

Deciphering the Effects of Decentralization on Water Rights:

State to Urban Inconsistencies in Bolivia



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Introduction

Nearly sixteen years have passed since protestors in Cochabamba's Water War (*La Guerra del Agua*) ousted private water corporation *Aguas de Tunari* from the country of Bolivia (Shultz, 2008). The protests brought to light the social inequalities of access to water, both for drinking and sanitation, in the city and finally demanded accountability from those responsible. However, Cochabamba continues to suffer from severe regional, and national-scale class segregation concerning human rights to water. This dynamic occurs in the face of the city's faltering management of the urban water supply. Due to small-scale privatization, the quality of water is unreasonably split between north and south regions of the city (M. West, 2014). In 2016, the city's main water supplier SEMAPA (*Servicio Municipal de Agua Potable y Alcantarillado*) still fails to provide potable water to Cochabamba's poorest peri-urban region in the south. Here, water needs are normally met in a combination of small-scale social institutions known as water committees (*comités de agua*) that self-manage and oversee a neighborhood's water supply system, and tanker trucks known as *aguateros* that transport water to the region.

However regional these social inequalities may seem, I argue that they are posited by larger, overarching state policies that have allowed them to persist. Major political reform implemented during the height of Bolivia's neoliberal era has given historically oppressed communities their long-sought autonomy from the state, while simultaneously producing a market-based system that suggests nationwide economic success. In this study I reveal how two state policies, appealing at both local and national levels, have jointly manifested a seemingly perfect scenario for improving the lives of marginalized groups, but in reality continues to hinder communities dependent on small-scale

privatization in acquiring potable water. Furthermore, these state policies pacify politically frustrated communities by endowing desired autonomy, which unfortunately devolves communication to lower governmental tiers thus preventing the chance for social change.

First, decentralization remodeled the power structure of Bolivia's political system. By reducing state sovereignty and allocating more responsibility to the municipal level, decentralization aimed to make public investment more efficient and increase the speed of local development (Kohl 2002, Faguet 2012, M. West, 2014). Moreover, decentralization was also an effort to "deepen democracy" and decrease inequalities by bringing the government closer to the people, developing their political voice to be better heard by municipal level governments (Faguet, 2015, Postero, 2013). For Bolivia's central government, this redirects public political opposition that has historically led to national disturbance. The gap between the state and local sectors established due to decentralization allocated neighborhood communities the autonomy and capability to take warranted responsibility of water provisions and resource management. Many times, this autonomy exists in the form of non-politically recognized water committees poised by their self-sustaining efforts. However, as much as decentralization empowers those most in need, it also perpetuates inequalities in the area concerning access to water.

The 1994 Law of Popular Participation (LPP, *Ley de Participación Popular*) expanded decentralization. Designed to accommodate demands for more community control, the law deflected mounting criticisms of the state over their habitual neglect towards Bolivians. LPP redirects large portions of national revenue towards local provisions, thus making foreign investment once seen as a debilitating maneuver,

appealing even at the local level. The LPP's effect on decentralization has been to create a stabilized system that simultaneously promotes autonomy and economic success. What it does not do is mitigate the struggles in acquiring potable water and instead deepens Cochabamba residents' dependence on private sources.

In this project, I examine the ways in which the inhabitants of District 14, an informal settlement in the peri-urban area of Cochabamba, Bolivia address their residential water needs and confront their past and continued dependency on private well owners. With regard to the LPP, the unfortunate negative impacts of resource distribution reinforces negligence by the state in providing sufficient aid for those affected by an unethical, local-level market that refers to water as something profitable. This paradox illuminates a tension in Evo's Bolivia. At one pole is the embrace of indigenous concepts such as "*buen vivir*" (to live well) to expand understandings of rights to a clean environment, potable water, and other basic necessities. Morales' Movement Towards Socialism (*Movimiento al Socialismo*, or MAS) has made these policies central to their government and characterizes their opposition to neoliberal reforms (Ledo, 2013). At the other end is the state's reliance on decentralization policies to devolve political authority to communities while deepening their reliance on markets to meet basic needs. Those policies have tended to concentrate economic power in large corporations and the central government.

The paper is organized as follows: A literature review interprets Latin America's political past and the impact created on urban areas due to dynamic shifts in power and policies. This precedes a quick look into what defines a city and the significance this brings to the study. Focusing on the unique story and process of what decentralization

means for Bolivia and concentrating on one urban area in particular, I examine its past and present relationship with the state government regarding the distribution of water. I then examine the implications of these larger issues at an even more specific, local level. I conclude by discussing and situating the urban to state disconnection that exists in this particular site.

Literature Review

Human life is dependent on water. As an essential element, water sustains us in our everyday lives. It is fundamental to our existence. We have appropriately romanticized the element incorporating it into our cultures and religions, developing a bond that goes beyond its physical properties. Therefore, it is quite perplexing on a planet that is water-abundant, humans have discovered a way to make clean water a luxury unavailable to 783 million of the earth's people while leaving 2.5 billion without adequate sanitation (United Nations, 2013).

In 2010, the UN declared potable water a human right for all, calling on state and international organizations to “provide financial resources, help capacity-building and technology transfer[s] to ...particular developing countries” (United Nations, 2014). In 2016 South America's poorest country, Bolivia falls short in making this human right to access a reality. According to Carmen Ledo (2004), a Cochabamba academic who studies water politics in the city, many Bolivians continue to rely on private sources of water to meet their daily needs. Their right to water, in other words, is a function of their own ability to pay for it. This political dilemma facing the country has been years in the

making. In order to unravel Bolivia's dilemma utilizing an urban political ecology lens and an urban metabolism framework, a historical understanding of the nation is necessary.

Neoliberal reform in Bolivia started in the 1980's, and was initially hailed as the solution to the country's economic woes and political stability. At the time, the country was engulfed in economic crisis. Bolivia's Import Subsidization Industrialization (ISI) system in the 1970's favored the limitation of foreign trade and the growth of domestic industry. The imperfections of ISI resulted in many economic failures including increased debt and inflation. Inflation was over 12,000% and the national currency, the boliviano, was losing value (Shultz, 2008).

