, vol. 94 Supplement: Organizations ad Institutions: Sociological and Economic Approaches to the Analysis of Social Structure, pp. S95-S120.

Coleman, J. (1990) *Foundations of Social Theory*, Cambridge, MA: Harvard University Press.

Coleman, J. (1993) 'A Rational Choice Perspective on Economic Sociology', Swedberg, R. and Smelser, N.J. (ed.) in *The Handbook of Economic Sociology*, Princeton: Princeton University Press.

Collignon, B. (2002) 'Urban Water Supply Innovations in Cote D'ivoire: How Cross-Subsidies Help the Poor', World Bank Water and Sanitation Discussion Paper, Nairobi, Kenya: World Bank.

Collignon, B. and Vezina, M. (2000) 'Independent Water and Sanitation Providers in African Cities: Full Report of a Ten Country Study, mimeo', UNDP Water and Sanitation Program, Washington, DC: UNDP.

Collingon, B. and Vecina, M. (2000) 'Independent water and sanitation providers in African Cities, Full report of 10-Country Study, Water and Sanitation Program', Hydroconseil and IRC.

Collins, P. (2000) 'State, Market and Civil Society: Toward Partnership?' in Collins, P (ed.) *Applying Public Administration in Development: Guideposts to the Future*, Chichester: Wiley.

Concession contract for use of water, public potable water and sewer service in the city of Cochabamba (2000), London: International Water.

Constitution of Bolivia (1994), La Paz, Gaceta Oficial de Bolivia.

Cotton, A. P., Sohail, M. and Tayler, W.K. (1998) *Community Initiatives in Urban Infrastructure*, UK, WEDC: Loughborough University.

Council, N. R. (2002) *Privatization of Water Services in the United States: An Assessment of Issues and Experience*, Washington, DC: National Academy Press.

Crabtree, J. (2005) *Patters of Protest: Politics and Social Movements in Bolivia*, Austin: Latin America Bureau.

Crabtree, J. (2008) *Bolivia Past and Present* Pittsburgh: University of Pittsburgh Press.

Crane, R. (1994) 'Water Markets, Market Reform, and the Urban Poor: Results from Jakarta, Indonesia', *World Development,* vol. 22(1), pp. 71-83.

Crespo, C. F. (2002) 'Water Privatization Policies and Conflicts in Bolivia: The Water War in Cochabamba 1999-2000', Oxford Brooks University: PhD Thesis.

Creswell, J. (1994) *Research design: Qualitative and Quantitative Approaches*, London: Sage.

Creswell, J. (1998) *Qualitative Inquiry and Research Design Choosing Among Five Traditions*, Thousand Oaks, CA: Sage Publications.

Creswell, J. (2007) *Qualitative Inquiry and Research Design: Choosing Among the Five Approaches (2nd ed.)*, Thousand Oaks, CA: Sage Publications.

Crosslin, R. L. (1991) 'Decision-support methodology for planning and evaluating PPPs', *Journal of Urban Planning and Development*, vol. 117, pp. 15-31.

Cusicanqui, V. O. (2004) *Tiwanaku Embrion Geopolitico de los Andes*, La Paz: Bolivia, C&C Impresiones.

D'Altroy, T. N. (1992) *Provincial Power in the Inka Empire*, Washington, DC: Smithsonian Institutional Press.

D'Altroy, T. N. (2002) *The Incas*, Malden, MA: Blackwell.

D'Altroy, T.N. (1992) *Provincial Power in the Inka Empire*, Washington, DC: Smithsonian Institution Press.

Dahlman, C. J. (1979) 'The Problem of Externality', *Journal of Laws and Economics,* vol. 22, pp. 141-162.

Dangle, B. (2007) *The Price of Fire: Resource Wars and Social Movements in Bolivia.* Oakland, CA: AK Press.

Dangle, B. (2010) *Dancing with Dynamite: Social Movements and States in Latin America, Oakland, CA:* AK Press

Danks, J. J. (1998) 'Public/private partnerships: breaking new ground' Public Works Journal Corporation, vol. 129 (10), pp. 46-50.

Dasgupta, P. S. and Heal, G.M. (1979) *Economic Theory of Exhaustible Resources*, Cambridge, UK: Cambridge University Press.

David, C. and Inocencio, A. (1996). Understanding Household Demand and Supply of Water: The Metro Manila Case. Policy Notes, No. 96-04. Manila: Philippine Institute for Development Studies.

De Soto, H. (1989) *The Other Path*, New York: Harper and Row.

Deetz, S. (1996) 'Describing differences in approaches to organization science', *Organization Science*, vol. 7(2), pp. 191-207.

Demsetz, H. (1967) 'Toward a theory of property rights', *American Economic Review*, vol. 57, pp. 347-359.

Demsetz, H and Alchian, A.A.. (1972) 'Production, information costs, and economic organization', *American Economic Review*, vol. 62, pp. 695-777.

Demsetz, H. (1974) 'Two systems of belief about monopoly'. In Goldschmid, H. (ed.) Industrial Concentration: The New Learning, Boston, Little Brown.

Demsetz, H. (1997) 'The Firm in Economic Theory: A Quiet Revolution', *American Economic Review*, vol. 87, pp. 426-429.

Denzin, N. K. and Lincoln, Y.S. (1994) *Handbook of Qualitative Research,* Newbury Park, CA: Sage.

United States, Department of State (2005) *Doing Business in Bolivia: A Country Commercial Guide for U.S. Companies*. Washington, DC.

Dethier, J.-J. (2000) *Remarks on Fiscal Decentralization and Governance*. Paper presented at the Conference on Decentralization. Jakarta, Indonesia.

Devas, N. (1996) 'Reshaping government at the local level in Cambodia: with an example of urban water supply in Battambang', *Public Administration and Development,* vol. 16 (1) pp. 31-41.

Dewatripont, M. and Maskin, E. (1995) 'Credit and Efficiency in Centralized and Decentralized Economies', *The Review of Economic Studies*, vol. 62(4) pp. 541-555.

Diaz, J. (2003) *La Participacion del Sector Privado en Los Servicios de Agua y Saneamiento en San Pedro Sula, Honduras*, Washinhton DC: Inter-American Development Bank.

Dinar, A. (2000) *The Political Economy of Water Pricing Reforms*, New York: Oxford University Press.

Dinar, A. and Saleth, M.R. (2004) *The Institutional Economics of Water: A Cross Country Analysis of Institutions and Performance*, Northampton, Mass.: Edward Elgar and The World Bank.

Donahue, J. (1991) *The Privatization Decision: Public Ends, Private Means*, New York: Basic Books.

Donaldson, T. (1982) *Corporations and Morality*, Englewood Cliffs, NJ: Prentice Hall.

Donaldson, T. and Dunfee, T. (1999) *Ties That Bind: A Social Contracts Approach to Business Ethics*, Cambridge, MA: Harvard University Press.

Drakeford, M. (1998) 'Water Regulation and Pre-Payment Meters,' *Journal of Law and Society*, vol. 25 (4) pp. 558-602.

Dudkin, G. and Valila, T. (2005) 'Transaction Cost in PPP: A First Look at the Evidence', EIB Economic and Financial Report 2005/03.

Duffy, M. (1987) 'Methodological triangulation: a vehicle for merging qualitative and quantitative research?', *The Journal of Nursing Scholarship*, vol. 10(2), pp. 128-137.

Easter, K. W and Hearne, R. (1995). 'Markets and decentralised water resources management: international problems and opportunities', *Water Resources Bulletin*, vol. 31(1), pp. 9-20.

Eberhard, R. (1993) 'Overview of institution and financial arrangements in water supply and sanitation, Water and Sanitation in urban areas', Financial and Institutional Review Series, Palmer Development Group, Report 1, Water Research Commission.

Edkins, A. and Smyth, H.J. (2006) 'Contractual management in PPP projects: evaluation of legal versus relational contracting for service delivery', *ASCE Journal of Professional Issues in Engineering Education and Practice*, vol. 132(1), pp. 82-93.

Edmunds, D. a. E. W. (2001) 'A strategic approach to multistakeholder negotiations', *Development and Change,* vol. 32, pp. 231-253.

Edwards, M. (1996) 'The Paradox of Civil Society', *Journal of Democracy*, vol 18.

Egan, S. J. (1998) *Rethinking Construction*, London: HMSO.

Eggleston, K. (2008) 'Soft budget constraints and the property rights theory of ownership', *Economics Letters*, vol. 100.

Eisenhardt, K. M. (1989) 'Building theories from case study research', *Academy of Management Review*, vol. 14(4), pp. 532-550.

Ellington, L. (2009) *Engaging Crystalization in Qualitative Research: An Introduction*, Thousand Oaks, CA: Sage Publications.

Emerson, R., Fretz, R., Shaw, L. (1995) *Writing Ethnographic Fieldnotes*, Chicago: University of Chicago Press.

Erickson, C. L. (1988) *An Archaeological Investigation of Raised Field Agriculture in the Lake Titicaca Basin of Peru*, Department of Anthropology. Champaign-Urbana, University of Illinois, unpublished PhD Dissertation.

Escobar, A. a. A., S. (1992) *Identity, Strategy and Democracy*, Boulder, CO: Westview Press.

Esguerra, J. U. (1997) 'The role of government guarantees in privately financed infrastructure projects', UN Interregional Workshop on Development Project Financing. Bangkok, 25-27 June 1997.

Esguerra, J. U. (2002) *The Corporate Muddle of Manila's Water Concessions: How the world's biggest and most successful privatisation turned into a failure*, London: Water Aid.

Estache, A. (1994) 'Making public infrastructure entities commercial', *Finance and Development*, Sept., pp. 22-58.

Estache, A. (2001) 'Utilities privatization and the poor: Lessons and evidence from Latin America', *World Development*, vol. 29(7), pp. 1179-1198.

Estache, A. (2006) *Infrastructure: A Survey of Recent and Upcoming Issues*, Washington, DC: The World Bank.

Estache, A., Goicoechea A. and Trujillo L. (2006) *Have reforms improved infrastructure performance in developing countries?* (mimeo), Washington, DC: The World Bank.

Estache, A. and Kouassi, E. (2002) 'Sector organisation, Governance and the Inefficiency of African Water Utilities', World Bank Policy Research Working Paper, Washington, DC: The World Bank.

Estache, A. and Iimi, A. (2008) 'Bidder Asymmetry in Infrastructure Procurement: Are There Any Fringe Bidders? The Policy Research Working Paper Series', Washington, DC: The World Bank.

Estache, A. and Rossi, M. (2002) 'How Different is the Efficiency of Public-Private Water Companies in Asia?', *World Bank Economic Review*, vol. 16(1), pp. 139-148.

Evans, B., Kaplan, K. and McMahon, J. (2005) *The Partnership Paperchase: Structuring Partnership Agreements in Water and Sanitation in Low-income Communities*, London: BPD Water and Sanitation.

Faguet, J. P. (2002). "Does Decentralisation increase Responsiveness to Local Needs? Evidence from Bolivia." Journal of Public Economics 1(1): 1-30.

Falk, A. and Kosfeld, K. (2004) 'Distrust - the hidden cost of control', Working Paper, Bonn: University of Bonn and Institute for the Study of Labor.

Fass, S. M. (1993) 'Water and Poverty: Implications for Water Planning', *Water Resources Research*, vol. 29(7), pp. 1975-1981.

Fehr, E. and Falk, A. (2002) 'Psychological foundations of incentives', *European Economic Review*, vol. 46, pp. 687-724.

Fehr, E. and Gachter, S. (1998) 'How effective are trust and reciprocity based incentives?' in Putterman, L. and Ben-New, A. (ed.) *Economics, Values and Organization*, Cambridge: Cambridge University Press.

Fehr, E. and Gachter, S. (2000) 'Cooperation and Punishment in Public Goods Experiments', American Economic Review, vol. 90 (4), pp. 980-994.

Fehr, G. and Kirchsteiger, G. (1997) 'Reciprocity as a Contract Enforcement Device', *Econometrica,* vol. 65(4), pp. 833-860.

Feigenbaum, S. and Teeples, R. (1983) 'Public vs. private water delivery: a hedonic cost approach', *Review of Economics and Statistics*, vol. 65(4), pp. 672-678.

Feldman, M. (1995) *Strategies for Interpreting Qualitative Data*, Thousand Oaks, CA: Sage.

Feldman, R. D. (1993) 'Power and infrastructure privatization in Mexico', *Strategic Planning for Energy and the Environment,* vol. 13(2), pp. 14-16.

Fernandez, R. a. R., D. (1991) 'Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty', *American Economic Review*, vol. 81, pp. 1146-1155.

Fetterman, D. M. (1989) *Ethnography: Step by Step*, Newbury Park, CA: Sage Publications.

Finger, M. a. A., J. (2002) *Water Privatisation: Trans-national Corporations and Re-regulation of the Water Industry*, London and New York: Spon Press.

Finnegan, W. (2002) *Leasing the Rain*, NY: The New Yorker.

Fisher, G. (1980) *International Negotiation: A Cross-Cultural Perspective Yarmouth*, ME: Intercultural Press Inc.

Fiszbein, A. and Lowden, P. (1998). Working Together For Change: government, business and civic partnerships for poverty reduction in Latin America and the Caribbean. WBI Learning Resources Series. Washington, DC, World Bank Institute.

(FOBOMADE), (2005). El Processo de Privatizacion del Agua en Bolivia. La Paz Bolivia.

Fogel, R. (1964) *Railroads and American Economic Growth: Essays in Economic History*, Baltimore, MD: John Hopkins Press.

Fonseca, C. and Cardone, R. (2004) 'Analysis of Cost Estimates and Funding Available for Achieving the Millennium Development Goals Targets for Water and Sanitation', WELL Briefing Note September: pp. 1-7.

Ford, D., Gaddle, L.E. Hakansson, H. and Snehota, I (2003) *Managing Business Relationships*, Chichester: John Wiley & Sons.

Forrest, C. (1999) Water vending in urban areas of developing countries. Unpublished MSc report, WEDC, UK: Loughborough University.

Foster, V. (1999) 'Literature Review for the Regional Studies Project on Privatization and Infrastructure Services for the Urban Poor', Washington, DC: The World Bank.

Foster, V. (2001) 'Condominial Water and Sewerage Systems: Cost of Implementation of the Model', Washington, DC: The World Bank.

Foster, V. (2002). Water and Sewerage Systems, Cost of Implementation of the Model in El Alto-Bolivia. Washington, DC: The World Bank.

Foster, V. and Irusta, O. (2001) *A Tale of Two Cities: Evaluating the Impact of Capitalization Reforms on Poor Households in La Paz and El Alto*, Washington, DC: World Bank Public Private Infrastructure Advisory Facility.

Franceys, R. (1997) 'Private sector participation in the water and sanitation sector', Water resources occasional papers / DFID No. 3. [online] London, UK: http://www.washdoc.info/docsearch/results/?publ=100959

Franceys, R. (2003a) 'Public Private Partnerships in Water', Presentation to the Public Private Partnerships Theme Opening Plenary, Third World Water Forum, Kyoto, Japan, March 2003.

Franceys, R. (2003b) 'Incentives for Utilities to Serve the Urban Poor', Geneva, Switzerland, IMO Working Group, *IHE-UNESCO Delft & Water Supply and Sanitation Collaborative Council*.

Freeman, R. E. (1984) *Strategic Management: A Stakeholder Approach*, Boston: Pitman.

Fukuyama, F. (2004) *State-Building: Governance and World Order in the 21st Century*, Ithica: Cornell.

