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PATTERNS OF EXPLAINING WATER PROTESTS IN MEXICO

by

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Mexicans only protest water privatization when they feel they are getting a bad deal on issues, such as poor water service, poor water quality, or unaffordable water price. In general, protesters blame privatization when they do not get what they pay for. Issues subsumed under water privatization and the threat to increase privatization are the most significant causal factors of water-related protests in Mexico. Protesters associate bad water service, poor water quality, and unaffordable water prices with water privatization. By analyzing water privatization in Mexico City and Aguascalientes, this thesis finds that state capacity and regulatory frameworks are key factors affecting the success of water privatization. In order to prevent future protests over water privatization, this thesis recommends the following practices: first, Mexico should strengthen its state capacity by reforming its public institutions; second, Mexico should strengthen its regulatory framework to ensure adequate governmental oversight over water companies. Finally, the government of Mexico should promote not-for-profit water companies as a way to avoid predatory practices from private water companies and governmental corruption. Subsidies should accompany each of these recommendations to guarantee access to water at an affordable price for everyone.

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PATTERNS OF EXPLAINING WATER PROTESTs IN MEXICO

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ABSTRACT

Mexicans only protest water privatization when they feel they are getting a bad deal on issues, such as poor water service, poor water quality, or unaffordable water price. In general, protesters blame privatization when they do not get what they pay for. Issues subsumed under water privatization and the threat to increase privatization are the most significant causal factors of water-related protests in Mexico. Protesters associate bad water service, poor water quality, and unaffordable water prices with water privatization. By analyzing water privatization in Mexico City and Aguascalientes, this thesis finds that state capacity and regulatory frameworks are key factors affecting the success of water privatization. In order to prevent future protests over water privatization, this thesis recommends the following practices: first, Mexico should strengthen its state capacity by reforming its public institutions; second, Mexico should strengthen its regulatory framework to ensure adequate governmental oversight over water companies. Finally, the government of Mexico should promote not-for-profit water companies as a way to avoid predatory practices from private water companies and governmental corruption. Subsidies should accompany each of these recommendations to guarantee access to water at an affordable price for everyone.

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LIST OF ACRONYMS AND ABBREVIATIONS

CAASA	*Concesionaria de Aguas de Aguascalientes, S. A. de C. V.*
CAPA	*Comisión de Agua Potable y Alcantarillado de La Ciudad de Aguascalientes* (Potable Water and Wastewater Commission)
CONAGUA	*Comisión Nacional del Agua* (National Water Commission)
GDP	Gross Domestic Product
OECD	Organization for Economic Co-operation and Development
PPP	Public-private partnerships
PRD	*Partido Revolucionario Demócrata* (Party of the Democratic Revolution)
PRI	*Partido Revolucionario Institucional* (Institutional Revolutionary Party)
SEMARNAT	*Secretaría del Medio Ambiente y Recursos Naturales* (Secretariat of Environment and Natural Resources)

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I. INTRODUCTION

Water is essential for human life. Since ancient times, people have been migrating across the Earth, always settling around bodies of fresh water, such as rivers, lakes, aquifers, and springs, for survival. However, many people suffer from water shortages and inadequate water access throughout the world. Homer-Dixon predicts that "coming generations will also see the widespread depletion and degradation of aquifers, rivers, and other water resources."[1] Among other natural resources, the degradation and depletion of fresh water "will contribute more to social turmoil in coming decades than will climate change or ozone depletion."[2] Therefore, governments need to manage fresh-water resources responsibly to ensure that they are evenly and regularly distributed.[3]

Some people and governments argue that "water is a commodity and should be managed like any other commodity."[4] To that end, they propose water privatization. Water privatization is defined as the "private sector involvement in water services. These range from the smallest scale, such as contracting services like installing or reading meters, to full divesture where the entire water business and infrastructure is transferred from the government to a private company through sales of shares in the company."[5] Privatizing the management of water as a commodity, however, is often contrary to public opinion.

Propositions of water privatization—supposing that water is a commodity—spark a great deal of controversy and protests around the world, including in Mexico. The major research question for this thesis is: when do people protest over water privatization in Mexico? This chapter explains the significance of this research question as well as the

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[1] Thomas Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security* 19, no. 1 (1994): 5, https://doi.org/10.2307/2539147.

[2] Homer-Dixon, 7.

[3] Peter Gleick, "Water and Conflict: Fresh Water Resources and International Security," *International Security* 18, no. 1 (1993): 79, https://doi.org/10.2307/2539033.