The solution to these woes was proposed by US economist Jeffrey Sachs who in 1985 proposed a "Structural Adjustment Program" (SAPS) to Bolivia's National Revolutionary Movement party (MNR) (Kohl, 2001). The SAPS were loans supplied by institutions such as the World Bank (WB) and International Monetary Fund (IMF). They were given to debt-ridden countries granted that they followed the banks' suggested method of restructuring the economy. This method aimed to create a suitable environment for free trade. It required "states to privatize state-owned enterprises", "deregulate industry, orient industry toward export, and drop all subsidies and trade barriers" in order to encourage foreign investment (Postero, 2013, p. 28). This accentuated the already existing dependency on the extraction of Bolivia's natural resources, which would lure "regional and global trade agreements" (p. 28). One critical part of the SAPS that made much of this possible was the cutting of social spending. The same institutions that curated SAPs were forced to develop other programs in order to

ameliorate the social impacts that came along with them. This certain “relief” is essential in order for such neoliberal models to function as intended.

For Bolivia, the economic structural adjustments and social-aid provided by outside investors was solely to ensure a “stable social and political environment for private firms” that would need such an environment since the job market was eliminated through controlling the industrial sector (Kohl, 2001 pg. 2). Instead of success, Sachs’ privatization-policies caused Bolivia to lose money while private companies reaped the benefits of the state.

Reforms that liberalized the market lead to the collapse of Bolivia’s agrarian sector that could not compete with cheap imports. This caused a surge of unemployment and brought about huge rural-urban-displacement. The gap between the poor and rich widened as surplus went into the hands of foreign investors and the population, whose social spending was reduced, was burdened to discovering their own means to healthcare, education etc. (Postero, 2013). In an attempt to revive the country’s poor economic state, President Sánchez de Lozada pushed for new laws that opened up Bolivia’s industrial sector to foreign investment with the 1994 Law of Capitalization. The law facilitated the sale of over 50% of state industries to be sold to private companies. This marked the switch to private enterprises taking on the states role in the socio-hydroscape. This included turning over the city of Cochabamba’s municipal water utility in 1998 to French company *Agua de Illimani*.

It didn’t take long for neoliberal policies to meet with opposition from civilians contesting the sale of state infrastructure to private companies. The incentives for foreign investment are clear. “Big money” bought desperately needed new infrastructure,

promising jobs and improvement in living conditions. For Cochabamba, an agreement with *Aguas del Illimani* would indicate the revitalization and enhancement of the city's dwindling piped water network that could potentially reach neglected water-poor regions. In turn, investors expected to be paid back for their services. In the case of water in Cochabamba, this meant rate-hikes for citizens without regard for their ability to pay. Their efforts transformed water into a commodity as opposed to a right, something to be acquired only through the market.

Similar processes occurred with education, healthcare, and transportation, sparking public protests. Between February 2000 and April 2001, the country of Bolivia was shut down three times (Kohl, 2001). Issues resolved through greater public participation would become the same power successful in electing Evo Morales as the first indigenous president in 2005.

Evo gained the attention of Bolivians by promising what seemed to be an anti-neoliberal agenda that aimed at ending privatization and limiting foreign interest. However, it was undoubtedly due to a newly discovered strength in numbers that resulted in a high turnout of indigenous voters. For the first time, Evo Morales and the MAS party were politically representing historically oppressed indigenous groups, who make up over 70% of Bolivia's population. By 2009, the national constitution was rewritten in order to directly incorporate the indigenous belief, "*buen vivir*" for a new framework in defining social wellbeing. This is the indigenous ideology meaning to 'live well' in harmony with Pachamama (mother earth) that rejects the emphasis on the individual associated with capitalism and replaces it with an emphasis on indigenous communities' understanding and reliance on nature (Gudynas, 2013). A human right, now

constitutionally recognized, suggests the necessary collaboration from the government in acquiring basic needs for Bolivia's population. In spite of these reforms, Bolivia remains the poorest country in South America, with over 50% of people living in poverty.

Moreover, the country's diverse indigenous groups make up the majority of their poor population. On the other side, wealthy urban elites who have historically controlled political institutions continue to embrace neoliberal policies that work in their favor.

Interestingly, Evo's Bolivia, which has recently been popularized for its unforeseen economic success, is experiencing similar tensions felt by its neoliberal predecessor. Most notable is popular opposition to recently announced plans to construct a highway through national forest and protected indigenous territory known as TIPNIS. The road is intended to increase the production and trade of logging throughout the Amazon Rainforest empowering the MAS's extractivist mentality that fuels Bolivia's ostensible economic success. Cloaked by these national controversies are lesser-known, though perhaps even more pressing tensions situated at the urban level. Here, small-scale privatization continues to hinder the livelihoods of civilians by making drinkable water a privilege. Although one of these issues gains global priority over the other, we will see how they are both creations of the same state policies.

The Urban

Bolivia's history is marked by the repeated rise and fall of the nation's health. This includes the wellbeing of a country's "socio-nature" relationship that exists in part with its people, policies, culture and government and their effect on the role of natural

resources. These resources provide life and power in the form of basic human needs, infrastructure, technological advancement and capital, as seen with mining (Swyngedouw 2004, p. 12). Furthermore, we can associate the control of natural resources with the control of power, given that basic human needs such as water, air, and food (the metabolic requirements for human survival), are subject to the disorder and fluctuation of ever-changing governmental policies that are generally manipulated by the few who harness said power.

The hydrosocial cycle is fueled on the tensions between political, social, and economic power-relations. Water's life-sustaining property adds to its use-value and makes it sensitive to "to intense social struggle[s] along class, gender, and ethnic cleavages for access and/or control" (Swyngedouw, p. 2, 2003). Governments, organizations, and public and private agents all find their appropriate role in the hydrosocial cycle.

To understand the socio-nature network is paramount in understanding the dilemma that exists in the most impoverished and underdeveloped countries in regards to an unequal distributions of resources. This is especially true where a state's decisions on the extraction and allocation of a resource and the policies that surround these decisions directly affect the lives and status of the people involved (Short, 2014). In Bolivia, urban settlements experience vast inequalities when obtaining potable water due to state policies that increase complexities in local sectors (Spronk et al. 2012). In Cochabamba, the private water utility has little incentive to build out water infrastructure since it is only marginally profitable. It is more common for states to provide the necessary development granted the state deems itself responsible.