Furubotn, E. a. R., R. (2000) *Institutions and Economics Theory* Ann Arbor: University of Michigan Press.

Gadamer, H.-G. (1975) *Truth and Method (2nd Edition)*, NT: Crossroad.

Gadamer, H.-G. (1976) *Philosophical Hermeneutics*, Berkley, CA: University of California Press.

Gadamer, H.-G. (1981) *Reason in the Age of Science*, Cambridge, MA: MIT Press.

Galal, A., L. Jones, P. Tandon, and I. Vogelsang (1994) *Welfare Consequences of Selling Public Enterprises: An Empirical Analysis*, New York: Oxford University Press.

Galiani, S. P. Gertler and Schargrodsky, E. (2003) .'Water for Life: The Impact of Privatization on Child Mortality', *Journal of Political Economy*, vol. 113(1), pp. 83-120.

Galliers, R. D. (1991) 'Choosing Appropriate Information Systems Research Approaches: A Revised Taxonomy', in Nissen, H.E. et al. *Information Systems Research: Contemporary Approaches and Emergent Traditions*, Holland: Elsevier Science Publishers.

García Linera, A. (2004) *Sociologia de los movimientos sociales*, La Paz, Bolivia: Oxfam.

Gaynor, C., Jennings, M. (2004) 'Public-Private Partnerships, Infrastructure, Gender and Poverty' Gender and Poverty Report, World Bank (Prepared for World Bank Training Programme on Public-Private Partnerships).

George, J. (1998) 'The Role of Affect in Cross-Cultural Negotiations', *Journal of International Business Studies*, vol. 29, pp. 749-772.

Gephart, R. (1999). *Paradigms and research methods*, [Online], Available: http:www.aom/pace.edu/rmd/1999_RMD_Forum_Paradigms_and_Research_Methods.htm

Gerchunoff, P. and Canovas, G. (1996) *Privatization: The Argentine Experience.* In Glad, W. (ed.) *Bigger Economies, Smaller Governments: Privatization in Latin America*, Boulder, CO: Westview Press.

Getches, D. H. (2006). Indigenous Rights and Interests in Water in the United States and under Constitutional Law. Journal of Environment and Policy University of Colorado, Boulder Vol. 6.

Ghesquieres, B. a. (2006). 'Decentralisation et politique de l'eau gratuite en Afrique du Sud: Quelle place pour le secteur prive?' Working Paper, No 25. Research Department: l'AFD.

Gilbert, A. (2007) 'Water for All: How to combine public management with commercial practice for the benefit of the poor', *Urban Studies,* vol. 44(8), pp. 1559-1579.

Gilbert, M. (1989) *On Social Facts*, Princeton: Princeton University Press.

Gilbert, M. (2006) 'Rationality in Collective Action', *Philosophy of the Social Sciences*, vol. 36(1), pp. 3-17.

Gill, J. and Johnson, P. (2010) *Research Methods for Managers*, London: Sage Publishing.

Glaser, B. a. S., A.L. (1967) *The Discover of Grounded Theory*, New York: Aldine.

Gleick, P., Wolff, G. Chalecki, E. and Reyes, R. (2006) *The New Economy of Water: The Risks and Benefits of Globalization and Privatization of Fresh Water,* Oakland, CA: Pacific Institute,

Gleick, P. C., H and Katz, D. (2006) *The Worlds Water 2006-2007*, Island Press.

Gleick, P. (1999) 'The human right to water,' *Water Policy,* vol. 1(5), pp. 487-503.

Goez, J. P. and Le Compte, M.D. *Ethnography and Qualitative Design in Educational Research*, New York: Academic Press.

Goldblatt, M. (1999) 'Assessing the effective demand for improved water supplies in informal settlements: a willingness to pay survey in Vlakfontein and Finetown, Johannesburg', Geoforum vol. 30(1), pp. 27-41.

Gómez, L. (2004) *El Alto de Pie*, La Paz, Bolivia: Comuna.

Goodale, M. and Sky. P.K. (2000), *A Comparative Study of Land Tenure, Property Boundaries, and Dispute Resolution: Examples from Bolivia and Norway*, LTC Working Paper No: 34, Madison: University of Wisconsin.

Goodwin, C. J. (2009) *Research in Psychology: Methods and Design*, New York: Wiley.

Gorbak, C., M. Lischetti, and C.P. Munoz (1962) 'Batalas rituales de l Tocto de la provinica de Kanas, Lima', *Revista del Museo Nacional*, vol. 3, pp. 245-304.

Graham, J. L. (1983) 'Brazilian, Japanese and American Business Negotiations', *Journal of International Business Studies*, vol. 14, pp. 47-62.

Gray, P. (1997) *Colombia's gradualist approach to private participation in infrastructure World Bank Public Policy for the Private Sector Note no. 113*, LOCATION: PUBLISHER

Grindle, M. (2000) *Audacious Reforms: Institutional Invention and Democracy in Latin America*, Baltimore: Johns Hopkins University Press.

Grootaert, C. and Narayan, D. (2004) 'Local institutions, poverty and household welfare in Bolivia', *World Development*, vol. 32(7), pp. 1179-1198.

Grossman, S. and Hardt, O.D. (1983) 'An Analysis of the principal-agent problem', *Econometrica,* pp. 7-46, pp. 7-46.

Group, P. D. (2000) *PPP and the Poor in Water and Sanitation. Interim Findings. Case Study: Queenstown, South Africa*. WEDC: University of Loughborough, UK.

Guasch, C. (2004) *Granting and Renegotiating Infrastructure Concessions: Doing It Right*, Washington, DC: World Bank.

Guba, E. G. and Lincoln, Y.S. (1985) *Naturalistic Inquiry*, Beverly Hills: Sage.

Guevara-Gil, A., Vera-Davila, P., Urtega-Crovetto and Zambrano, G. (2002). Water legislation and indigenous water management in Peru. In Indigenous Water Rights, Local Water Management and National Legislation WALIR Studies, Wageningen University and UN/CEPAL. Vol 2.

Guevara-Gil, A., Vera-Davila, P., Urtega-Crovetto and Zambrano, G. (2006). 'Official water law versus peasant and indigenous rights in Peru', in Boelens, I. Chiba, M. and Nakashima, D, (eds.) *Water and Indigenous Peoples.* Paris: WALIR-UNESCO.

Guislain, P. (1997) 'The Privatization Challenge: a strategic, legal and institutional analysis of international experience', World Bank.

Guiso, L., Sapienza, P. and Zingales, L. (2006) 'Does Culture Affect Economic Outcomes?', *Journal of Economic Perspectives*, vol. 20(2), pp. 23-48.

Gummesson, E. (2002) *Total Relationship Marketing, 2nd rev*., Oxford: Butterworth-Heinemann.

Guzman Poma de Ayala, F. (1980) *El Primer Nueva Cronica y Buen Gobierno*, Mexico City: Siglo Veintiuno.

Hall, A. (2007) 'The Role of the Public Sector', *The American Prospect*, vol. 18(9).

Hall, A. (2007) 'Social Policies at the World Bank: Paradigms and Challenges', *Global Social Policy,* vol. 7(2), pp. 151-175.

Hall, A. and Midgley, J. (2004) *Social Policy for Development*, London: SAGE Publications.

Hall, D. (1997) 'Restructuring and Privatisation in the Public Utilities-Europe', University of Greenwich: Public Services International Research Unit.

Hall, D. (1999) 'Privatisation, multinationals and corruption', *Development in Practice*, vol. 9(5).

Hall, D. (2001) 'Water in Public Hands', London: PSIRU, University of Greenwich, London.

Hall, D. (2002) 'The Water Multinationals 2002-financial and other problems', University of Greenwich: PSIRU.

Hall, D. and Lobina, E. (2002) 'Water Privatization in Latin America, 2002', London: PSIRU, University of Greenwich.

Hall, D. and Lobina, E. (2007) 'International actors and multinational water company strategies in Europe, 1990-2003', *Utilities Policy*, vol. 15(2), pp. 64-77.

Hall, D. Lobina, E. and De La Motte, R. (2005) 'Making Water Privatisation illegal: new laws in

Hall, D. and Lobinama, E. (2006) *Piped Dreams: The Failure of the Private Sector to Invest in Water Services in Developing Countries,* World Development Movement (contributors), London: Public Services International.

Netherlands and Uruguay', University of Greenwich: Public Services International Research Unit.

Hamel, J., Dufour, S. and Fortin, D. (1993) *Case Study Methods*, Newbury Park, CA: Sage Publications.

Hammersley, M. (1993) *Social Research: Philosophy, Politics and Practice*, London: Sage.

Hapden-Turner, C. and Tropenaars, F. (2000) *Building Cross-Cultural Competence: How to Create Wealth from Conflicting Values*, Princeton: Yale University Press.

Hardin, R. (1971) 'Collective Action As and Agreeable n-Prisoners' Dilemma', *Behavioral Science*, vol. 16(5), pp. 472-481.

Hardin, R. (1982) *Collective Action*, Baltimore: Johns Hopkins University Press.

Hardin, R. (1988) 'Bargaining for Justice', *Social Philosophy and Policy*, vol. 5, pp. 65-74.

Hardoy, A. (2005) 'Governance for water and sanitation services in low-income settlements: experiences with partnership-based management in Moreno, Buenos Aires', *Environment & Urbanization*, vol. 17(1), pp. 183-200.

Harris, O. (1995) 'Ethnic Identity and Market Relations: Indians and Mestizos in the Andes', in Harrid, O. (ed.), *Ethnicity, Markets and Migration in the Andes: At the Crossroads of History and Anthropology*, Durham, N.C.: Duke University Press.

Hart. O.D. and Holmstrom, B. (1987) 'The Theory of Contracts', in Bewley, T.R. (ed.) *Advances in Economic Theory,* Cambridge: Cambridge University Press.

Hartman, R. (1972) 'Otros datos sobre las llamadas *battas rituales*'. *Folklore Americano*, vol. 17, pp. 125-135.

Healy, K. (2001) *Llamas, Weavings and Organic Chocolate: Multicultural Grassroots Development in the Andes and Amazon of Bolivia*, Notre Dame: University of Notre Dame Press.

Hemming, J. (1970) *The Conquest of the Incas*, New York: Brace.

Henning, E., Van Rensburg, W. and Smit, B. (2004) *Finding Your Way in Qualitative Research*, Pretoria: Van Schaik.

Hernany, W. (2000) *La Probreza en Bolivia: Perfiles, Determinantes y Politicas de alivio. 1989-1997*, La Paz, Bolivia: Universidad Catolica Boliviana

Hill, C. W. L. and Jones, T.M. (1992) 'Stakeholder-agency Theory', *Journal of Management Studies*, vol. 29, pp. 131-154.

Hirshausen (2002) 'Efficient Infrastructure Supply for Economic Development in Transition Countries', *Taylor and Francis Journals,* vol. 14(2), pp. 149-167.

Hofstede, G. (1981) 'Culture ad Organizations', *International Studies of Management & Organisation*, vol. 10(4), pp. 15-41.

Holloway, G., Nicholson, C., Delgado, C. Staal, S. and Ehui, S. (2000) 'Agro-industrialization through institutional innovations: Transaction costs, cooperatives and milk-market development in the east African highlands', *Agricultural Economics*, vol. 23, pp. 279-288.

Holmes, T. and Gowrisankran, G. (2000) *Do mergers lead to monopoly in the long run: Results from the dominant firm model*, NBER Working Papers 9151, National Bureau of Economic Research, Inc.

Holstrom, B. and Tirole, J. (1989) 'The theory of the firm', in Willig, R.D., *Handbook of Industrial Organization*, The Netherlands: Elsevier Science Publishers B.V.

Holstrom, B. R. (1979) 'Moral hazard and observability', *Bell Journal of Economics*, Spring, pp. 74-91.

Hukka, J. a. K., T. (2003) 'Refuting the paradigm of water services privatisation', *Natural Resources Forum*, vol. 27, pp. 142-155.

Huntington, S. (1991) *The Third Wave: Democratization in the Late Twentieth Century*, OK: Oklahoma University Press.

Hutton, G. and Bartram, J. (2008). Global costs of attaining the Millennium Development Goal for water supply and sanitation, World Health Organisation (WHO).

Hyslop, J. (1984) *The Inka Road System*, New York: Academic Press.

Idelovitch, E. (1994) 'Private Sector Participation in Water Supply and Sanitation, The Transition from Public to Private Operation: Buenos Aires Case', Washington, DC: The World Bank.

Irwin, T. (1997) 'Price structures, cross-subsidies, and competition in infrastructure', World Bank Public Policy for the Private Sector Note no. 107.

Izko, X. (1992) *La Doble Frontera: Identidad, Politica y Ritual en el Altiplano Central*, La Paz, Bolivia: Hisbol.

Janusek, J. W. (2004) *Identity and Power in the Ancient Andes: Tiwanaku Cities Through Time*, New York: Routledge.

Johnsone, N., Wood, L. and Hearne, R. (1999) 'The Regulation of Private Sector Participation in Urban Water Supply and Sanitation: Realising Social and Environmental Objectives in Developing Countries', D. P. DP99-01, Environmental Economics Programme, IIED.

Johnsone, N. and Wood. L. (2001) *Private Firms and Public Water: Realizing Social and Environmental Objectives in developing Countries*, Northampton, MA: Edward Elgar.

Johnstone, N. and Wood, L. (1999a) *The regulation of private sector Participation in Urban Water and Sanitation: Realising Social and Environmental Objectives in Developing Countries*, London: IIED.

Johnstone, N. and Wood, L. (1999b) *Private sector participation in the water sector*, Washington, DC: OECD and The World Bank.

Jorgensen, D. (1989) *Participant Observation: A Methodology for Human Studies*, Newbury Park, CA: Sage Publications.

Juuti, P.S. and Kato, T. (2005) 'Water, Time and European Cities. History Matters for the Futures', *Natural Resources Forum*, vol. 30(3), pp. 109-119.

Kaletsky, A. (2010) *Capitalism 4.0: The Birth of a New Economy in the Aftermath of Crisis*, New York: Perseus/Public Affairs.

Kaplan, B. (1994) 'Qualitative research methods for evaluating computer information systems', in Anderson, J.G., Aydin, C.E., Jay, S.J. (eds.), *Evaluating Health Care Information Systems: Methods and Applications*, CA: Sage Publications.

Kaplan, I. (2012) 'Does Privatization of Publicly Owned Infrastructure Implicate the Public Trust Doctrine', *Journal of Law and Social Policy*, vol. 7(1).

Kariuki, M. and Schwartz, J. (2005) *Small-Scale Private Service Providers of Water Supply and Electricity: A Review of Incidence, Structure, Pricing, and Operating Characteristics,* World Bank Policy Research Working Paper No. 3727, Washington, DC: The World Bank.

Katz, L. (2005) *Negotiating International Business: The Negotiator's Reference Guide to 50 Countries Around the World*, University of California: Booksurge.

Kayaga, S. (2003) 'Incentives for utilities to serve the urban poor' in Franceys, R. (ed.) *Incentives for Utilities to Serve the Urban Poor*, Institutional and Management Options Working Group, Water Supply and Sanitation Collaborative Council, Geneva.

Kayaga, S and Onek, H.O. (1998) 'Public-Private Partnership: NWSC, Uganda', 24th *WEDC Conference* Sanitation and Water for All: Islamabad, Pakistan.

Keener, S., Manuel, L. and Banerjee, G. (2009) *Provision of Water to the Poor in Africa: Experience with Water Standposts and the Informal Water Sector*, *AICD Working Paper 13*, Washington, DC: The World Bank.

Kempe, A. H. and Schreiber, P. (1997), 'Rural water services benefit from PPP', *Water Supply*, vol. 15(3), pp. 99-111.

Keohane, R. (2001) 'Governance in a Partially Globalized World', *American Political Science Review*, vol. 95(1).

Kerf, M., Gray, D., Irwin, T. Levesque, C. and Taylor, R. (1998) 'Concessions for infrastructure: A guide to their design and award'*, World Bank Technical Paper No. 399*, Washington, DC: The World Bank.

Kerf, M. (2000) *Do State Holding Companies Facilitate Private Participation in the Water Sector? Evidence from Cote D'ivoire, the Gambia, Guinea and Senegal*, Policy Research Working Paper, World Bank, Washington, D.C.

Kessides, I. (2003) 'Infrastructure Regulation: Promises, Perils and Principles', *Regulation2point0,* Working Paper 308, The World Bank.

Kikeri, S., J. Nellis & M. Shirley (1992). 'Privatization: the lessons of experience.' *Policy for the Private Sector,* Note 77.

Kimchi, K. A. and Breitmayer, B.J. (1991) 'Triangulation in qualitative research: issues of conceptual clarity and purpose,' In Morse, J.M. (ed.) *Qualitative Nursing Research: A Contemporary Dialogue.* Newbury Park, CA: Sage Publishing.

Klein, H. S. (2003) *A Concise History of Bolivia*, Cambridge, UK: Cambridge University Press.

Klein, M. and Roger, N. (1995) *Back to the Future: The Potential in Infrastructure Privatization*, (Silver Award Essay) Washington DC: World Bank.

Klein, M. and Roger, N. (1998) 'Bidding for Concessions - The Impact of Contract Design', *Public Policy for the Private Sector Note no. 158,* Washington, DC: The World Bank

Kolata, A. (1996) *Valley of the Spirits: A Journey into the Lost Realm of the Aymara*, New York: Wiley & Sons.

Kolata, A. L. (1993) *Understanding Tiwanaku: Conquest, Colonization and Clientage in the South Central Andes in Latin American Horizons*, Dumbarton Oaks Research Library and Collections: Harvard University Press.

Komives, K. (2001) 'Designing Pro-poor Water and Sewer Concessions: Early Lessons from Bolivia', *Water Policy,* vol. 3(1), pp. 61-79.

Komives, K. and Brook-Cowen, P. J. (1998) 'Expanding Water and Sanitation Services to Low-Income Households: the Case of the La Paz/El Alto Concession.' *World Bank Policy Research Working Paper No. 158,* Washington, DC: The World Bank.

Kornai, J. (2000). 'Ten Years after 'The Road to a Free Economy': The Authors' Self Evaluation. *Paper for the World Bank's Annual Bank Conference on Development Economics*. Washington, DC: The World Bank.

Kornai, J. and Roland, G. (2002) 'Understanding the Soft Budget Constraints'*, Discussion Paper*, Berkley: University of California.

Kozinets, R. (2002) 'Can Consumers Escape the Market? Emancipatory Illuminations from Burning Man', *Journal of Consumer Research,* vol. 29(1), pp. 20-38.

Krefting, L. (1991)'Rigor in Qualitative Research: The Assessment of Trustworthiness', *The American Journal of Occupational Therapy* vol. 45 (3), pp. 214-222.

Kreps, D. (1990) *Game Theory and Economic Modelling*, New York: Oxford University Press.

Kruegar, R. A. (1988) *Focus Groups: A Practical Guide for Applied Research*, Newbury Park: CA, Sage Publications.

Kvale, S. (1996) *Interviews: An Introduction to Qualitative Research Interviewing*, CA: Sage Publications.

Kwok, S. C. L., H. and O'Callaghan, P. (2009) *Water Technology Markets: Key Opportunities and Trends. G. W. Intelligence,* UK: Global Water Intelligence.

Labonne, B. (1998) *Public-private partnerships in natural resources management*, *Natural Resources Forum*, vol. 22, pp. 75-76.

Laffont, J. and Martimort, D. (1999) 'Separation of Regulators Against Collusive Behavior', *RAND Journal of Economics*, RAND Corporation vol. 30(2), pp. 232-262.

Laffont, J. and Martimort, D. (2001) *The Theory of Incentives: The Principal-Agent Model,* Princeton: Princeton University Press.

Laffont, J. (2005) *Regulations and Development*, Cambridge: Cambridge University Press.

Lahlou, A. A. and Bahaj, D. (2002) 'Valuation of Drinking Water - the Case of Morocco', *Water Demand Management Forum on Water Valuation*. Beirut, Lebanon.

Lane, M. (1999) *Trends in international water project procurement,* Proceedings: British Water Overseas Contracts and Conditions.

LaOpinion (2000). 'El Gobierno propone modificaion de tarifas a Cochabamba'. *La Opinion*. 3 February. Cochabamba, Bolivia.

Laurent, A. (1983) 'The Cultural Diversity of Western Conceptions of Management', *International Studies of Management and Organization*, vol. 13, pp. 75-96.

Laurent, A. (1983) 'The Cultural Diversity of Western Conceptions of Management', *International Studies of Management & Organisation,* vol. 13(1), pp. 75-96.

Laurie, N. and Crespo, C. (2003) 'An examination of the changing contexts for developing pro-poor water initiatives via concessions', DFID-SSR Project R7895 35.

Laurie, N. and Crespo, C. (2007) 'Deconstructing the best case scenario: lessons from water politics in La Paz-El Alto, Bolivia', *Geoforum*, vol. 38(5), pp. 841-854.

Laurie, N. a. M., S. (1999) 'Globalisation, neo-liberalism and negotiated development in the Andes: Bolivian water and the Misicuni dream', *Environment and Planning*, vol. 31(8), pp. 1401-1415.

Lee, T. A. J. (1992) 'Self-financing water supply and sanitation services', Santiago: CEPAL Review, vol. 48, pp. 117-128.

Lemach, R. a. S., K. (2003) *What International Investors Look for When Investing In Developing Countries. Energy and Mining Sector Board Discussion Paper*, Washington, DC: World Bank.

Lewicki (1992) 'Nonconscious Acquisition of Information', *American Psychologist*, vol. 47, pp. 796-801.

Lewicki, R., Stephen, W. and Lewin, D. (1992) 'Models of Conflict, Negotiation and Third Party Intervention: A Review and Synthesis', *Journal of Organizational Behavior*, vol. 13(3), pp. 209-252.

Lewis, J. and Richie, J. (2003) *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, CA: Sage.

Lewis, M. A. and Miller, T.R. (1987) 'Public-private partnerships in water supply and sanitation in sub-Saharan Africa', *Health Policy and Planning,* vol. 2(1), pp. 70-79.

Ley del sistema de regulacion sectorial (1994b), *No. 1600*. La Paz: Gaceta Oficial de Bolivia.

Ley de Servicios de Agua Potable y Alcantarillado Sanitario (1999). La Paz: Gaceta Oficial de Bolivia.

Li, W. and Xu, L.C. (2002) 'The Impact of Privatization and Competition in the Telecommunications Sector Around the World,' Washington DC: World Bank.

Lobina, E. (2000) 'Water War in Cochabamba, Bolivia', *University of Greenwich PSIRU*, vol. 7(2).

Lucero, A. J. (2006) *Indigenous Political Voice and the Struggle for Recognition in Ecuador and Bolivia*, Equity and Development: World Development Report.

Lueck. D. (2008) 'Contracting, Organization and the Behavior of Public Bureaucracy,' *Working Paper.*

Klein, M. (1996). 'Economic Regulation of Water Companies.' Mimeo, World Bank, Washington, DC.

Mainwaring, S., Bejarano, Ana Maria, Leongomez, Eduardo Pizarro (2006) *The Crisis of Democratic Representation in The Andes*, Stanford: Stanford University Press.

Makooma, D. B. (1995) 'Private Sector in Water Development for Sustainability', WEDC Conference, Kampala, Uganda.

Mamani, P. (2004) 'Los Microgobiernos barriales en el leantamiento de El Alto,' in Mamani, P. (ed) *El Rugir de Las Multitudes,* La Paz, Bolivia.

http://es.scribd.com/doc/86067285/Mamani-Ramirez-P-El-rugir-de-las-multitudes-Microgobiernos-barriales-2010

Manibog, F., Dominguez, R. and Wegner, S. (2003) 'Power for Development - A Review of World Bank Group's Experience with PSP in the Electricity Sector', Washington DC: The World Bank.

Marathe, V., Noel, M, and Sirtaine, S. (2004) 'Making Capital Markets Work for Infrastructure Finance', *Policy Note*, Washington DC: The World Bank.

Marin, P. (2002) 'Output-based Aid: Possible Applications for the Design of Water Concessions,' Washington, DC: The International Finance Corporation.

Marin, P. (2009) 'Public Private Partnerships for Urban Utilities: A Review of Experiences in Developing Countries', Washington, DC: The World Bank.

Marino, M., Stein J. and Wulff, F. (1998). 'Management Contracts and Water Utilities: Case of Monagas State in Venezuela.' *Policy Research Working Paper,* No. 166, Washington DC: The World Bank.

Marshall, C. a. R., G. (2006) *Designing Qualitative Research*, Thousand Oaks, CA: Sage Publications.

Martimort, D. (1999) 'Exclusive Dealing, Common Agency and Multi-principals Incentive Theory' *RAND Journal of Economics*, vol. 27(1), pp. 1-19.

Martin, P. (2009) *Public-Private-Partnerships for Urban Water utilities: A Review of Experiences in Developing Countries*, Washington DC, World Bank: PPIAF.

Mayer, E. (2002) *The articulated peasant. Household economies in the Andes,* Boulder, Colorado: Westview Press.

Maykut, P. and Morehouse, R. (1994) *A Philosophic and Practical Guide*, London, Falmer Press.

Mays N. and Pope, C. P. (2000) 'Quality in Qualitative Health Research', in Pope, N. (ed.) in *Qualitative Research in Health Care*, London: BMJ Books.

McCarthy, S. C. and Perry. J. G. (1989) 'BOT contracts for water supply' *World Water 1989*, pp. 125-130, London: Thomas Telford.

McCoy Thompson, S. (1998) 'Public-private partnerships: spreading the three Rs', *Natural Resources Forum*, vol. 22(2), pp. 87-94.

McGivern, J. (1999) 'Risk management in water projects: Jakarta. Global Business Expertise: Overseas Contracts & Conditions', *British Water: Proceedings of the One Day Conference*, Birmingham, March 25.

McGranan, G. N., Albu, M. Smith, M.D.S. and Mitlan, D. (2005) *How small water enterprises (SWEs) can contribute to the Millennium Development Goals*, WEDC: Loughborough University.

McIntosh, A. C. (2003) *Asian Water Supplies--Reaching the Poor*, London, IWA Publishing.

McKenzie, D. and Mookherjee, D. (2003) 'The Distributive Impact of Privatization in Latin America: Evidence from Four Countries', *Journal of LACEA* - Latin American and Caribbean Economic Association.

McMillan, J. (2003) 'How Markets are Like Football.' *Across the Board 40,* No.4 (July/August).

McPhail, A. (1993) 'The "five per cent rule" for improved water service: can households afford more?', *World Development,* vol. 21(6), pp. 963-973.

Megginston, W. and Netter, J. (2001) 'From State to Market: A Survey of Empirical Studies on Privatization', *Journal of Economic Literature,* vol. 39 (2) June.

Mehta, L. (2003) 'Problems of publicness and access rights: Perspectives from the water domain,' in Kaul, P, Conceicao, K. Le Goulven, R.U. and Mendoza, R.U. (ed.) *Providing Global Public Goods*, New York: Oxford University Press.

Melo, J. C. (2005) 'The Experience of Condominial Water and Sewerage Systems in Brazil: Case Studies from Brasilia, Salvador and Parauapebas' Water and Sanitation Program, Latin America, Lima Peru: The World Bank.

Merriam, S. (1998) *Qualitative Research and Case Study Applications in Education*, San Francisco: Jossey-Bass Publications.

Merton, R. K., Fiske, M. and Kendall, P.L. (1990) *The Focused Interview: A Manual of Problems and Procedures*, Glencoe, IL: The Free Press.

Meyer, K. E. (2001) 'Institutions, Transaction Costs and Entry Mode Choice', *Journal of International Business Studies*, vol. 32(2), pp. 357-367.

Meyrs, M. D. (2009) *Qualitative Research in Business and Management*, London: Sage Publications.

Miles, M. a. H., M. (1984) *Qualitative Data Analysis: A source book for new methods*, Thousand Oaks, CA: Sage Publications.

Milgrom, P., North, D, Weingast, B. (1990) 'The Role of Institutions in the Revival of Trade: The Medieval Law Merchant', *Economics and Politics,* vol. 2(1), pp. 1-23.

Miller, G. (1992) *Managerial Dilemmas: The Political Economy of Hierarchy*, Cambridge: Cambridge University Press.

Miller, G. and Whitford, A. (2002) 'Trust and Incentives in Principal-Agent Negotiations', *Journal of Theoretical Politics*, vol. 14, pp. 231-267.

Mincer, J. (1958) 'Investment in Human Capital and Personal Income Distribution', *The Journal of Political Economy*, vol. LXVI (4).

Ministry of Basic Services, Bolivia (2001), *Plan Bolivia: Sector de Servicios Basicos y Agua Potable*, La Paz, Bolivia.

Ministry of Capitalization (1997) *Report on the legal feasibility of private sector participation in SEMAPA*, La Paz: Bolivia.

Mitchell, E. (1986) 'Multiple triangulation: a methodology for nursing science', *Advances in Nursing Science*, vol. 3(8), pp. 18-26.

Mitlin, D. (1999) 'Civil Society and Urban Poverty: Examining Complexity', *Environment & Urbanization*, vol. 13(2), pp. 151-175.

Mitlin, D. (2001) 'Civil Society in Action: Transforming Opportunities for the Urban Poor', *Environment & Urbanization*, vol. 13(2).

Mitlin, D. (2001) 'The Formal and Informal Worlds of State and Civil Society: What do they offer to the urban poor?', *International Planning Studies,* vol. 6(4), pp. 377-393.

Mody, A. (1996) 'Infrastructure delivery: new ideas, big gains, no panaceas' in Mody, A (ed.) *Infrastructure Delivery: Private Initiative and The Public Good.* Washington DC: The World Bank Economic Development Institute.

Moe, T. (1984) 'The New Economics of Organization', *American Journal of Political Science*, vol. 28(4), pp. 739-777.

Molina, G. G. (2005). 'Ethnic Politics in Bolivia: Harmony of Inequalities - 1900-2000', *Third Forum for Human Development*, organised by Oxford and the United Nations Development Programme-Bolivia.

Morales, W. (2004) *A Brief History of Bolivia*, New York: Checkmark Books.

Morelle, V. (2002) 'Empires Across the Andes', *National Geographic* June, pp. 123-128.

Moreya, A. (2001) 'The emergence and functioning of multiple stakeholder platforms for water-shed management in Latin America', Working Paper of the Collaborative Work Program.

Morin, R. and Hilman, L. (1994) *Regulatory Finance: utilities Cost of Capital*, Public Utilities Reports, Inc.

Mura, M. F. (1946). Origen y descendencia de los Incas (1611). . Madrid, Bibliotheca Americana vetus.