Providing efficient infrastructure has historically been a key role for the state in the country's socio-hydroscape. In other words, the health of a city reflects the health of the state in its entirety. However, this does not devalue the power, independence, and inimitability a city is solely capable of possessing (Harvey, 2008; Swyngedouw, 2012). In fact, we are able to trace a city's socio-hydroscape and bring the concept of "health" to a more intimate level revealing how decentralization adds kinks to the flow of resources in the urban area. Neoliberal reform was not only the culprit in the growth of peri-urban areas but was also what pushed the state's role in the socio-hydro cycle over to private hands.

Unfortunately for Cochabamba, a system exists where potable water, in all its stages of the cyclical process of entering and exiting a city, becomes a 'good' in itself that defines one's placement in society depending on its affordability (see Swyngedouw, 2003). Peri-urban areas must also be included as part of the city in order to reach all city-dwellers in need. This is important in order to maintain what Erik Swyngedouw calls the "metabolism ...of the wider social fabric", claiming that the health of urban areas are directly dependent on the " ...supply, circulation, and elimination of water" (Swyngedouw, 2003, p. 1, 28). By examining how well the city functions in regard to its socio-hydro avenues (and how decentralization affects the distribution of this resource), we can ultimately distinguish the direct effects the conditions of water provisions have on Cochabamba's peri-urban areas. This helps better understand the 'health' of Cochabamba or, the lack thereof.

The Dilemma in Cochabamba

The municipality of Cochabamba is divided into 14 districts, each further divided into neighborhoods now politically recognized under the LPP. Districts 5, 6, 7, 8, 9, and 14 make up the southern zone or also known as *zona sur*, comprising a peri-urban area where more than half of Cochabamba's 500,000 residents live (Ledo, 2013). The population of *zona sur* is growing at an annual rate of 8.9%, roughly triple the 2.9% rate for the city as a whole (Ledo, 2013). Since 2012, the growth rate has increased to 13.5% (Veizaga, 2015). This growth has taxed infrastructure needed to provide basic services such as drinking water and sanitation that has never adequately met residents' needs. As much as Cochabamba is ecologically water-poor (e.g. highly contaminated water and stressed aquifers due to over pumping) Cochabamba's residents are water-less due to the city's lackluster capacity to serve the population, rather than physical scarcity.

The population growth Cochabamba experienced in the 1970's due to the failure of ISI policies was only the beginning of the impending effects of urbanization. Neoliberal reforms in the 90's had deepened these devastating effects. The state's role as the country's main employer had devolved into the hands of foreign owners in an effort to reduce employment. Indigenous workers in mining towns like Oruro, Potosi, and El Alto were out of work due to a sudden lack of employment opportunities within the tin industry and therefore began to migrate to the outer-sections of urban areas. This created a peri-urban area of strong indigenous character around the outskirts of the Cochabamba. Here, they could avoid the high fees associated with the inner-city while living close enough to take advantage of the informal job market that exists in the downtown districts (Spronk, 2007).

To this day, most informal jobs, which cater to tourists and consumers living in the north of the city, are filled by inhabitants of zona sur where potable water only reaches 6.8% of the population (M. West, 2014). The municipality has historically neglected this area, focusing instead on providing public services and infrastructure to the more affluent north, further fuelling divergence between the city's people.

While SEMAPA was failing to fulfill the city's needs, Bechtel was no better. For the two years the foreign corporation had charge of the city's water supply, it made little effort to extend its piped network to zona sur. Enhancing the already decaying network that runs through the northern part of the city was a last priority for the corporation. Due to the poor physical condition of the water pipes, around 47% of extracted water is lost during transportation from the water source (2014). Worse, the degraded metal allows biological and chemical pollutants into the water. Moreover, SEMAPA has been notoriously involved in financial corruption even before the Water War. More recent changes in the management of the water utility have yielded similar outcomes.¹

Growth of the zona sur has sent informal settlements up hills near the base of the city's sloping terrain (Spronk et. al, 2012, p. 439). These historically dry hills hold little water to meet growing demand. Periodic droughts make conditions worse. Furthermore, the terrain is composed of hard and almost impenetrable rock that makes well drilling only possible with more expensive machinery. In 2010, Only 2 out of 23 wells drilled in zona sur provides potable water, while the remaining only produce contaminated and salty water (Ledo, 2010). Though this unfortunate, the issues that exist in Cochabamba's socio-hydro network far surpass the importance of any land limitations.

¹ Carlos Crespo Flores; Director de Medio Ambiente at Universidad de Mayor San Simón (UMMS). Interview; March 2015

According to a survey conducted by CEDIB (Centro de Documentación e Información Bolivia) in 2007, only Districts 5 and 6 in the southern zone had connections to potable water via SEMAPA, although this did not cover the entire population of the districts. Around 86.58% of the homes in District 5 are directly connected while only 77% in District 6 are (CEDIB, 2007). In 2013 almost 100% of the inhabitants in the city's center had direct connections to SEMAPA's piped water network as opposed to roughly 3% on average of homes covered in the remaining Districts (7, 8, 9, and 14) (M. West, 2014).

In the districts apart from 5 and 6, water is mostly provided by a private network or by personal sources that are independently managed such as water committees or privately funded wells. The private network is dominated by aguateros that transport water by truck from private wells in the city's affluent north to the water-poor areas in the south. The aguateros can be found in all parts of the city, dispensing water on scheduled visits to residents of the poorer neighborhoods/peri-urban areas like the zona sur. They perform a "middle man" role, selling the water to homes in zona sur and at times for more than 3 times the price than what they originally purchased. This price gouging can have devastating implications on the people who are already living off miniscule salaries (Swyngedouw, 2004). Despite topological and geographical limitations "[u]neven development is not a product of natural environment" as Harvey explains "but is created through social, political and economic processes of exclusion such as dispossession" (Harvey, 2003; cited in M. West, 2014).

Water committees and other small-scale organizations have explored alternatives to the aguateros, including the construction of community cisterns and self-funded piped

networks or wells. Far more common are smaller barrels maintained by individual households. The barrels are capable of holding an amount of water only lasting one household a few days at a time. Normally, they are filled by the aguateros whom are paid directly by the water user at time of service. Unfortunately, the price and the informal ways in which they are forced to obtain water is not the worst part. Because the aguatero union is a private network and is only subject to moderate regulation, there are many loopholes that allow them to transport contaminated water either from its source or in the duration the water resides in adulterated tanks (M. West, 2014). Because contaminated water is better than no water at all, the union remains in business as long as there are people in the area.