Murphy, K. and Becker, G. (2000) *Social Economics: Market Behavior in a Social Environment*, Harvard: Harvard University Press.

Murua, M. F. (1946) 'Tras la huella de Fray Martin de Muru', *Primer Congreso Internacional de Peruvianistas en el Extranjero*, Harvard: Harvard University.

Mustafa, S. (1993) *'Improving Water Supply through Privatization'*, WEDC. Accra, Ghana 59, WEDC: University of Loughborough.

Mycoo, M. (2005) 'Shifting Paradigms in Water Provisioning Policies: A Trinidad Case Study', *International Journal of Water Resources Development,* vol. 21(3), pp. 509-523.

Nankani, H. (1997) 'Testing the waters - a phased approach to a water concession in Trinidad and Tobago', *Public Policy for the Private Sector Note no. 103*, Washington DC: The World Bank.

Narayan, D., Chambers, R, Shah, M.K., and Patesch, P. (2000) *Voices of the Poor*, New York: Oxford University Press.

Narayan, D. a. P., P. (2002) *Voices of the Poor: From Many Lands*, New York: Oxford University Press.

Nath, S. (1994) 'Privatisation of urban public services: cost recovery as a major constraint in India', *Public Enterprise*, vol. 14(3-4), pp. 432-445.

Nelson, R. (1970) *Economic Factors in the Growth of Corporation Giving*, Washington DC: National Bureau of Economic Research.

Neto, F. (1998) 'Water privatization and regulation in England and France: a tale of two models', *Natural Resources Forum*, vol. 22(2), pp. 107-117.

Neuman, W. L. (1997) *Social Research Methods, Qualitative and Quantitative Approaches*, Needham Heights, MA: Allyn & Bacon.

Newman, J. (2005) *Remaking Governance: Peoples, Politics and the Public Sphere*, Bristol, UK: The Policy Press.

Nickson, A. (1997a) 'The public-private mix in urban water supply', *International Review of Administrative Sciences*, vol. 63(2), pp. 165-186.

Nickson, A. (1997b) *Pipe dreams: does privatised water offer poor urban neighbourhoods a better supply?* Birmingham: University of Birmingham.

Nickson, A. (1998). *A water co-operative for a large city: does it work?* Birmingham: University of Birmingham.

Nickson, A. (1998) 'Organisational structure and performance in urban water supply: the case of the SAGUAPAC co-operative in Santa Cruz, Bolivia', 3rd international Congress on state reform and public administration, Madrid, 14-17 October.

Nickson, A. (2001a) *The Cordoba Water Concession in Argentina - Working Paper*, London, UK: GHK International.

Nickson, A. (2001b) *Establishing and Implementing a Joint Venture: Water and Sanitation Services in Cartagena, Colombia - Working Paper*, London, UK: GHK International.

Nickson, R. A. a. V., C. (2002) 'The limitations of water regulation: the Cochabamba concession in Bolivia', *Bulletin of Latin American Research*, vol. 21(1), pp. 128-149.

Nickson, R. a. F., R (2003) *Tapping the Market: The Challenge of Institutional Reform in the Urban Water Supply Sector*, Basingstoke: Palgrave.

Nilsson, D. (2006) 'A heritage of unsustainability? Reviewing the origin of large-scale water and sanitation systems in Kampala, Uganda', *Environment & Urbanization,* vol. 18(2), pp. 369-385.

North, D. (1971) 'Institutional Change and Economic Growth', *Journal of Economic History*, vol. 31(1), pp. 118-125.

North, D. (1978) 'Structure and Performance: The Task of Economic History', *Journal of Economic Literature*, vol. 16, pp. 963-78.

North, D. (1981) *Structure and Change in Economic History*, New York: Norton.

North, D. (1989) 'Institutions and economic growth: An Historical Introduction', *World Development,* vol. 17 (9) pp. 1319-1332.

North, D. a. T., R. (1973) *The Rise of the Western World: A New Economic History*, Cambridge, UK: Cambridge University Press.

North, D. N. (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.

North, J. H. C. C. G. (1993) 'Water Sources as a housing characteristic: hedonic property valuation and willingness to pay for water', *Water Resources Research*, vol. 29(7), pp. 1923-1929.

Nunnenkamp, A. a. T., R. (2010) 'Less Aid Proliferation and More Donor Coordination? The Wide Gap between Words and Deeds', *Journal of International Development*, vol. 22(7), pp. 920-940.

Organisation for Economic Co-Operation and Development (OECD)(2000) *Global Trends in Urban Water Supply and Waste Water Financing and Management: Changing Roles for the Public and Private Sectors*. Paris: OECD.

Olivera, O., and Lewis, T. (2004) *Cochabamba: Water War in Bolivia*, Cambridge, MA: Southend Press.

Olsen, M. (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups*, Harvard: Harvard University Press.

Onis, Z. a. F. S. (2005) 'Rethinking the Post Washington Consensus', *Development and Change*, vol. 36(2), pp. 263-290.

Orlove, B. (1994) 'Sticks and stones: Ritual battles and play in southern Peruvian Andes.' in Poole, D. (ed.) *Unruly Order: Violence, Power and Cultural Identity in the High Provinces of Southern Peru,* Boulder, CO: Westview Press.

Osborne, S. P. (2000), *Public-Private Partnerships: Theory and Practice in International Perspective*, London: Routledge.

Ostrom (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge: Cambridge University Press.

Ostrom, E. (1999) *Institutional Rational Choice: An Assessment of the Institutional Analysis and Development Framewor*k [Workshop in Political Theory and Policy Analysis, Indiana University: Bloomington] 21 April.

Ostrom, E. (2005). 'Doing Institutional Analysis: Digging Deeper than Markets and Hierarchies. Handbook on New Institutional Economics,' in Menard, C. and Shirley, M. (ed.) *Handbook on New Institutional Economics,* Dordrecht: Springer.

Owen, D. (1999) 'So where are the opportunities?' *Conference Proceedings*, British Water Overseas Contracts and Conditions Conference No.19, Cairo, Egypt.

Paavola, J. (2002) 'Rethinking the Choice and Performance of Environmental Policies', in Bromley, P.J. (ed) *Economics, Ethics and Environmental Policy: Contested Choices*, Oxford: Blackwell.

Paldam, M. and Svendsen, G.T. (2004) 'Social capital and economics' in Flap, H and Volker, B. (ed.) *Creation and returns of social capital*, New York: Routledge.

Palmer, A. (1996) 'Linking external and internal relationship building in networks of public and private sector organizations: a case study', *International Journal of Public Sector Management*, vol. 9(3), pp. 51-60.

Parker, D. (2009) 'PPP/PFI: Solution or Problem?', *Economic Affairs*, vol. 29(1), pp. 2-5.

Parsons, T. (1949) *The Structure of Social Action*, Glencoe, IL: Free Press.

Parsons, T. (1963) 'On the Concept of Political Power', *Proceedings of the American Philosophical Society*, vol. 107, pp. 232-262.

Peltzman, S. (1976) 'Toward a More General Theory of Regulation', *Journal of Law and Economics*, *NBER Working Papers 0133,* Washington DC: National Bureau of Economic Research.

Perez, J. (2005) ‘Social Resistance in El Alto-Bolivia: Aguas de Illimani, a Concession Targeting the Poor’, in Balanya, B.B. (ed.) *Reclaiming Public Water: Social Movements and State Power: Argentina, Brazil, Ecuador and Bolivia*, London: Pluto Press.

Picciotto, S. (1999) 'Introduction: What Rules for the World Economy?' Picciotto & Mayne, R. (ed.) *Regulating International Business: Beyond Liberalization.* London: Macmillan.

Piper, S. and Martin, W.E. (1997) 'Household willingness to pay for improved rural water supplies: a comparison of four sites’, *Water Resources Research*, vol. 33(9), pp. 2153-2163.

Platt, T. (1982) *The role of the Andean Ayllu in the reproduction of the petty commodity regime in Northern Potosi*, Bolivia: Cambridge University Press.

Platt, T. (1984) *Liberalism and ethnocide in the southern Andes*, London: Routledge and Kegan Paul.

Platt, T. (1987) ‘The Andean experience of Bolivian liberalism: roots of rebellion in 19th century Chayanya (Bolivia)’, in Stern, E.S. (ed.) *Rebellion, Resistance and Consciousness in the Andean Peasant World, 18-20th Centuries*, Wisconsin: University of Wisconsin Press.

Plummer, J. (2002) *Focusing on Partnerships: A Sourcebook for Municipal Capacity Building in Public-Private Partnerships*, London: Earthscan Publications Ltd.

Plummer, J. (2004) *Developing Inclusive Public-Private partnerships: the role of small-scale independent providers in the delivery of water and sanitation services. Making Services Work for Poor People*, Washington DC: World Development Report.

Plummer, J. and Nhemachena, G. (2001) *Preparing a Concession: Working towards PSP in Water and Sanitation Services in Gweru, Zimbabwe. Building Municipal Capacity for Private Sector Participation Series*, London, UK: GHK International.

Popay, J., Rogers, A. and Williams, G. (1998) ‘Rationale and standards for the systematic review of qualitative literature in health services research’, *Qualitative Health Research*, vol. 8(3), pp. 341-351.

Posner, R. (1993) ‘New Institutional Economics Meets Law and Economics’, *Journal of Institutions and Theoretical Economics*, vol. 149(1), pp. 73-87.

Prada, R. (1995) El Modelo Cooperativo de gestion de servicios en Bolivia. Gestion de Servicios Municipales en America Latina. IULA/CELCADEL. Quito, IULA. Cuaderno no.24.

Prasad, N. (2007) 'Why is regulation insufficient? Social policies and private sector participation in water supply,' *Working Document*, Geneva: United Nations Research Institute for Social Development (UNRISD)

Pratt, J. a. Z., Richard (1985) *Principals and Agents: The Structure of Business*, Boston, MA: Harvard Business School Press.

Putnam, R. (1995) 'Bowling Alone: America's Declining Social Capital', *Journal of Democracy*, vol. 6(1), pp. 65-78.

Putnam, R. (2000) *Bowling Alone: The Collapse and Revival of American Community*, New York: Simon & Schuster.

Putnam, R. (2002) *Democracies in Flux: The Evolution of Social Capital in Contemporary Society*, New York: Oxford University Press.

Quisbert, M. (2003). Investigative Paper No.1 (1990-1998), El Alto, Bolivia: FEJUVE.

Rabin, M. (1998) 'Psychology and Economics', *Journal of Economic Literature*, vol. 36(1), pp. 11-40.

Radelet, S. (2005) *Grants for the World's Poorest: How the World Bank Should Distribute Its Funds*, Washington, DC: Centre for Global Development.

Radoki, C. (1993) 'Planning for whom? Managing Fast Growing Cities; New Approaches to Urban Planning and Management' in Revas, C., *The Developing World*Harlow: Longman.

Ramirez, R. (2001) 'Understanding the approaches for accommodating multiple stakeholders' interests', *International Journal of Agricultural Resources, Governance and Ecology*, vol. 1(3/4).

Ramos, M. C. (1989) 'Some Ethical Implications of Qualitative Research', *Research in Nursing and Health*, vol. 12, pp. 57-63.

Ranasinghe, M. (1998) 'Thoughts on a method to analyse viability of private sector participation in new infrastructure projects in developing countries', *Impact and Project Appraisal,* vol. 16(3), pp. 203-213.

Rao, P. K. (2003) *The Economics of Transaction Costs*, New York: Palgrave MacMillan.

Rees, J. A. (1998) 'Regulation and private participation in the water and sanitation sector', *Natural Resources Forum*, vol. 22(2), pp. 95-105.

Reeves, T. C. and Hedberg, J.G. (2003) *Interactive learning systems evaluation*, Englewood Cliffs, N.J.: Educational Technology Publications.

Reid, M. (2007) *Forgotten Continent: The Battle for Latin America's Soul*, CT: Yale University Press.

Reijniers, J. J. (1994) 'Organization of PPP projects: the timely prevention of pitfalls', *International Journal of Project Management*, vol. 12(3), pp. 137-142.

Remy, M. I. (1994) 'The Indigenous Population and the Construction of Democracy in Peru' in Lee Van Cott, D. (ed.) *Indigenous People and Democracy in Latin America* New York: St Martin's Press.

Richard, B. and Triche, T. (1994) *Reducing Regulatory Barriers to Private Sector Participation in Latin America's Water and Sanitation Services*, - *Policy Research Working Paper 1322*, Washington DC: World Bank.

Richardson, L. (2000) '*New Writing practices in Qualitative Research*', *Sociology of Sports Journal*, vol. 17, pp. 5-20.

Rickets, M. (2009) 'The use of contract by government and its agents', *Economic Affairs*, vol. 29(1), pp. 7-12.

Rijsberman, F. (2004) 'Sanitation and Access to Clean Water', In Lomborg, B., *Global Crises, Global Solutions*, Cambridge, UK: Cambridge University Press.

Ringskog, K. and Idelovitch, E.(1995) *Private Sector Participation in Water Supply and Sanitation in Latin America*, Washington DC: World Bank.

Rivera, D. (1996) 'Private sector participation in the water supply and wastewater sector: lessons from six developing countries', Washington DC: World Bank Directions in Development.

Robbins, P. (2003) 'Transnational Corporations and the Discourse of Water Privatization', *Journal of International Development*, vol. 15, pp. 1073-1082.

Rodrik, D. (1995) *Why is There Miltilateral Lending? CEPR Discussion Paper 1207*, London: Centre for Economic Policy Research.

Roger, N. (1999) 'Recent Trends in Private Participation in Infrastructure,' *Private Sector Note 196*, Washington DC: The World Bank.

Rojas, B. and Germán, G. (2003) 'El Empleo en los Tiempos de Crisis', *Avances de Investigacion No. 24*, La Paz, Bolivia.

Rosell, E. (1994) 'The Chickens Can Come Home To Roost: The Anatomy of a local Infrastructure Crisis', *Urban Affairs Review,* vol. 30(2), pp. 298-306.

Rosell, P. (1999) *Diagnostico socioeconomico de El Alto, Distritos 5 y 6,* Cedla: La Paz.

Rosell, P. (2000) *Ser Productor en El Alto*, Cedla: La Paz, Bolivia.

Rosell, P. a. R., Bruno (2002) *Destino incierto. Esperanzas y realidades laborales de la juventud alteña*, Cedla: La Paz, Bolivia.

Rowe, J. H. (1946) 'Inca Culture at the Time of the Spanish Conquest. The Andean civilizations.', in Steward, J. (ed.) *Handbook of South American Indians*, Washington DC: Smithsonian Institution.

Saal, D. a. P. (2001) 'Productivity and Price Performance in the privatised water and sewerage companies of England and Wales', *Journal of Regulatory Economics*, vol. 20 (1), pp. 61-90.

Sachs, J. (2002) 'Resolving the Debt Crisis of Low-Income Countries.' *Brookings Papers on Economic Activity*, Washington DC: Brookings Institute.

Saghir, J., E. Sherwood, & Macoun, A. (1998) *Management contracts in water and sanitation - Gaza's experience - World Bank Policy for the Private Sector Note 177,*LOCATION: PUBLISHER.

SAGUAPAC (1996). Estudio Organico, 1979-1996. Urban Water Cooperative Santa Cruz, Bolivia

Salanie, B. (1997) *The Economics of Contracts*, Boston: MIT Press.

Salatiel, G. (2003) *La Participacion del Sector Privado en los Servicios de Agua y Saneamiento en la Provincia de Salta en Argentina*, Washington DC: Inter-American Development Bank.

Saleth, R. a. D., A. (2000) 'Institutional Changes in Global Water Sector: Trends Patterns and Implications', *Water Policy,* vol. 2(3), pp. 175-199.

Salomon, F., and Urioste, G. (1991) *The Huarochiri Manuscript: A Testament of Ancient and Colonial Andean Religion,* Austin: University of Texas Press.

San Martin, M. (2002) 'Ritual conflict (Tinku) and vindication of indigenous rights in Bolivia', *Mountain Research and Development,* vol. 22, pp. 394-396.

Sandoval, Z. G. and Sostres, M.F. (1989) *La Ciudad Prometitda: Pobladores y Organizaciones Sociales en El Alto*, ILDIS-SYSTEMA. La Paz, Bolivia.

Sanjines, J. (2002) 'Mestizaje Upside Down', *Nepantla: Views from the South*, vol. 3(1), pp. 39-60.

Sappington, D. (1991) 'Incentives in Principal-Agent Relationships', *Journal of Economic Perspectives*, vol. 5(2), pp. 45-66.

Satterthwaite, D. (1997) 'Urban Poverty: Reconsidering its scale and nature', *IDS Bulletin*, vol. 28(2), pp. 9-23.

Satterthwaite, D. (2003) 'The Millennium Development Goals and Urban Poverty Reduction: Great Expectations and Nonsense Statistics', *Environment & Urbanization*, vol. 15(2), pp. 181-190.

Savedoff, W.D. and Spiller, P.T. (1999) *Government Opportunism and the Provision of Water-An Institutional Commitment to the Provision of Water Services,* Washington DC: Inter-American Development Bank.

Savenije, H. and van de Zaag, P. (2001) 'Demand management and water as an economic good: Paradigms with pitfalls', *Value of Water Research Report Series No. 8*, Delft: Institute for Hydrological Engineering.

Schlager, E. and Ostrom, E. (1992) 'Property-rights and natural resources: A conceptual analysis', *Land Economics,* vol. 68(3), pp. 249-262.

Schouten, M. a. S., K. (2007) 'Water as a political good: implications for investments', *International Environmental Agreements: Politics, Law and Economics*, vol. 6(4) (Special Issue on Investment and Sustainable Development), pp. 407-421.

Scott, A., and Coustalin, G. (1995) 'The Evolution of Water Rights', *Natural Resources Journal*, vol. 35(4), pp. 821-980.

Segerfeldt, F. (2005) *Water For Sale: How Business and the Market Can Resolve the World's Water Crisis*, Washington, DC: Cato Institute.

Sen, A. (1999) *Development as Freedom*, New York: Oxford University Press.

Sen, A. (2000) *Freedom, Rationality and Social Choice: The Arrow Lectures and Other Essays*, New York: Oxford University Press.

Serageldin, I., Barrett, R. & Martin, J. (1994) 'The business of sustainable cities: public-private partnerships for creative technical and institutional solutions', *Conference Proceedings,* Second Annual World Bank Conference on Environmentally Sustainable Development, Washington DC, The World Bank.

Shanker, A. R., L. (1996) 'Public-Private Partnerships', *Journal of the American Water Works Association,* vol. 88(4), pp. 102-107.

Shapiro, C. a. W., R.D. (1990) 'Economic Rationales for the Scope of Privatization', in Waterbury, J., *The Political Economy of Public Sector Reform and Privatization*, Boulder CO: Westview Press.

Shapiro, M. (1995) *Challenging Boundaries: Global Flows, Territorial Identities*, Minneapolis: University of Minnesota Press.

Shapiro, M. (1999) *Moral Spaces: Rethinking Ethics and World Politics*, Minneapolis: University of Minnesota Press.

Shavell, S. (1979) 'Risk sharing and incentives in the principal and agent relationship', *Bell Journal of Economics*, vol. 10(1), pp. 55-73.

Shirly, M. M. (2002) *Thirsting for Efficiency: The Economics and Politics of Urban Water System Reform,* Washington DC: World Bank.

Shiva, V. (2002) *Water Wars: Privatization, Pollution and Profit*, Cambridge, Mass: South End Press.

Shleifer, A. and Vishny, R. (1993) 'Corruption', *The Quarterly Journal of Economics*, vol. 108(3), pp. 519-617.

Shneider, M. and Whitlatch, E. (1990)'User-Specific Water Demand Elasticities', *Journal of Water Resources Planning and Management*, vol. 117 (1), pp. 52-73.

Sikkink, L. (2008) 'Water and exchange: the ritual of *yaku cambio* as communal and competitive encounter', *American Ethnologist*, vol. 24(1), pp. 170-189.

Silva, G., Tynan, N. & Yilmaz, Y (1998) *Private participation in the Water and Sanitation Sector – Recent Trends." World Bank Policy for the Private Sector Note 147*, LOCATION: PUBLISHER.

Singer, M. (2005) 'Local Parties and Local Politics: Electoral Fragmentation and Municipal Budget Choices in Bolivia', Paper presented at Comparative Politics Workshop Duke University, North Carolina.

Singer, M. a. M., K. (2004) *The 2002 presidential and parliamentary elections in Bolivia*, Durham, NC: Department of Political Science, Duke University.

SIRESE (2000). La Regulacion Sectorial en Bolivia, 1999.

Sirtain, S., Pinglo, M, Guasch, J.L and Foster, V. (2005) 'How profitable are private infrastructure concessions in Latin America? Empirical evidence and regulatory implications', *Quarterly Review of Economics and Finance*, vol. 45, pp. 380-402.

Sivak, M. (2010) *Evo Morales: The Extraordinary Rise of the First Indigenous President of Bolivia*, New York: Palgrave Macmillan.

Slattery, K. (2003) 'What Went Wrong? Lessons from Cochabamba, Manila, Buenos Aires and Atlanta,' *Water and Wastewater Annual Privatization Report*. Retrieved August 11, 2004, from http://www.rppi.org/apr2003/whatwentwrong.html.

Smith, W. (1997) 'Utility Regulators Decision-making Structures, Resources and Start-up Strategy', *Private Sector in Infrastructure: Strategy, Regulation and Risk,* Washington DC: The World Bank.

Snow, P. (1996). 'Argentina: Politics in a Conflict Society.' *Latin America Politics and Society,* vol. 46 (1) 2004.

Sohail, M. and Barry, W. (2003) 'PPP and the Poor: Case Study Bolivia, South America. A perspective on water supply and sanitation,' WEDC: University of Loughborough.

Sohail, M. and Cotton, A.P. (2002) 'Tools for Sustainable Operation and Maintenance of Urban Infrastructure', WEDC: Loughborough University.

Sohail, M., Miles, D.W and Cotton, A.P. (2002) 'Developing monitoring indicators for urban micro contracts in South Asia', *International Journal of Project Management*, vol. 20, pp. 583-591.

Solo, T. M. (1999) 'Small-scale entrepreneurs in the urban water and sanitation market', *Environment & Urbanization*, vol. 11(1), pp. 117-131.

Solo, T. M. (2003) 'Independent Water Entrepreneurs in Latin America: the Other Private Sector in Water Services', Washington DC: The World Bank.

Solomon, F. (1991) 'Introduction: Native lords of Quito in the age of the Incas', in Salomon, F. & Urioste, G. (eds.) in *The Huarochiri Manuscript: A Testament of Ancient and Colonial Andean Religion*, Austin: University of Texas Press.

Solomon, F. and Uriste, G (2000) *The Huarochiri Manuscript: A Testament of Ancient and Colonial Andean Religion*, Austin: University of Texas Press.

Solomon, S. (2010) *Water: The Epic Struggle for Wealth, Power, and Civilization*, New York: Harper Collins.

Spiller, P. (1996) 'Institutions and Commitment', *Industrial and Corporate Change*, vol. 5(2), 421-452.

Stake, R. (1995) *The Art of Case Study Research*, Thousand Oaks: Sage

Stanish, C. (2006) *Ancient Titicaca: The Evolution of Complex Society in Southern Peru and Northern Bolivia*, Berkley: University of California Press.

Steubert, H. J. C., D.R. (1999) *Qualitative Research in Nursing. Advancing the Humanistic Imperative (2nd ed.)*, Philadelphia: Lippincott.

Stigler, G. (1961) 'The Economics of Information', *Journal of Political Economy*, vol. 69(3), pp. 213-225.

Stiglitz, J. (1987) *Principal and Agent.* The New Palgrave: A Dictionary of Economics, vol. 3, pp. 966-971.

Stiglitz, J. (2000) *Frontiers of Development Economics: The Future in Perspective*, Washington DC: The World Bank.

Strauss, A. a. C., J. (1998) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, London: Sage Publications.

Strauss, A. C., J. (1993) *Basics of Qualitative Research*, London: Sage.

Stufflebeam, D. (1983) *Evaluation models: Viewpoints on education and human services evaluation*. Boston, MA, Kluwer-Nikhoff.

Subramanian, V. (1993) 'Privatization of water supplies - the Malaysian experience', *Aqua Journal*, vol. 42, pp. 310-313.

Superintendencia de Saneamiento Basico (2000). Informe sobre el contrato de concesion para aprovechamiento de agua y los servicios de agua potable y alcantarillado sanitario de la cuidad de Cochabamba. La Paz: Bolivia.

Talbot, J. (2002) *Is the Water Business Really a Business? World Bank Water and Sanitation Lecture Series,* Washington DC: The World Bank.

Tandy, P. (1997) *Private sector participation in urban water supply in South Africa*, Birmingham: University of Birmingham International Development Department.

Tang, K. C. and Davis, A. (1995) 'Critical Factors in the Determination of Focus Group Size', *Family Practice*, vol. 12(4), pp. 474-475.

Council for Science and Technology (2009) *Improving Innovation in the Water Industry: 21st Century Challenges and Opportunities*, London: CTS.

Thaler, R. (1992) *The Winners Curse: Paradoxes and Anomalies of Economic Life*, Chicago: Chicago University Press.

Thobani, M. (1997) 'Formal Water Markets: why, when and how to introduce tradable water rights', *World Bank Research Observer,* vol. 12(2), pp. 161-179.

Tipton, J. (1988) *Institutional factors influencing public sector decision-making on the management of Andean river basins Management for the development of high mountain river basins in the Andean Region*, Santiago, Chile: ECLAC/United Nations

Tobin, G. A. and Begley, C.M. (2002) 'Triangulation as a method of inquiry', *Journal of Critical Inquiry Into Curriculum and Instruction*, vol. 3(3), pp. 7-11.

Toubkiss, J. (2006) *Costing MDG Target 10 on water supply and sanitation: comparative analysis, obstacles and recommendations*, Montreal: World Water Council.

Townsend, R. (1993) *The Medieval Village Economy: A Study of the Pareto Mapping in General Equilibrium Models*, Princeton: Princeton University Press.

Trawick, P. B. (2003) *The Struggle for Water in Peru: Comedy and Tragedy in the Andean Commons*, Stanford: Stanford University Press.

Trebing, H. M. (1999) 'New Challenges for the Consumer Movement in an Era of Utility Deregulation', *National Regulatory Research Institute Quarterly Bulletin*, vol. 19 (4) pp.

Trebing, H. M.(1997) 'Emerging Market Strategies and Options for Regulatory Reform in Public Utility Industries.' in Melody, W.H. (ed.) *Telecom Reform: Principles, Policies and Regulatory Practices*, Lyngby: Technical University of Denmark

Tremolet, S., Browning, S. and C. Howard (2002) 'Emerging Lessons in Private Provision of Infrastructure Services in Rural Areas: Water Services in Cote D'voire and Senegal', London: World Bank, PPIAF.

Triche, T. (1994) 'Designing Water Supply & Sewerage Oversight Institutions to Fit the Local Context', Washington DC: World Bank

Trompenaars, F. and Hampden-Turner, C. (1999) *Riding the Waves of Culture*, London: Nicholas Brealey Publishing.

Troyano, F. (1999). 'Small Scale water providers in Paraguay.' Asunción, Paraguay: UNDP-World Bank Water and Sanitation Program.

Tullock, G. (1967) 'The Welfare Costs of Tariffs, Monopolies and Theft', *Western Economic Journal*, vol. 5(3), pp. 224-232.

Ugaz, C. (2006) *Commercialization, privatization and universal access to water. Social Policies and Water Sector Reform*, Geneva: UNRISD.

United Nations Development Report (2002).

(UNHABITAT), (2003) Water and Sanitation in the World's Cities. London: Earthscan Publications.

UNICEF (2004) 'Building Public-Private Partnerships for Infrastructure Development', *United Nations Economic Commission for Europe Weekly,* vol. 84 (Sept).

Urquiola, M. (1994) *Participando en el Crecimiento: Expansion Economica, Distribucion de ingreso y Pobreza en el Area Urbana de Bolivia: 1989-1992*, La Paz, Bolivia: UDAPSO.

Urquiola, M., Anderson, and L. Antelo, E. (2000) *Geography and Development in Bolivia: Migration, Urban and Industrial Concentration, Welfare, and Convergence. Research Network Working Paper R-385,* Washington, DC: Inter-American Development Bank.

USAID (2003) 'Increasing Private Investment in Water', *Policy Note:* World Water Forum, Kyoto Japan, 2003.

Uzzi, B. (1997) 'Social structure and competition in inter-firm networks: The Paradox of Embeddedness', *Administrative Science Quarterly*, vol. 42 (1), pp. 35-67.

Van Cott, D. L. (2000) *The Friendly Liquidation of the Past: The Politics of Diversity in Latin America*, Pittsburgh, PA: University of Pittsburgh Press.

Van Maanen, J. (1982) 'Fieldwork on the beat, in J. van Maanen (ed.), *Varieties of Qualitative Research*. London: Sage.

Van Maanen, J. (1988) *Tales of the Field*, Chicago: University of Chicago.

Vuylsteke, C. (1988). "Techniques of Privatization of State Owned Enterprises." World Bank Technical Paper, Washington, DC 88.

Waddams Price, C. a. H., R. (2000) *Distributional effects of Liberalizing UK Residential Utility Markets*, Centre for Management, UK: University of Warwick.

Walker, I., M. Velasquez, F. (1997) *Regulation, organization and incentives: the political economy of potable water services: case study of Honduras*, Washington DC: Working Paper Series, IADB.

Walsh, K. (1995) *Public Services and Market Mechanisms: Competition, Contracting and the New Public Management*, London: MacMillan.

Walsham, G. (1995) 'Interpretive Case Studies In IS Research: Nature and Method', *European Journal of Information Systems*, vol. 4, pp. 74-81.

Waterhouse, P. (1994) *Regulation of Private Monopoly in Developing Countries*, London: ODA.

Webb, M. D. E. (1998) *Improving water services through competition*, Policy for the Private Sector Note. 164, Washington DC: The World Bank.

Wegelin-Schuringa (1999) 'The SSIP model and community-based providers of water and sanitation services', *UNDP Conference on Public-Private Partnerships for the urban environment*, Bonn, Germany.

Westphal, J. D. a. Z., E.J. (1998) 'Toward a Behavioral Theory of the CEO/Board Relationship: How Research Can Enhance our Understanding of Corporate Governance Practices', in Hambrick, D. (ed.) *Navigating Change: How CEOs, Top Teams and Boards Steer Transformation*, Boston, MA: Harvard Business School Press.

Whitehead, L. (2001) 'The Emergence of Democracy in Bolivia', in Crabtree, J. and Whitehead, L., (ed.) *Towards Democratic Viability: The Bolivian Experience*, New York: Palgrave.