This increases inequality where ownership of water delegates superiority over another sector. A study conducted by Madeline West (2014) explains how even after the Water War, privatization of water persists across the entire municipality of Cochabamba. Now, a more impenetrable and tangled network of privatization haunts the city. This is especially possible in regards to how decentralization has removed the local level further away from the national government, the one possible entity that could implement and control regulations on this small-scale water market. Without strict rules or laws enforced by the state, the aguateros take advantage of the peri-urban area by offering a price on something that inhabitants of zona sur could not manage without.

Decentralization in Bolivia

Decentralized governmental structures have been popularized over the last two decades to lessen the drawbacks of previous neoliberal policies. The outcomes have been highly variable. Political scientist Jean-Paul Faguet, comments that the range of outcomes defies characterization as “good” or “bad” (Faguet, 2015, p. 10). However, in broad terms, decentralization promotes greater self-governance and decision-making by communities in moving sovereignty away from the state (i.e., national, central) government (Faguet, 2012). This entails the devolution of “specific functions” including “administrative, political, and economic” decisions that now belong to “democratic local” (or municipal governments in Bolivia’s case) that are politically recognized (2012, p. 2). As the ideologies behind decentralization can be defined in such a way, many argue decentralization has in fact consolidated state sovereignty. This description of a general decentralized-system provided by Faguet proves especially interesting in Bolivia’s case since he assumes that these newly empowered governments are “democratic.”

Decentralization was an attempt by the Lozada led government (93-97, 02-03) to increase democracy and alleviate poverty by giving control of resources to the municipalities that would, in turn, lead to state-wide improvements (Postero, 2013). Ideally, decentralization acknowledges that communities are better able to improve their surroundings and community health than centralized state institutions. It does leave the responsibility to the citizens to acquire their own basic needs without the direct assistance of the state, that is to say, to some extent, as the subsequent implementation of LPP would see to the redirection of monetary aid. This responsibility is intentional, designed to increase participation, but tends to be quite damaging for areas lacking certain and

perhaps crucial technological assistance aside from monetary aid. I will expand on this further in my case study.

The LPP established small communities or barrios called Grassroots Territorial Organizations or OTBs (*Organizaciones Territoriales de Base*) whose small sizes were intended to delegate accountability to the citizens and improve public goods as a result of increased community participation (Postero, 2013; Faguet, 2015). During Bolivia's transition, over 300 municipalities were created in this endeavor. Creating additional municipalities (including numerous OTBs within each) was a geographical exercise performed in an attempt to include every Bolivian. This was an essential piece to decentralization in order to promote governance at a scale conducive to deep democracy with the idea of being inclusive.

Under municipalities, the citizens of each OTB elected a council composed of a mayor and councilors that represent the community on issues regarding local provisions. Most importantly, in order for OTBs to enhance local provisions, the LPP directs roughly 20% of national tax revenue to the OTBs. This occurs via the municipal Ministry of Public Works (M. West, 2014). The smaller geographical areas (municipalities down to OTBs) help LPP define the homogeneity of particular need as opposed to the heterogeneity of broader regions that result in mixed demand. In other words, the type of need is discovered through decreasing disagreements that exist in higher numbers (Faguet, 2013).

In Cochabamba where one OTB may need jerseys for their football team, another say, in zona sur where the majority of communities are water poor, generally use their

municipal-provided funding to strengthen their water systems.² In zona sur, and OTBs water systems is often enhanced in collaboration with water committees who in water-constrained scenarios purchase large cisterns and pipes to connect houses, or attempt to dig wells that reach aquifers. Many times the amount of money offered is insufficient in funding any large project in its entirety, as we will see with one particular OTB in District 14.

An OTB also works as an oversight committee that is not only able to participate in public hearings and comment on legal decisions, but is also responsible for supervising all municipal services. The oversight committee ensures that community projects are decided by vote of council members and also that these projects receive their funding. If the oversight committee is not capable, a completely separate entity exists in order to disclose corruption.³ This creates a clear protocol in order to hold municipalities accountable and for OTBs to uncover any trace of corruption.

Bolivia's history is peppered with stories of political deception and therefore, the government was tactful in the LPPs conception. The amount of money provided is dependent on a per capita basis making amounts transparent to citizens and discouraging misconduct in high positions. However, this law is not particularly strict and monetary amounts can be determined on a need-basis if mayors (or councilors) of OTBs are sufficiently convincing when making requests for public investment. Success is often dependent on the political activity and competence of the councilmen, a scenario where levels of education may impede this in less-affluent neighborhoods (Faguet, 2013).

² Carlos Crespo Flores; Director de Medio Ambiente at Universidad de Mayor San Simón (UMMS). Interview; March 2015

³ These were better known as a *comité de vigilancia* or Watchdog Committees.

In theory, decentralization only allowed Bolivia to become stable once fused with LPP. The law was dually designed not only to introduce a better method in enhancing public provisions but was also an attempt to mitigate the contentions between local communities and the states decisions in allowing the countries economic stability to rely on foreign interest. The neoliberal reforms that contented in separating both sectors, state and local, were able to persist through decentralization once LPP found its place in supporting local inhabitants. Therefore, the country could remain dependent on foreign corporations privatizing provisions as long as it indirectly supported communities. Although this was beneficial for some time, once water provisions were subsumed to this practice, the LPP proved ineffective to pacify citizens of Cochabamba. The holes in the Law of Popular Participation and the demoralizing effects of neoliberalism, where the boundaries between “what is and is not” considered a commodity, were reflected in the Water War.

Mitigating Social Unrest

The Water War in Cochabamba in 2000 captured this paradox, challenging neoliberal reforms while deepening processes of decentralization, transforming the city’s troubles in delivering water into a matter of human rights. In 1998, the national government was convinced by The World Bank to sell off portions of its natural resources to foreign companies. A French company, *Aguas de Illimani* signed a contract with Bolivia that authorized the privatization of the entire water system in the city of La Paz and its neighboring city El Alto. In Cochabamba, a joint venture launched by the

California-based engineering company, Bechtel, and *Aguas del Tunari*, struck a similar deal. The deal sold off the companies main assets of the city's previous water supplier, the state-run SEMAPA. The two companies took over the current municipal water systems, privatizing water provisions in an approach that was intended to be pro-poor and dissipate urban inequalities (Olivera, 2014). The joint venture used their construction of new water infrastructure to justify a unilateral rate hike.