Whittfogel, K. (1957).. *Oriental despotism; a comparative study of total power*, New York: Random House.

Whittington, D. (1991)'A study of water vending and willingness to pay for water in Onitsha, Nigeria', *World Development*, vol. 19(2/3), pp. 179-198.

World Health Organization (WHO) (2011) *World Health Statistics 2011: Progress on health-related Millennium Development Goals*, Fact Sheet No. 290, New York: WHO.

Williamson, O. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.

Williamson, O. (1981) 'The Economics of Organization: The Transaction Cost Approach', *American Journal of Sociology,* vol. 87(3), pp. 548-577.

Williamson, O. (1996) *The Mechanisms of Governance*, New York: Oxford University Press.

Williamson, O. (1998) 'Transaction Cost Economics: How it Works, Where It Is Headed', *DE Economics*, vol. 146, pp. 23-58.

Williamson, O. (2000) 'The New Institutional Economics: Taking Stock, Looking Ahead', *Journal of Economic Literature*, vol. 38(3), pp. 595-613.

Willner, J. (2001) 'Ownership, Efficiency and Political Interference', *Journal of Political Economy*, vol. 17(No 4), pp. 723-748.

Winpenny, J. T. (1997) 'Demand Management for Efficient and Equitable Use' in Kay, M. Franks, T. and Smith, L. (ed.) *Water: Economics, Management and Demand*. E & FN Spon, London, pp. 296-303.

Wittfogel, K. (1957) *Oriental Despotism: A Comparative Study of Total Power*, New York: Random House.

World Bank, (1993) '*Potential private-sector participation in Lima's water services: report of a workshop'*, Washington DC, TWUWS Report 2.

World Bank, (1998) Bolivia: Major cities water and sewerage rehabilitation project: Implementation Completion Report, No. 18009 Finance, Private Sector and Infrastructure Department, World Bank.

World Bank, (2001) *Project Appraisal Document: Long Term Water Supply Project*, Washington DC: The World Bank.

World Bank, (2001a) *Private Sector Development Strategy--Directions for the World Bank Group*, Washington DC: The World Bank.

World Bank (2001b) World Development Report 2000/2001, Washington DC: World Bank.

World Bank (2003). Private Participation in Infrastructure: Trends in Developing Countries, 1990-2001. PPIAF Facility: Washington DC.

World Bank, (2003c). World Bank Development Report 2004: Making Services Work for the Poor. Washington DC: World Bank. World Bank (2009) *About public-private partnerships in infrastructure*, [online], Available: web.worldbank.org/WEBSITE/EXTERNAL/WBI/WBI/WBIPROGRAMSA/PPPILP/0,,contentMDK:20271509menuPK:461109

World Development Movement, (2005) Dirty Aid, Dirty Water Campaign.

Wright, K. (1998) ‘The Lessons of History: El Nino and the Fall of Empire’, Quarterly *Journal of the South American Explorers Club*, pp. 22-23.

Yarrow, G. (1999) 'A Theory of Privatization, or Why Bureaucrats are Still in Business, World Development vol. 27(no.1): 157-168.

Yepes, G. (1999) 'Do Cross-subsidies help the poor to benefit from water and wastewater subsidies? Lessons from Guayaquil, Ecuador', UNDP-World Bank Water and Sanitation Program: Washington DC.

Yin, R. K. (1984) *Case Study Research: Design and Methods*, Newbury Park, CA: Sage.

Yin, R. K. (1993) *Applications of Case Study Research*, Beverly Hills, CA: Sage.

Yin, R. K. (1994) *Case Study Research: Design and Methods*, Beverly Hills, CA: Sage Publishing.

Zerah, M. H. (2000) 'The Cancellation of the Pune Water Supply and Sewerage Project,' Water and Sanitation Program South Asia, New Delhi: The World Bank.

Zorn, E. (2002) 'Dangerous encounters: Ritual battles in Andean Bolivia', in Jones, D.E. (ed.) *Combat, Ritual and Performance: Anthropology of the Martial Arts,* CT: Praeger.

Zwarteveen, M. (1997). ‘Water: From basic need to commodity: A discussion on gender and water rights in the context of irrigation’, *World Development* vol. 28(8), pp. 1335-1349.

Zwarteveen, M. and Bennett, V. (2005) ‘The Connection between Gender and Water Management', in Bennett, V., Davila-Poblete, S. and Rico, M. (ed.) *Opposing Currents: The Politics of Water and Gender in Latin America*, Pittsburgh, University of Pittsburgh Press.

Appendices

Appendix A

Questionnaires
Attitudes Toward Aguas De Illimani (AISA)
Section I: Initial Questionnaire

Q1 How satisfied are you with the ***value for money*** you are getting from Aguas de Illimani as compared with your previous water and sanitation service provider (SAMAPA or other)	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q2a How satisfied are you about the ***type of access*** you have?	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q2b What type of access do you have?[219]	N/A
Q3 How satisfied are you with the ***quality*** of your water?	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q4 How satisfied are you with the ***reliability*** of your water?	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q5 How much do you agree/disagree that AISA's water and sewerage charges are affordable to you?	
Strongly agree	1
Agree	2
Neither agree/disagree	3
	4

[219] This question was dropped from the survey as initial set of household's interviewed did not seem to know whether they have a conventional or unconventional connection to the network and it caused a great deal of social awkwardness—as if it were being insinuated that one type was superior to another.

Disagree	5
Strongly disagree	99
Don't know	
Q6 How satisfied are you with the ***clarity and accuracy of your billing statements***?	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q7 Are you satisfied with the type of ***responsiveness*** from AISA (e.g. do they addresses your complaints, provide you with information/advice)?	
Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't Know	99
Q8 Overall, would you agree/disagree that services are better today under AISA than they were under SAMAPA?	
Strongly agree	1
Agree	2
Neither agree/disagree	3
Disagree	4
Strongly disagree	5
Don't know	99

Section II: Open Ended Household Questionnaire

Households (x 60)

1. Do you have a water connection?
    a. If no, why?
    b. If yes…
        i. Is it a new connection? If yes,
            1. When did you first get it?
            2. Did you help to build the connection?
            3. Did you help to build the facilities?
        ii. If no,
            1. Were you aware of the fact that your service provider was going to change to Aguas de Illimani?
                a. Did you ever get a notice, hear about it on the radio, TV, or read about the change in the newspaper?
                b. Were there any community/neighbourhood meetings regarding the change?
            2. How did you feel when you first realised that there was going to be a new provider?
            3. Has your service quality changed in any way since the time when SAMAPA was your provider/has it changed in any way over the last five years?
        iii. Do you have water all the time or only at certain hours of the day?
        iv. Does your water ever get cut off? If yes, under what circumstances?
        v. Is the quality of the water good in your opinion?
            1. What colour is the water when it comes out of the tap?

2. What does it smell like?
3. Does it look/smell different then it used to?

vi. Do you drink the water directly from the tap? If no, why not?

vii. Are you happy with your connection? Why/why not?

viii. Are services better/worse now than before?

ix. Have you ever been dissatisfied with your service? Why/why not?

1. If yes, what did you do about it when you were unhappy?
2. Were you able to complain to anyone?
3. Who?
4. What was the response?

x. Approximately how much is your water bill each month?

1. Do you find that expensive/inexpensive?
2. Do you understand your billing statements? If no, what do you find confusing?
3. Has your service ever been cut off because of non-payment?
    a. Have you ever been fined?
    b. How much was the fine?
    c. Did you know what to do about it?
    d. Were you able to pay the fine?
    e. What did you do while your water was cut off?
4. Do you know where your water meter is?
    a. Are you able to read it?
    b. Does it always work?
    c. What do you do if it isn't working?

d. Does anyone come to fix it? Who?

i. Are they nice to you?

ii. Do they explain what they are doing?

xi. Do you have any contact with your neighbourhood association?

1. If yes, what do they say about the water?

2. Do you think that they can help you when you have a problem with your water?

xii. Have you heard of the "Water War" in Cochabamba?

1. If yes, what do you think about it?

2. Do you think the situation in El Alto is different/similar to Cochabamba?

xiii. Who do you think runs Aguas de Illimani?

1. Are you satisfied with the way the company seems to be operatinng?

xiv. Have you heard of X ? What have you heard about them?

1. Abel Mamani? Miguel Quispe?

2. Cordinadora de Agua? Oscar Oliviera?

3. Jose Barragán?

4. World Bank?

xv. What do you believe the current politicians think of your water situation?

xvi. What do you believe Evo Morales thinks of your water situation?

Questionnaire for Development Organisations/Donors/Advisors

1. Under what circumstances did you first become involved in the La Paz/El Alto concession arrangement?
2. Who were your main counterparts in the government?
3. What were your main concerns when you first became involved?
4. What were the main risks that you foresaw and what were your suggestions to mitigate these risks?
5. Did your level of involvement change over the course of the PPP process (pre-bidding, bidding, contract negotiation, legal & regulatory overhaul, implementation & supervision)? If so how and under what circumstances?
6. In 1997, the year in which this project began, were there any other active projects, which complemented this initiative, either administered by your organization or another?
7. Can you please explain your involvement in the La Paz/El Alto Condominial Project. Who solicited the project? Who were your main partners? How did you try to ensure project sustainability? Do you feel this project influenced the perception of users towards Aguas del Illimani?
8. Which department/s from your organisation was involved in this project? Was there coordination or input from other departments/groups within your organisation (e.g. "The Participation & Civil Society Group, NGO)
9. Were there any internal difficulties you faced within your organisation in terms of your involvement in the concession? If so, what kinds? And how did you deal with them?
10. Were there any conflicts of interest with other development agencies as to the approach? If so, what kinds? And how did you deal with them?
11. Were there any disagreements with the government at any of the stages of PPP process? If so, what kinds? And how did you deal with them?
12. What was your relationship with Suez-Lyonnaise during the pre-bidding phase? Who were your main counterparts? Had you worked with them on previous

concession arrangements? Were there any pre-existing tensions with the company's approach or was the relationship very amicable?

13. What was your involvement, if any in the formation of the consortium?
14. What was the process used to select the legal advisory services for the government on the design of the contract? Was this a standard process? Was there anything that happened differently in this case compared to others?
15. What type of involvement, if any did you have with other representatives of stakeholder groups in Bolivia (e.g. with the municipal authorities, neighbourhood associations, the media, local NGOs etc.)?
16. Are you aware of any activities by the government or civic engagements, if any are you aware of that
17. What are the main sustainability issues you envisage for the successful implementation of this PPP initiative?

Questionnaire for Advocacy Groups/other NGOs active in water sector reform

1.What are the main messages/values your hope to espouse in the water sector?

2. What is your target group/audience?

3. What are the methods you find most useful to reach out to the international and local community to raise awareness around water issues?

4. How long have you been actively involved in the developing country context and over this period what changes (if any) have you observed regarding the way in which NGOs, private sector and government collaborate?

5. What are the barriers you encounter in terms of programme implementation?

6. Does your organisation take a position with regard to the introduction of private sector participation in the provision of water service delivery and can you please explain what this is and why?

Focus Group Discussion Questions

1. What do you consider to be the primary causes for lack of access to clean drinking water and sanitation services?

2. What do you think the overall perceptions of private sector participation in the delivery of water services are in the city of La Paz/El Alto?

3. What are the main issues involved with PSP in water and sanitation?

4. What are the main drivers to water sector reform and the incorporation of PSP?

5. Discussion points around drivers:
- lack of public financing for water?
- idological preferecnes for PSP?
- perception of poor performance of public water providers?
- inability to raise rates for services?
- interest in profit?
- international development goals?
- donor agency conditionalities?
- local community desire for self reliance?
- policy environment in support of PSP generally?
- filling need/demand/consumer preferences?

Appendix B

Stakeholders Interviewed

Stakeholder Group	Stakeholders	# interviewed
Users/Consumers	Low-income users (District 1) (District 2) (District 3) (District 4) (District 5) (District 6)	 11 12 12 10 8 7
	Low-income users	1 Focus group w/ 12 participants
	Middle/high-income users	1 Focus group w/8 participants
Civil Society	CBOs/NALs Water Coordinator Democracy Centre Public Citizen Plan International Catholic Relief Services Pro Mujer CARE Building Partners for Development (BPD) Former SAMAPA employees	3 2 1 1 1 1 1 1 1 2
	Int'l Dev Agencies IBRD IFC IDB USAID UNDP SIDA	 4 1 2 1 1 1
	Academic/Research Institutions Universidad para la Investigación Estratégica en Bolivia (UPIEB) Universidad Católica National Unity for Economic Policy Analysis (UDAPE) University of Loughborough, WEDC University of New Castle Public Services International Privatisation Research Unit (PSIRU)	1 2 1 1 1 1
	Media - Journalists	2
Government	Local authorities Municipality of El Alto Municipality of La Paz Federación de Asociaciones de Municipios (FAM) Line Ministries Viceministry of Basic Services Viceministry of Environment and Natural Resources Ministry of Sustainable Development Viceministry of Municipal Planning Ministry of Sustainable Development Ministry of Popular Participation	 4 2 1 5 2 1 1 1 2 1

	Ministry of Health Ministry of Finance Regulatory Agencies SIRESE SISSAB	1 2 5
Private Sector	AISA Suez/Ondeo Severn Trent Connal S.R.L Caja Los Andes (mico-credit bank) EcoFuturo (micro-credit bank)	5 2 1 1 1 1

List of meetings

Names of community respondents (and a few additional respondents) are not included as they requested anonymity.