Connections to SEMAPAS water network used by *Aguas del Tunari* exist mostly in the north of the city and are only accessible to small numbers in the south. Therefore even before improving piped infrastructure, the northern inhabitants were the only ones affected by Bechtel's tax hike. Two months after the city signed its contract with Bechtel, the Bolivian government approved the The Potable Water and Sanitation Law (*Ley de Servicios de Agua Potable y Alcantarillado Sanitario*, Law 2029, 1998). Law 2029 granted any private company ownership of all water in the municipality, including rights over infrastructure built by neighborhood water committees in the zona sur. The law offered no compensation for the water committees, justifying their expropriation by the joint venture as necessary to give Bechtel and *Aguas de Tunari* the leverage needed to improve water provision (Shultz, 2008). Across the city and particularly in the zona sur, the water committees met the law with protests that escalated into the Water War (Ledo 2013, M. West 2014).

To the water committees, the state's actions demonstrated their historical negligence towards the less fortunate and fueled their desires for greater separation from the state. This is particularly important for inhabitants in the south zone when considering what positive effects decentralization has for their continued autonomy. The national

government's withdrawal from peri-urban areas (via decentralization) gave residents almost complete independence in regards to water provisions, save for the exception of monetary aid. The communities were free to control their water, though without the financial support necessary to make basic improvements. As a result, water provisioning stagnated, exacerbating the already unequal access to water and sanitation. While the Water War reinforced the rights of the water committees, it did little to change this standstill. If anything, it left the committees in need of aid and distrustful of the central government for justifiable reasons.

Following the Water War's success in ending the privatization of water in Cochabamba, the grassroots organization that was responsible for organizing the protests, the Coordinadores de Defensa de Agua y Vida (Coordinator of Defense of Water and Life) led by Bolivian Oscar Olivera signed an agreement with the government which led to the amendment of law 2029 on April 11, 2000. This law eliminated monopoly rights to water and gave the ownership of water and land to the citizens of Cochabamba. The guarantee of municipal support to advance public participation was also added under this law and subsequently renamed Law 2066 (Spronk, 2014; Ledo, 2013). The agreement restored SEMAPA's control of the municipal water system. The elimination of monopoly rights had ended the privatization fiasco. However in the end, it only reverted Cochabamba back to its previous water issues save for the new guarantee of municipal support.

Water committees and OTBs play a vital role in the socio-hydro relationship that occurs in Cochabamba. Although water committees are not legally recognized by the state they are inevitably politicized through their forced relations with private water

utilities and the less common relationship some have with OTBs. And as both are organized to essentially do the same thing (improve public provisions), they also capture the holes in Bolivia's decentralization policy. One particular OTB in District 14 provides the perfect example in emphasizing these drawbacks. More importantly, it reveals the exact issues in regards to where the Law of Popular Participation fails in providing efficient government aid.

Central Itocta[†]

District 14 is in the southeast region of Cochabamba near the foothills of the Andes. Not unlike the other districts that make up zona sur, this district suffers from inadequate water sanitation and distribution. Better known as *Villa Pagador*, most of its residents are migrants from the highland city of Oruro, a mining town affected by the economic collapse in the 70's. One water committee and OTB in this district, Central Itocta, stands out in its attempts to achieve its own source of potable water.

A water committee is a neighborhood organization formed by the people of a particular sector in order to improve certain aspects of their water systems. The families who belong to water committees elect representatives usually once a year in order to form a council of leaders similar to the structure of an OTB. Unlike OTBs, water committees remain independent from any form of political recognition in the legal system (Olivera, 2015). However, water committees are not always partial to one territory and at times

[†] All data on District 14 was received through personal interviews, other academic literature, and UMSS (*Universidad de Mayor San Simon*) library in Cochabamba. All interviews were conducted by myself in Spanish including those interviews with Boliviano's outside of the district.

incorporate multiple or even fractions of the population of other OTBs. Normally, each family, or home is required to pay a monthly fee to the water committee, that in turn is used to improve the community's water systems. The fee often depends on the size of the household and the current projects the water committee is involved.

Central Itocta works as an OTB and is also its own water committee. We see that this is more common in clusters of poorer OTBs. The type of need in the area is obvious and the collaboration with adjacent communities, despite their needs being similar, only complicate project planning. Additionally, the municipal funding given to these poorer OTBs is essential in realizing expensive and necessary water projects.

Central Itocta's water committee is made up of 340 partners (over 2,000 residents in total) and requires five positions: a communitarian president, vice-president, secretary and two supervisors who all work in conjunction with the families in the community and vote on potential projects that solely aim to enhance their current water system. The municipal funds are often insufficient to cover the costs of material and planning for necessary projects and therefore, are supplemented by monthly payments from community members. Member fees vary according to household size and income although families unable to pay can remain connected to their current system. This is the OTBs ethical practice, reflective of their commitment to clean water for drinking and household use as a basic right.

In the spring of 2015, Central Itocta had a ten-year old, underground, piped water-network that supplied water directly to each house. The water system is connected to a tank that holds roughly 12 cubic meters and costs 150bs (bolivianos, roughly \$22) to refill using the aguateros. Because the capacity of the tank is limited, aguateros must

refill it four to six trips per day in order to efficiently support the community. According to the vice president of Central Itocta's water committee, Don Daniel Flores, the whole town uses about 60,000 – 100,000 liters of water per day. That implies each family pays on average 60bs – 80bs (\$9 - \$12) (4-6 meters cubed) each month. The piped network was built, and managed by the community itself in one year (2005 – 2006). The project was half funded by municipal money and half by some of the partners within the water committee. Each member paid \$222 (1525bs). However, this would not have been possible without the help of local NGO, AguaTuya who helped design the system and is responsible for creating the intricate mapping involved in the process.

In addition to needing support in designing the project, the cistern or tank provided was realized through municipal aid. The entire project was an enormous upgrade to their previous year-round dependency on aguateros and helped the community buy water in larger quantities changing the price of water from 30bs to around 15bs (per cubic meter). Before Central Itocta was successful in acquiring a piped water system, barrels of water bought from the aguateros were 4bs for the amount of 200 liters. Now that they are able to buy their water in bulk, large amounts of water need to be transported to one certain area where the cistern resides. To make this cost-effective for the aguateros, the price to fill their larger tank has increased to 6bs/200 liters.

This highlights the aguateros imminent control. Even though Central Itocta has used municipal money to scale up their water network, water prices are still 3 times the price of what people in the north pay.⁴ The average salary of the citizens of Central Itocta is approximately 2,000bs / year.⁵ Therefore, the percentage of their annual income

⁴ Resident in Cala Cala neighborhood, Personal communication; February 2015

⁵ Don Daniel Flores; President of OTB Central Itocta, Interview; May 2015

far exceeds the 3% that the UN says is the maximum one should pay for water to be considered potable (UN Water Decade Program, 2010).

The creation of a new OTB is often necessary. For example, where one section of an OTB in Bolivia might find that their municipal funding will be better used to acquire electricity, another desires to remain in the “waiting game” to collect an efficient amount in order to fund a water well or a new pipeline. According to the Municipal Council of Cercado, in 2009, *Villa Pagador* increased from 21 OTBs to 29.

In other instances, OTBs have combined to better meet mutual needs and merge assets to fund like-minded projects. This has occurred in the same district where Central Itocta is located. Multiple OTBs in the northern region of District 14 joined in order to form a stronger water committee. This became known as APAAS (*Asociación de Producción y Administración de Agua y Saneamiento*).

The OTBs that are a part of this collaborative committee are *Primer Grupo*, *Segundo Grupo*, *Alto de la Alianza* and a small portion of *Sebastián Pagador*.⁶ They are known for their numerous technological successes and self-sustaining capabilities. They are especially admired for being one of the first water committees to possess a well efficient in dispensing potable water. Having one of the few functioning wells in the area, the families associated with APAAS pay much nearer in cost to people in the north pay but still remain dependent on aguateros during the dry season.

In 2014, Central Itocta wanted to rid their dependency of the aguatero union just as APAAS did. After months of planning, they hired a Chinese company to drill a well in the water committee’s area. 120 people out of the 340 members helped partially fund

⁶ Oscar Perez; Student at UMSS and local resident in Villa Pagador; Personal Communication; May 2015

the US \$35,000 water well, with the remainder of the funds coming from a loan from a local bank. The Chinese company came for three days in February 2014 and drilled a well 120 meters into the hard rock under Central Itocta. The water they found, however, turned out to be undrinkable, contaminated by high levels of salts and minerals, such as magnesium. This raised the number of failed wells in the area to 22 out of 24. In order to become drinkable, Central Itocta would have to finance a water treatment plant that is estimated to cost another \$35,000. Even then, Central Itocta would still lack the pumps and piping that are required in order to efficiently distribute to their homes.⁷ Without that infrastructure, Central Itocta remains reliant on private-well owners in the north.

Small NGOs like AguaTuya are helping to fill the financial and technical gap opened by decentralization. Without them and municipal monetary aid, Central Itocta would not have 24-hour water distribution to their homes. Small-scale organizations, like AguaTuya, are joining with water committees to fill the gap that exists in a decentralized government. These areas that are already impoverished, like Central Itocta, have turned to large bank loans for projects that continue to give false hope. This is not unique to Central Itocta as there are many other OTBs and water committees that experience the same situations.

⁷ Don Daniel Flores; Interview, 2015

Discussion

Decentralization has given local entities more authority over day-to-day decision-making and planning with inadequate economic support to meaningfully address their problems. The gap between governments is exacerbated by neoliberal reforms that depend on the privatization of water. The disconnect allows the state to abandon its promised role in providing Bolivians with potable water by not imposing regulations on private networks and by not providing necessary technical assistance.

In order to lessen the social impact, NGOs, water committees and other small-scale organizations are constantly filling this gap attempting to make up for what the state is not providing. Where small-scale organizations are not sufficient in their capacity, communities are forced to rely on private sources, deepening the reach of the very neoliberal reforms that they set out to oppose.

Decentralization has allowed the state to retain, and even consolidate its power over the economy, mitigating social unrest and cementing an extractivist mentality to support this. State laws set out to ameliorate the social impacts are ineffective in solely providing monetary aid. The infrastructure that is funded by state aid is unsuccessful due to its failure in producing potable water. This removes the state from Cochabamba's socio-hydroscape, leaving the cyclical relationship to dwindle solely between people, private networks, and depleting aquifers.

Decentralized government is intended to devolve power to more regional areas whose success allows them greater autonomy to meet local needs. In theory, that capacity will improve access to basic services and provide the basis for economic growth.

One by one the improvements of social provisions in OTBs are thought to potentially define the entire state. Unfortunately, not all regions, large and small, are needed to do well in order for they're to be a sense of national economic success. Advocates of neoliberalism argue that this occurs by creating competition between municipalities in a mobile market of resources and, in turn, the multiple successes will eventually reflect one successful Bolivia (Faguet 2012, Postero, 2013). However, this market exists at the expense of the livelihoods of the people whose involvement in the market is obligated due to the need rather than the demand of the product.

Bolivia's historical issues with rural-to-urban displacement made clear the potential consequences to huge political reform. Because of their limitations in provisions, the chances of mobilization for citizens in the peri-urban area are higher. Therefore, the LPP aimed to mitigate any further chance of this happening again by intending to deter "ethnic mobilization" of urban areas and develop strong "democratic stability" to support this (K. West, 2015, p. 46). However, it is less democratic stability that restricts their mobilization and more of what Madeline West calls a "stalemate" between unregulated private well owners and peri-urban communities. The public's dependency on private well owners and aguateros continues as long as they are able to set high prices on the never ending demand of their product. If regulations were imposed on the private networks lowering the price of water, so would profits and the incentive to sell. Zona sur either buys from aguateros, or worse, they have no water at all.

LPP in conjunction with the decentralization of power is intended for a progressive push to dissipate striking inequalities that exist in concentrated urban areas by first supporting the most impoverished (Faguet, 2012). Interestingly, the immediate

years following the implementation of the LPP, the funding for these specific provisions increased during a 3-year period before dropping substantially.⁸ The initial increase is used to support the argument for decentralization, devoting funds to the most impoverished and historically “neglected communities” to improve their ability to take on the added responsibilities that come with decentralization. That is to say, once the most water-deprived areas seemed to enhance their water supply networks, the argument is that their municipal aid was redirected away from water and towards a set of wide-ranging demands. The bettering of local provisions is the common explanation for why the attention in certain provisions had shifted.