Private Sector
Roberto Bianchi, *Gerente General, Aguas de Illimani (AISA)*
Darco Suazo, *Director AISA*
Isabelle Vincent, *AISA*
Luis Curridor, *AISA*
Alberto Chavez Vargas, *AISA*
Cledan Mandri-Perrott, Former Managing Director Trinidad & Tobago Water, Svern Trent
Pedro Arriola, *Caja los Andes, La Paz*
Gonzalo Puente, *Gerente General, Eco Futuro, Fondo Financiero Privado*
Government:
Jose Barragan, *Viceministro de Servicios Básicos*
Johnny Cuellar, *Superintendente de Saneamiento Básico*
Valeria Adriazola Arze, *Jefe de Atención al Consumidor, Superintendencia de Saneamiento Básico (SISAB)*
Jorge Flores Ramallo*, Consultor Técnico, Superintendencia de Saneamiento Básico (SISAB)*
Claude Besse, *Superintendente, Superintendencia General*
Luis Fernando Salinas, *Director Técnico Económico, Superintendencia General*
Arq Jorge A. Cardona Salame, *Director Fortalecimiento Municipal, Prefectura del Departamento de La Paz*
Marcelo Vasquez Villamor, *Presidente H. Consejo Municipal de El Alto*
Mery Quiton P, *Coordinadora Regional Altiplano, Servicio Apoyo a la Sostenibilidad en Saneamiento Básico (SAS)*
Jaime Dunn de Avila, *Director Departamental, Prefectura del Departamento de La Paz*
Marco Antonio Gutierrez, *Responsable de Proyecto de Desarrollo de Aguas Subterráneas*
Bernardo Requena Blanco, *Viceministerio de Finanzas Publicas*
Carlos Alberto Zamora Pineiro, *Director General, Ministerio de Desarollo Sostenible y Planificacion y Viceministerio de Medio Ambiente y recursos Naturales*
Juan Carlos Reqena, Lead Coordinator of the Bolivian Poverty Reduction Strategy (PRSP)
Carlos Kempff Bruno, Former Minister of Ministry of Sustainable Development National/Directorate of Water & Sanitation
Jaques Trigo, Former Superintendent of Banks
Patricia Venegas, Director of Sustainable Business Development, Ministry of Basic Services
Erico Navarro, *Director de ProAguas, Ministerio de Servicios Basicos*
Ronald MacLean, Former Mayor of La Paz
Sergio Reyes Villa Bacigalupi, *Honorable Concejal de Cochabamba*
Mariano Molina Taborga, *Fondo Nacional de Desarrollo Regional (FNDR)*
Sergio Arenas, *Fondo Nacional de Desarrollo Regional (FNDR)*
Diego Zavaleta, Technical Secretary of National Dialogue, Bolivia
NGOs/CBOs/ Development Organisations & Academic Institutions
Francisco Guachalla, *Responsable de Planificación y Evaluación, Catholic Relief Services*

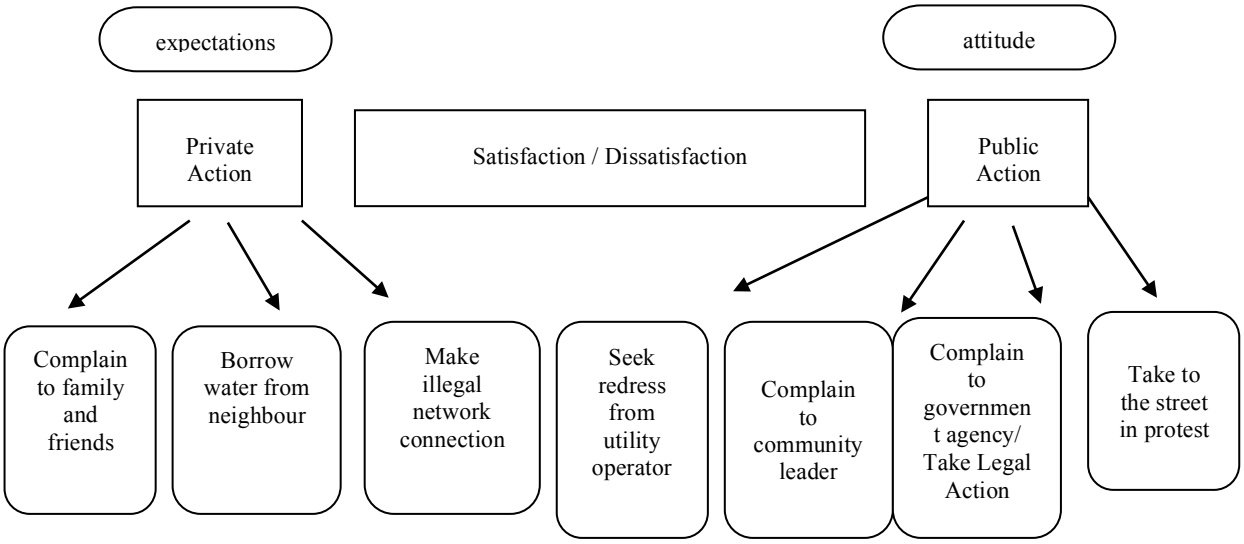
Guachalla, Ronny Vega M., *Gerente General, ANESAPA (Asociación Nacional de Empresas E Instituciones de Servicio de Agua y Alcantarillado*
Javier Aguilar Perales, *Iniciativa Local y Ciudadanía--ILC*
Kristin Komives
Victor Ortiz Gomez, National Statistics Institute
Ozcar Olivera, Coordinating Committee for the Defence of Water and Life
Carlos Melo, Representative of the Inter-American Development Bank, La Paz
Claudia Gonzales-Doell: Water Center at University of San Simón Cochabamba
Peter McFarren, President of the Quispus Foundation
Teresa Flores Bedregal, Coordinator for the Bolivian Civil Society Alliance for Sustainable Development
Michael John Bennett, *Presidente Federación de Asociaciones Municipales (FAM-BOLIVIA)*
Rocio Bustamante, Director, Commision for Integrated Water Management (CCIAB)
M. Sohail, Professor University of Loughborough
Yan Schollaert, Director CARE Bolivia
Ken Caplan, Director, Building Partnerships for Development in Water and Sanitation
Ile McAiley, Water for People and North Carolina Water for People Committee
Maj Fiil, Director Public Citizen
Maria Sicilia, Energy Specialist, OECD
Jim Shultz, The Democracy Centre, Bolivia
Jeff Conant, International Research and Communities Coordinator, Water Watch
Julian Perez, Advisor to the FEJUVE
Harry M. Trbing, Professor Institutue of Public Utilities
Wenonah Hunter, Director, Water for All Campaign
Lupe Cajias, Secretary General, *Lucha Contra la Corrupcion*
Jenifer Brinkerhoff, Professor George Washington University

Appendix C

Mapping Consumer Behaviour & Stakeholder Engagement

1. Consumer Satisfaction Mapping

In order to map the findings from the 60 in-depth interviews conducted with households in El Alto for analysis, a consumer satisfaction model was designed that visually personified the types of expectations, levels of satisfaction, attitudes and behaviour of these predominantly low-income consumers.



2. Mapping the Reform Process

Phases	Decision Points
Development of strategy to improve the institutional framework supporting the provision of water and sanitation	Design and implementation of new water sector regulations Integration of water sector reform within capitalisation framework Creation of independent regulatory authority for basic services Development of water sector policy targeted at low-income areas Creation of a special water and sanitation planning unit within the Vice-Ministry of Basic Services Redefine tariff structure
Development of strategy to involve the private sector	Development of overall policy to attract PSP Defining the scale and scope of PS involvement Selection and appointment of advisors Investigation of PPP models and options Selection of preferred option Development of detailed PPP format Planning for regulation
Selection of private sector provider	Sourcing of relevant information Advisors prepare bid documents including a draft contract Procurement of PPP arrangements Pre-qualification of potential providers Bidding by the potential providers Evaluation of the bids by client and its advisors Negotiations with successful bidder Financial closure & award of contract

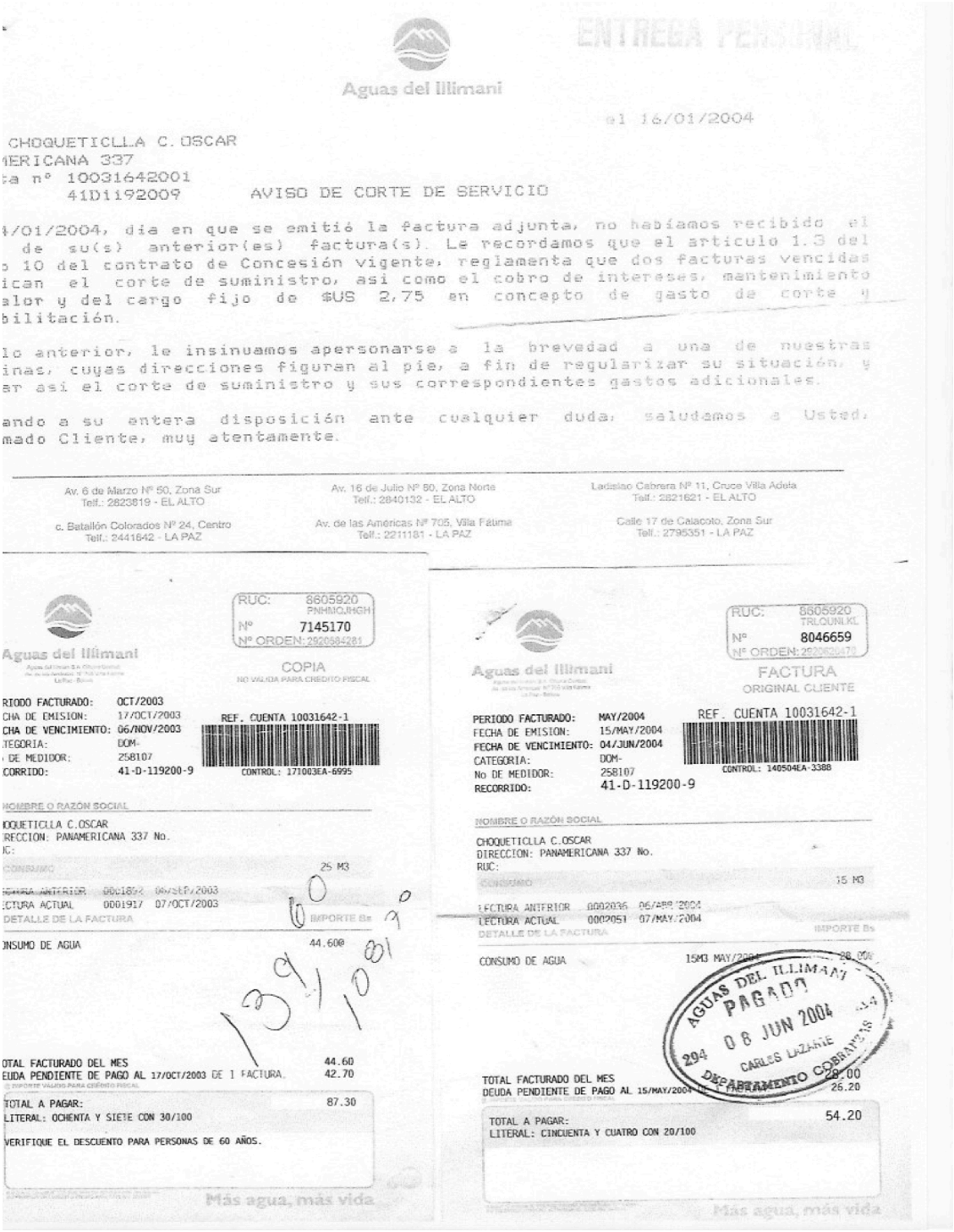
Operation and regulation	Implementation of PPP arrangement Establishment and implementation of independent regulation Service delivery, operation and development of the system in accordance with agreed performance standards and contract outputs Further development of regulations and re-basing prices
Renegotiation & Termination	Renegotiation of contract Termination of contract Handover of assets Evaluation/Audit of PPP

3. Mapping Constraints to PPP

DOMAINS	ENABLING/DISABLING FACTORS
INSTITUTIONAL/POLITICAL	Degree of water policy formalisation Political staibility/accountability/ governance Regulatory institutions PPP agencies/institutions Development Funds Extent of PSP in other infrastructure sectors PRSP status Sector coordination mechanisms Civil Society engagement
ECONOMIC	HIPC (other borrowing constrains) GATS Fiscal framework for decentralisation Currency risk PRSP and water sector planning
FINANCIAL	Sub-national debt/credit market (foreign/domestic) Market transparency Access to int'l / local political risk insurance Transaction costs User willingness/ability to pay for service Revenue/operating/construction risk Donor dependence and borrowing capacity Finance available to consumers / micro-credit
LEGAL/REGULATORY	Water policy Strength of regulatory institutions Municipal autonomy Property rights Natural resources Tariffs/subsidy structures
CULTURAL	Values Social norms/beliefs Participation Racism Vulnerability Civil Society engagement
CONTEXTUAL	Demographic/geographic History of sector performance Access to water resources Access to house-hold data Capacity (human/technical) Information sharing/ communication Stakeholder incentives to participate Status in relation to MDG Civil Society engagement
FORCE MAJEURE	Environmental Financial crisis Riots/civil war

Appendix D

Sample Billing Statement & Suspension of Service Warning



ENTREGA PERSONAL

Aguas del Illimani

el 16/01/2004

CHOQUETICLLA C. OSCAR
IERICANA 337
ta nº 10031642001
41D1192009

AVISO DE CORTE DE SERVICIO

4/01/2004, dia en que se emitió la factura adjunta, no habíamos recibido el de su(s) anterior(es) factura(s). Le recordamos que el articulo 1.3 del o 10 del contrato de Concesión vigente, reglamenta que dos facturas vencidas ican el corte de suministro, asi como el cobro de intereses, mantenimiento alor y del cargo fijo de $US 2,75 en concepto de gasto de corte y bilitación.

lo anterior, le insinuamos apersonarse a la brevedad a una de nuestras inas, cuyas direcciones figuran al pie, a fin de regularizar su situación, y ar asi el corte de suministro y sus correspondientes gastos adicionales.

ando a su entera disposición ante cualquier duda, saludamos a Usted, mado Cliente, muy atentamente.

Av. 6 de Marzo Nº 50, Zona Sur
Telf.: 2823819 - EL ALTO

Av. 16 de Julio Nº 80, Zona Norte
Telf.: 2840132 - EL ALTO

Ladislao Cabrera Nº 11, Cruce Villa Adela
Telf.: 2821621 - EL ALTO

c. Batallón Colorados Nº 24, Centro
Telf.: 2441642 - LA PAZ

Av. de las Américas Nº 705, Villa Fátima
Telf.: 2211181 - LA PAZ

Calle 17 de Calacoto, Zona Sur
Telf.: 2795351 - LA PAZ

Aguas del Illimani

RUC: 8605920 PNHMOJHGH
Nº 7145170
Nº ORDEN: 2920584281

COPIA
NO VALIDA PARA CREDITO FISCAL

RIODO FACTURADO: OCT/2003
CHA DE EMISION: 17/OCT/2003
CHA DE VENCIMIENTO: 06/NOV/2003
TEGORIA: DOM-
DE MEDIDOR: 258107
CORRIDO: 41-D-119200-9

REF. CUENTA 10031642-1
CONTROL: 171003EA-8995

NOMBRE O RAZÓN SOCIAL

OQUETICLLA C.OSCAR
IRECCION: PANAMERICANA 337 No.
IC:

CONSUMO 25 M3

LECTURA ANTERIOR 0001822 06/SEP/2003
LECTURA ACTUAL 0001917 07/OCT/2003
DETALLE DE LA FACTURA IMPORTE Bs

CONSUMO DE AGUA 44.600

TOTAL FACTURADO DEL MES 44.60
DEUDA PENDIENTE DE PAGO AL 17/OCT/2003 DE 1 FACTURA. 42.70

TOTAL A PAGAR: 87.30
LITERAL: OCHENTA Y SIETE CON 30/100

VERIFIQUE EL DESCUENTO PARA PERSONAS DE 60 AÑOS.

Más agua, más vida

Aguas del Illimani

RUC: 8605920 TRLOUNLKL
Nº 8046659
Nº ORDEN: 2920620470

FACTURA
ORIGINAL CLIENTE

PERIODO FACTURADO: MAY/2004
FECHA DE EMISION: 15/MAY/2004
FECHA DE VENCIMIENTO: 04/JUN/2004
CATEGORIA: DOM-
No DE MEDIDOR: 258107
RECORRIDO: 41-D-119200-9

REF. CUENTA 10031642-1
CONTROL: 140504EA-3388

NOMBRE O RAZÓN SOCIAL

CHOQUETICLLA C.OSCAR
DIRECCION: PANAMERICANA 337 No.
RUC:

CONSUMO 15 M3

LECTURA ANTERIOR 0002036 06/ABR/2004
LECTURA ACTUAL 0002051 07/MAY/2004
DETALLE DE LA FACTURA IMPORTE Bs

CONSUMO DE AGUA 15M3 MAY/2004 28.00

AGUAS DEL ILLIMANI PAGADO 08 JUN 2004 294 CARLES LAZARTE DEPARTAMENTO COBRANZAS

TOTAL FACTURADO DEL MES 28.00
DEUDA PENDIENTE DE PAGO AL 15/MAY/2004 26.20

TOTAL A PAGAR: 54.20
LITERAL: CINCUENTA Y CUATRO CON 20/100

Más agua, más vida

Appendix E

Summary of AISA Audit on Expansion Targets, Investment and Estimated Penalties Due to the Firm[220]

Pozo & Asociates, May 2006

1. FIRST FIVE YEARS (AUGUST 1997–DECEMBER 2001)

1.1. Pozo & Asociates considered that AISA did not comply with the Expansion Targets that were established for the first five years of the Concession Contract (CC), which included the attainment of 100% of potable water coverage in the Achachicalay Pampahasi systems and the installation of 71,752 new connections for The Alto System. The non-compliance would result in the enforcement of clause 26 (26.2.1, expiration) of the Concession Contract, in addition to the fines stipulated in Annex 9, number 2.3.