By 2003, it is said that 100% of OTBs had used municipal money to “strengthen” water systems (Faguet, 2015). This marked a period where investments in water infrastructure substantially dropped. I would argue that nearly all OTBs have invested copious amounts of money, but had not actually achieved potable water. Even if 100% of investments were used in the most effective manner, it would not be enough to meet the need.

The other side of the argument is self-evident as one experiences zona sur. There are only so many ways to build or rebuild water networks that do not fabricate potable water until OTBs shift their attention towards more promising endeavors. This ultimately results in a standstill with aguateros. As long as wells in the area continue to dispense contaminated water, aguateros will remain the main providers in the area.

Decentralization is thought to provide an avenue to express political voice, and in turn deepen democracy and deliver political stability. In this sense, decentralization did

⁸ The periods of length in decreased investment are unique to each provision and not without their unpredictable increase in the years following the drop.

its duty, but fails at dissipating inequalities and alleviating poverty proven in the example of Cochabamba where resources remain unevenly distributed. Nearly 20 years since the implementation of the LPP and one of the countries largest cities continues to suffer from stark inadequacies. Obviously, providing more money has proven to be ineffective. We have to ask if the gap between local and state is too big? The simple necessity of water committees and their past and imminent failures is enough evidence to suggest something is lacking.

The gap created between the state and local sectors is filled with external, and community established organizations. Water committees, NGOs and other foundations fill this gap for many peri-urban neighborhoods and make up for the insufficient funding provided by municipal aid. This can be interpreted by the lackluster success for geographically small OTBs who depend on state aid.

Because water committees, OTBs, NGOs, and other small-scale organizations make up a large complex web all involved in various forms of water directed projects, it is difficult to distinguish which contributed most to these high percentages. In other words, it is hard to say if this is mostly the result of LPP directed funding (government aid), initiatives by water committees and NGOs (non-governmental aid), or the combination of the two since they often work together.

Additionally, power relations between these groups are not without their suspicions. AguaTuya, the non-profit responsible for Central Itocta's piped water-network receives municipal funding via third party initiatives. Evidence suggests that the "non-profit" was forced to move out from zona sur due to local discrepancies. Some water-focused programs were left unfinished leaving some OTBs in states worse off than

before (M. West, 2014).

Additionally, where more poverty stricken communities who improve water systems through NGO funding and/or various forms of aid are often forced to use cheaper, less adequate materials (M. West, 2014). This lends multiple problems. The inadequate materials have short lifespans. Quick degradation of water pipes leads to replacing them more frequently and mineral contamination. In addition to this, outward growth in infrastructure misleads people inside the community (and perhaps more importantly, those adjacent) as being perceived as success.

It is surprising that some studies fail to acknowledge the immense diversity that frames political segregation in Bolivia along lines of race and class, but also the social inequalities that are common for urban areas in developing countries. The inconsistencies in a decentralized state misrepresent the social complexity of governing of urban areas. Just as Faguet argues we must not consider decentralization neither ‘good’ nor ‘bad’, Swyngedouw explains how in urban areas policies that benefit one social group can be detrimental to another and are more immediately felt than at state level (2013).

To use data that only portrays the nation as a whole will indefinitely result in error. Urban and rural areas alike will encounter conflicts that are unknown to higher levels of government. Harvey reinforces these implications by suggesting that “[s]cholars just focusing on states, will be flabbergasted ... simply because significant things happen which one cannot capture looking solely at interstate dynamics” (Schouten, 2008, quoted in interview).

Access to water and sanitation in general since the LPP was passed have increased by 40% in all of Bolivia (Faguet, 2012). Between the years 2012 and 2014, 88% of Bolivians were connected to water systems that experienced improvements and 57% experienced improvements in sanitation (JMP, 2012; WHO, 2014, p. 54; Cited in M. West, 2014). There is a stark difference in these data and those that represents zona sur. Therefore, we can say the urban area has a peculiar dilemma where these data are not relevant. If nothing else, it represents the separate creature that an urban area becomes in a decentralized government.

Cochabamba's socio-hydro cycle has been completely disconnected from the central government. Their share of control on water has been devalued to "funds" that provide infrastructure inefficient in providing potable water. Without the states support, residents of Cochabamba share a socio-hydroscape with corrupt, for profit, private networks whose role has been to commoditize their product. To make matters worse, the condition of the product, no matter how variable, will always sell. Both private well owners and aguateros move contaminated water around the city of Cochabamba always at a seller's price.

Water committees are a major component in the socio-hydro relationship of the city and are inevitably intertwined with decentralization. Almost all have working relationships with private water utilities and many rely on politically recognized OTBs. As much as water committees capture their desired autonomy away from the state, they are often indirectly sustained by government involvement. Although they are not politically recognized, many of their projects are funded by municipal monetary aid once they collaborate with OTBs. This essentially removes their autonomous status giving

even further evidence of the states control.

Bringing power closer to the people has given false hope to communities in relieving their thirst for survival. State decisions have caused communities to feel abandoned, but they remain pacified due to their impulse for desired independence. It can be said autonomy is only achieved once they give up democratic representation. The exact process the LPP set out to do. This creates the illusion of independence while political achievements stagger in their OTBs. Where decentralization provides “opportunity for the representation ...deserve[d]” it also leads to “divisions within the community, difficulty in policymaking, and disillusionment among the population” (K. West, 2015; p. 50). Decentralization has caused citizens to have more trust in their governments, but overall has decreased their “evaluation of local services” increasing emphasis on the inconsistency of the system (p. 62).

Although an autonomous water supply remains popular, over 80% of Cochabamba residents agree that complete network coverage from SEMAPA would be the best solution to end their dependence on private-well owners and lower water prices (Ledo, 2013). The willingness to accept aid from SEMAPA emphasizes their struggle and also their adamancies on refusing governmental involvement. On one hand, independence is desired, and on the other, more efficient aid is needed from outside sources.

The Law of Popular Participation reestablishes the central government’s role once it requires funding to be provided on their part. The source of this funding comes from Bolivia’s industrial sector and its obligatory relationship with outside investors. Therefore, in order for the funding to be available, and to monetarily support the

local/urban sector, the country is dependent on exporting materials. Bolivia's neoliberal vein is reopened by giving the central government complete control while removing any accountability for the livelihoods of the people.