1.2. This conclusion is based on the following: In the Alto System AISA did not attain the required installation of 71,752 new connections, reaching only 52,764 (73.54% of the contract). AISA argued that the non-compliance was due to the fact that the demographic projections for El Alto were overestimated when the proposal for the 71,752 new connections was made, and now, by the end of 2001, AISA will achieve 100% coverage with fewer amounts of connections.

1.3. On the basis of the information supplied by AISA and without any proven information that would support that AISA did in fact reach 100% of potable water coverage in the three systems of La Paz and The Alto, SISAB proceeded to define new Expansion Targets for the following five years.

1.4. The CC stipulates in Annex 6, that to determine 100% of coverage, the Contractor must respond to a new connection request within 90 days. The Contract also

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[220] Author's own translation.

stipulates that 100% of coverage must be reached during the first five year period that concluded at the end of 2001.

1.5. The report that AISA prepared as requested by SISAB on "Execution Periods for the Connections of Water and Sewerage for 2002…….", establishes that AISA incurred in only 8.5% of connections beyond the deadline established for the three Systems. In addition, it was important to point out that during 2002; there were 50% more connections than the previous year, demonstrating that during 2001, notwithstanding the increase in cost per connection from US$155 to US$196, there existed unsatisfied demand for potable water connections.

1.6. Notwithstanding these assertions, there seems not to be any justification, by AISA, for the delays in complying with the schedules of new connections for potable water that were stipulated in the CC.

1.7. Upon verifying the AISA did not comply with their commitment to have 100% coverage in all the area of service by 31 December 2001, and since the reason of low demographic growth did not demonstrate that it was a factor in the non-compliance, the sanctions stipulated in the CC could be legally imposed. For the non-compliance in The Alto Area, AISA should have been fined the equivalent of US$9,494,000 (18,988 connections x US$500) and the obligation of installing 22,786 connections of potable water for the following year.

1.8. There was also non-compliance with the targets set sewerage in the areas of Achachicala and Pampahasi in the city of La Paz, which resulted in the failure to connect 2,530 additional connections according to the terms stipulated in Annex 6 of the CC. This non-compliance should have been sanctioned by a fine of the equivalent of US$1,265,000 (2,530 connections x US$500) and the obligation of the installation of 3,036 sewerage connections the following year. AISA also could not mitigate the non-compliance in the city of La Paz, by having carried out connections that were in excess of the Contract in the El Alto Area.

1.9. AISA argues, that the infractions that were committed should prescribe because they happened over two years ago; however, our legal opinion is that the infractions do not prescribe according to Bolivian Civil Law, in particular article 1453 and 1454, which stipulates that the Bolivian State has the right to demand

total compliance of all the commitments of a Concession Contract at any time. It is also important to point out that, were it not for the efforts of the "Works with Community Participation" (OPV'S) as well as the "Condominium Works", both with financial support from the communities and third party donors, the non-compliance of the annual targets would have increased up to 35.3% in potable water and 32.8% in sewerage. The possibility of not taking into account the works done by these community based associations is based on the interpretation of clause 13.10 of the CC which stipulates that "the Concessionaire will be responsible for the cost and construction of all the installations".

2. SECOND FIVE YEARS (JANUARY 2002–DECEMBER 2006)

2.1. The objective is to verify if the expansion targets for the second five years, from January 2002 through December 2005, are being complied with.

2.2. The program targeted in potable water was to maintain 100% of coverage (which was considered attained in all of three systems when the first five year program was concluded) until the end of 2006. In order to achieve this target, AISA must install 33,859 additional connections in the three systems (1,527 in Achachicala; 9,004 in Pampahasi; and 26,328 in El Alto). In sewerage the target was also to maintain 100% of coverage, having to install 1,050 connections in Achachicala; 4,607 connections in Pampahasi; and 4,607 connections in El Alto.

2.3. During this period, through 31 December 2005, the date of the last report, AISA managed to attain 25,452 potable water connections, reaching 75.2% of the five year targets. With these figures AISA is 3% below the projected targets for the period. With respect to sewerage, AISA reported more connections then were targeted for this period; having installed 28,622 connections of the 19,478 that were programmed for this period.

2.4. The execution period for the installation of the potable water connections for the years 2002 through 2004 had to be increased by 12.61% with relation to the execution periods established in the CC. In consequence, it was recommended to SISAB, that they impose the fines that were establishes in Annex 9 of the CC for those connections that were not installed in the agreed upon execution period.

2.5. It was also verified that AISA did not comply with the annual targets of potable water connections. SISAB, should apply the sanctions established in number 2 of Annex 9 for the non-compliance of the annual targets for the years 2002 and 2003. The consequences would be as follows:

- For the year 2002, AISA should have been fined with the obligation of executing 559 additional connections the following year (20% more than was executed)
- For the year 2003, AISA should have been fined with the obligation of executing 1,843 additional connections (20% more than was executed). Additionally, because 15% of the annual works, were not complied with, AISA should be fined US$768,000.

2.6. With respect to the connections of potable water that were to be executed outside the service area, as of 2005, the Concessionaire, had executed 34.7% of what had been programmed for the five year period, having only one year to install an additional 9,795 connections. Taking into account that during the last four years (2002–2005), AISA only carried out 5,205 connections outside the service area, it was very improbable that they would be able to meet the targets by the end of 2006.

2.7. Regarding the sewerage component, according to the information reviewed, we can conclude that AISA has already complied with the number of connections stipulated in the contract for the entire five year period. In the different systems they have complied with the agreed upon expansion connections; however, with the connections for densification there was non-compliance in all the three systems.

2.8. Also, as in the first five years, own financing and financing from third parties, at the end of 2005 the compliance with the targets would only reach 56,3% in potable water and 87% in sewerage.

3. INVESTMENTS

3.1. According to AISA, the fixed assets, as of 31 December 31 2005, were valued at US$65,958,617 and the net assets were valued at US$47,655,672, of this amount,

the greatest portion corresponds to the line item “permanent installations” which amounted to US$51,725,535 and the net amount to US$42,180,237. All of the investments that are a part of these accounts were reviewed.

3.2. The results of our review of the “permanent instalations” accounts, have determined that the amount of fixed assets should be US$ 28,165,649 and the net amount should beUS$22,293,039.

3.3. We have taken into account in addition to our review of the permanent installations categories, the following two clauses: according to clause 19.2.2 of the CC, upon the termination of said CC, the Concessionaire will transfer all fixed assets to SAMAPA; also in accordance with clause 3, numeral 3.1.10 of the “Regimen Contract” and clause 19.2.1 of the CC, all the assets and investments and inventories will be transferred by AISA to SAMAPA free of charge at the end of the Contract.

3.4. As a result of our review, we have established that the investments in permanent installations reported by AISA differ substantially of those estimated by us on the basis of the Audit that was carried out.

3.5. ***Amounts that should not be considered “investments” (Permanent Installations).***

3.5.1. According to the technical review of the works and other investments, the following items in the investment categories have been found to be invalid due to either insufficient or total absence of information to support said investment.

3.5.2. Transfer of investments in infrastructure from SAMAPA

3.5.2.1. AISA did not register the specific goods that were transferred from SAMAPA to AISA, making it difficult to estimate which investments were from AISA and which were from SAMAPA.

3.5.2.2. There is not a conciliation of expenses for each of the infrastructures works that would validate the investments made by the Concessionaire, as well as no documentation of the payroll of each of the projects.

3.5.3. The reports from the firms GITEC and CAEM omit costs.

3.5.3.1. In the Minutes making references to the transfer of assets and liabilities, relevant information about permanent installations is omitted.

3.5.3.2. The confirmation of said transfer of investments by SAMAPA is also not incomplete and does not provide supporting information on the amounts that were transferred.

3.5.4. Indirect Costs

3.5.4.1. For the calculation of indirect costs, both financial as well as personnel, AISA implanted procedures that could not be verified during the review. Consequently, the amounts in these categories could not be considered as investments and were excluded from the total.

3.5.4.2. A similar situation presented itself for the financial costs that were charged to the investment works; the information supporting these costs was insufficient and therefore these costs were excluded from the total.

3.5.4.3. Binders with the information of the Investment Works presented by AISA. AISA did not provide us with 14 binders relating to the infrastructure works that were carried out and reported as investments.

3.5.5. Investment Expenses without accounting support documents

3.5.5.1. During the review of the spread sheets relating to costs and the corresponding support documents, we have not been able to verify or identify the support documentation for 395 infrastructure works, making it impossible for us to validate these works as “investments”.

3.5.6. Expenses without supporting documentation

3.5.6.1. During our review, we found accounting documents that did not have the supporting documentation for expenses such as: payroll expenses for some of the works, receipts, and storage costs.

3.5.6.2. Capitalized costs for the payment of Consultancies. The following aspects have determined that the amount of US$1,288,464 (net of depreciation US$1,063,512) cannot be attributed to investments.

3.5.6.3. Lack of relevant information in the contracting process of the consultants, which impeded us from including these costs as part of the investments.

3.5.6.4. Lack of information of the consultants contracts

3.5.6.5. Lack of a Final Report prepared by the Consultant

3.5.6.6. Lack of documentation supporting the approval of the work by the corresponding employee, for the work that was done by the consultants.

3.5.7. Construction of the Condoriri Dam

3.5.7.1. According to the financial observations, there exists a discrepancy between the amount reported by AISA and the amount certified in the payroll ledgers for US$167,121

3.5.7.2. In addition to the above observation, the following technical observations are relevant: at the moment of execution, in the year 1998, the pipeline Rib Loc did not have the certification from IBNORCA; also IBNORCA did not have the authorization of the International Normative (DIN 16961); AISA installed the pipeline without the necessary certification, since the normative was not approved until 10 August 1999.

3.5.8. Assets without ledgers for costs or accounting notations

3.5.8.1. We did not receive ledgers for costs or the corresponding accounting notations for 36 infrastructure works.

3.5.9. Other Assets without supporting documentation

3.5.9.1. We could not verify documentation for 4 assets that were included as investments between September and December 2005. The corresponding amount could not be identified from the works that were registered in the balance sheets.

3.5.10. Other Concepts.

3.5.10.1. There are various categories that should not be considered part of investments: repair of the deficiencies found when compacting; errors in

the calculation of monetary conversions; other costs that have no supporting documentation.

4. Observations that affect the contents of the Concession Contract

4.1. **Contracting Policies**

4.1.1. There were modifications made that broadened the technical specifications of the contracts without the approval of SISAB, violating those established in the CC. This modification did not permit an open competition for the contracting of the infrastructure works because it impeded the contracting of firms that had more specialization and could propose economies of scale, reducing the costs of investment and guaranteeing good technical quality in the works.

4.1.2. We reviewed the frequency of contracting the same firms, however the archives did not contain the necessary minimum legal information that was required, infringing on the contents of the CC (Annex 11).

4.2. ***Absence of the necessary and pertinent evidence to support the investments that were made***

4.2.1. There were identified a series of deficiencies and inconsistencies in the documentation provided that either weakened or invalidated the necessary evidence to validate the investments that were made and violated article 14 and numeral 2 of Annex 11 of the CC, as well as point CXCII of the manual for Monitoring and Control that says: “the Concessionaire should have registers, archives and other controls to register the necessary information, qualitatively and quantitatively, in order to facilitate the efficient management of the Concession and the control by the Superintendency”.

4.2.2. This weakness is also evident when we try to review the support documentation in the utilization of materials in the projects and the detailed verification of the cost of each project.

4.3. ***Differences found in the technical specifications***

4.3.1. In the execution of 155 excavations, to verify the quality of the material used in the execution of the project, we found discrepancies in 10 projects with what was indicated in the Execution Plan of the Project.

4.3.2. These discrepancies alter the terms of the project and could cause below par service to the beneficiaries, violating point 2.1 of Annex 2 of the CC.

4.3.3. Differences in the percentages established in the CC that were used for depreciation.

4.3.4. During the period 1997 to 2001, AISA used depreciation percentages that were different from those stipulated en RAR 17/97 and 79/99, reflecting an overestimation of the value of the investments of the first five years.

4.3.5. A similar situation presents itself in the second five year period, even though the extension of the useful life of the investment was negotiated with the changes in the tariffs. The percentages of depreciation agreed upon in the negotiation were not based on technical criteria.

4.4. **Economic and Financial Aspects**

4.4.1. From a purely economic and financial analysis, we can conclude that the presence of the operator limits itself to the provision of services and to a very limited degree to the capital investment, which is the finality that is looked for in the Concession of the basic services operators so that it permits the State to convert into a State Regulator. From a financial point of view, this premise is done taking into account what is detailed in the following table: **(Insert Table)**

4.4.2. The Capital contribution of AISA only comes to 9. 4% of the total investment resources. The remaining 90.6% of the resources is funded from the operational income (37.8%) and from loans of the financial markets (52.8%), whose payments were possible by the amount of the tariffs that were charged to the beneficiaries.

4.4.3. During the second five years, the charges for connections, in accordance with the CC, were an integral part of the operative income of AISA and together with other incomes, financed the operations of the Concessionaire.

According to numeral 15.4 of the CC the contribution of the Operator should be to provide the technical assistance and know-how and to manage the Concession. The costs of Technical Assistance paid to the Operator (Lyonnaise des Eaux) for US$11,045,367 up to 31 December 2005, in essence are more of a dividend, than an operative cost.

4.4.4. The financial return that we have calculated that the Concessionaire has obtained during the 8 ½ years that have been reviewed, is 15.1%; US$2.65 million above the rate cut of 9% that was verified as the cost of financing during the analyzed period. Taking an average for the 30 years of the concession, the financial return for the Concessionaire would be 22.9%.

4.4.5. The rates of financial return demonstrate that with the present prices and tariffs, the level of generation of income is important. If in fact these resources did not have to be given to the Operator as part of their profit, these resources could permit any enterprise acceptable levels of operative profits, the same that could be transferred and used for future investments that would assure the viability of the enterprise.

4.5. ***Debt Service***

4.5.1. AISA did not comply with clause 9.5 of the CC that protects the continuity of the provision public services granted under the concession. Furthermore, the difficulty in being able to identify the projects and works executed with financing from international organizations and other sources, did not permit us to determine if the charges for financial costs, that these resources generated, were reasonable or not. The total debt from all the providers is as follows: IIC US$4,216,289; IADB US$4,216,289; CAF US$2,810,859; and Public Bonds US$5,078,189; Total as of 31 December 2005 US$16,321,626.

4.6. **Bonds**

4.6.1. Previsions have not been made for the redemption of the issued bonds, nor were we able to determine if the interest payable to the bondholders has been paid.

Appendix F

El Alto Maps

Map provided by the office of the Mayor El Alto, Bolivia