That is to say, even though the economic growth of the country is notable, it is still seen as growth forged by the state and it is the state that becomes praised for their outward success. In Bolivia, Evo Morales and the MAS party are virtually celebrated for authoritative measures that were taken to nationalize resources, while in one of its largest cities, human rights are diminished as water continues to be privatized.

By nationalizing resources, Evo Morales was attempting to end some foreign dependency and increase revenue for the state (Carasik, 2014). As municipality aid increased to over 1200% after decentralization and the LPP (Faguet, 2012), the extraction of natural resources that cause extreme environmental damage come disguised as benefits for communities and, altogether increase the appeal of a decentralized system. Here, more extraction equals more monetary aid and continued autonomy. Bolivia's hydrocarbon exportation industry fuels more than half of the country's revenue. Petroleum gas alone reaches rates of approximately 48%. A positive trade balance of \$996 million and past debt relief by the IMF and World Bank result in a budget surplus. In 2013, the country's GDP reached \$30.6 billion (Simoes, 2016). This is regrettably at the expense of extreme ecological and social degradation. Transnational and foreign petroleum concessions invade not only insurmountable portions of "protected areas", but are also securing indigenous-occupied regions (Munoos, 2015).

It is surprising to see the number of years in Bolivia in the context of unfulfilled water rights that have gone unexpressed by marginalized communities. This is especially

puzzling for a country whose citizens have embarked on numerous uprisings against their state and some of which, were quite successful. The organizational skills inherent to the many indigenous families in Bolivia have not only been associated with the insurmountable achievements of development in informal lands, but have since been regarded as the fount behind The Water War's success. It is important to note that during the period the Bechtel Corporation controlled the city's water system, the price hike was only experienced in the more affluent northern zones and did not affect the indigenous that live in the south. Nonetheless, they became the power horse behind the movement once Law 2029 threatened their autonomy (Ledo, 2013).

Since decentralization, water-poor areas have been forced to turn their attention inward, establishing water committees that face technological and economical disadvantages against private networks and well owners. A competitive market exponentially increases the control that private entities will have on the poor. Today, instead of making demands on the state, the water-poor are concentrating their energy on bettering the conditions of their own lives through water committees (Olivera M, 2014).

Their independence and strength, epitomized in the Water War proves the inability of what decentralization has intended to accomplish. The decline of social unrest against unsatisfactory water provisions does not entail competence in decentralization to mitigate social unrest, but rather a lack of connectivity to the state. This has lead some to argue that it is not so much the empowerment of local communities but more so the removed responsibility the state enjoys that makes decentralization appealing (Kohl, 2001). In a way, neoliberalism has found its missing piece. Its demoralizing effects are able to remain while particular policies eliminate the possibility

of social unrest that has historically lead to its demise.

Bolivia's constitution states that it is the responsibility of the government, in collaboration with public participation, to provide the provisions, management, regulations, and protection of accessible water to all people (Article 374, 2009). Ledo (2013) emphasizes the constitutional requirement that the government takes the necessary strategy in order to make this a reality, and especially focusing on the "most vulnerable" (pg. 3). Because separation of the state and local sectors exist in Bolivia, the citizens are being neglected by the same power that, paradoxically, agreed to the constitutional human right to water. The effort on Central Itocta's part alone provides enough evidence to suggest that there are communities capable of participating but do not receive the promised support.

Even though Bolivia's resources are now nationalized and human rights are constitutionalized, neoliberalism persists in Bolivia's dependency on foreign interest. Evo's extractivist mentality increases industrial exportation that in turn strengthens outside relationships. In Bolivia's decentralized system, the government is praised for their political and economic achievements at the expense of the people and land. Bolivia's people go thirsty, believing it is due to their failed autonomy, while their land is continuously stripped in order to fuel the same system that gives them that same failed autonomy. With decentralization, their political voice will be heard, but flounder due to the leniency of national regulations on the private sector.

Conclusion

Indeed decentralization has provided the economic assistance, but what is lacking may be the technical assistance or expertise necessary for actual improvements in water provisions. Both were non-existent in Central Itocta and created their dilemma. These inconsistencies in a decentralized state misrepresent the social complexity of governing of urban areas. If decentralization is to ever be considered a functioning political framework, it must be mostly beneficial for all municipalities and all people who may not live within a city's political boundaries but are still constituents in the cities fundamental arrangement and indefinitely its socio-hydroscape.

Inequality between north and south areas of Cochabamba is real. People are struggling, paying more for their right to live than others in the same geographical area. On paper, the government has given Bolivians the right to live well, but the reality is, as some people can achieve this level of "living well", others are only trying to simply live. A local-scale capitalist market will always result in extreme class segregation, discovering winners and losers through racial, geographic, and ethnical differences. However, when the market pivots around products that are also basic human needs, the struggle to advance your position in the system is hinged on the means for survival. As long as the market persists, the lower class will be forever linked and dependent on those in control.

Neither privatization nor decentralization has managed to match the capacity for service provisions that will meet Cochabambino's needs. Either a change in the states role that can keep constitutional promises and regulating private networks will have to

occur or OTBs and water committees will address the inadequacies by pressuring the state in something comparable to the Water War.

This study focuses on one site in particular. Central Itocta is however one single example of many OTBs in Cochabamba's south zone that suffer from lack of adequate water distribution and sanitation. In fact, District 14 is a model for the surrounding areas because of its numerous success stories and achievements within their water-committees. Many other districts are far worse off. With the city's majority living in water-poor areas, there is room to continue this study for every unique experience. This is doable as the majority of civilians in zona sur belong to one of approximately 200 water-committees. This is not an insurmountable number. I believe it is imperative to gather more empirical information in order to distinguish the exact reasons municipal aid is inefficient in supporting the communities in the south that are abundant in neighborhood-managed water committees, and are equipped to participate with increased funding and/or state implemented regulations on private companies.

Further research should explore the capacity of water committees and their relationships to each other. To better understand their power and limitations would give way to possible collaborations within other private and public entities. There certainly is room in better understanding how water committees are able to strengthen their technical and political forces in a more collaborative fashion. Small-scale organizations such as NGOs are far too scarce in order to support all of Bolivia's water-poor region let alone Cochabamba's zona sur.

This study attempts to uncover the disheartening dilemma that faces the citizens of urban areas in developing countries that are undermined by the state to urban

inconsistencies in regards to their political relations. Cochabamba is not alone as many cities in the developing world suffer from some of the exact repercussions involving indigenous cultural degradation.

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