[4] Madeline Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," *Studies in Comparative International Development* 49, no. 2 (2014): 154, https://doi.org/10.1007/s12116-014-9154-2.

[5] Baer, 144.

contributions this thesis aims to make. Then, the chapter presents a review of the relevant literature in three parts: the water privatization debate, water protests in Mexico, and social mobilization. Next, it lays out hypotheses and discusses the research design. Finally, it briefly outlines each subsequent chapter of the thesis.

A. THE SIGNIFICANCE OF THE RESEARCH QUESTION

Mexico has serious water problems, especially in the big metropolitan areas, where domestic users compete with industry and agriculture for water access. Water usage is very inefficient in Mexico; agriculture consumes 77%, industry uses 10%, and residents account for 13% of water consumption.[6] To cope with the increasing demand for water and the increasing cost to obtain it, Mexican officials propose water privatization or the increase of existing privatization.[7] However, many Mexicans oppose and protest over these propositions. Although social mobilization can result in protest that is peaceful and productive, Latin America has had mixed experiences of water-related demonstrations. One major extreme is Cochabamba, Bolivia, in which protests over water privatization escalated to violent riots.[8] Mexico may face a similar fate if the government and private utility companies either misunderstand or fail to rectify the underlying causes of protest.

Protests commonly occur in Mexico—especially Mexico City—when governments introduce measures to privatize or increase the degree of privatization of water. Treating water as a private commodity instead of a public good sparks fears of not being able to afford a human necessity. Unlike other services such as electricity, people cannot live without water. The "water is not a business" slogan is commonly seen during protests in Mexico. Most Mexicans associate water privatization with poor water services, poor water quality, and high water prices.[9] Any attempt to alter the current status quo of the water

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[6] Úrsula Oswald Spring, "Water Security and National Water Law in Mexico," *Earth Perspectives* 1, no. 1 (2014): 1, https://doi.org/10.1186/2194-6434-1-7.

[7] David Adler, "The War for Mexico's Water," Foreign Policy, July 31, 2015, http://foreignpolicy.com/2015/07/31/the-war-for-privatization-mexicos-water/.

[8] Richard Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, ed. Glen David Kuecker and Harry E. Vanden, Latin American Perspectives in the Classroom (Lanham, MD: Rowman & Littlefield, 2008), 87.

[9] Adler, "The War for Mexico's Water."

system in Mexico is seen as dangerous, especially for the poor who can barely afford water at the current rates.

This research will expose the causal factors of water privatization-related demonstrations in Mexico. This information could potentially be very important in the hands of policy makers in Mexico to prevent social conflicts and improve the water system. From a policy perspective, it is important to recognize the current situation in Mexico in order to identify policy failures and provide policy recommendations to reduce turmoil, health issues, and poverty. The theories extracted from this research can be applied to most cities throughout Mexico and even other parts of the world. Additionally, this research can help policy makers get a better idea of the situation on the streets in order to reduce water scarcity, improve water quality, and make water prices affordable in Mexico.

B. LITERATURE REVIEW

Although water issues constitute a large realm of academic research, very limited literature is devoted to water privatization as a cause of protests in Mexico. This section reviews three aspects of literature related to the research question. Part one reviews the main debate over water privatization in general terms. It describes the debate between proponents and opponents of water privatization. Proponents see water privatization as the solution to the current water crisis, while opponents claim that it further declines water services, decreases water quality, and increases costs. Part two reviews water protests in Mexico. The literature shows that most water-related protests occur over water scarcity, high prices, low quality, and privatization. Protesters tend to blame water privatization for all their water-related issues. As a result, protests occur when water privatization restricts services, degrades quality, and raises costs.[10] Lastly, part three reviews the literature on social mobilization to better understand why people mobilize and engage in protests. This literature observes that common interest is necessary when forming social mobilization

[10] Jonathan Watts, "Mexico City's Water Crisis -- from Source to Sewer," *Guardian News & Media Limited*, November 13, 2015, 5, http://libproxy.nps.edu/login?url=https://search.proquest.com/docview/173289296 5?accountid=12702.

groups. Overall, organized protests occur when people with common interests organize to express discontent.[11]

1. Water Privatization Debate

The water privatization debate has existed worldwide for several decades. Proponents and opponents of water privatization attempt to discredit one another by focusing on the negative implications rather than the positive virtues of each side of the debate. The Dublin Principles and Hague Declaration advocate for the privatization of water, even though the United Nations has refuted this argument by declaring that water is not only a public good, but also a human right.[12] Pavelich extracts from the Dublin Principles that, "[water] has an economic value in all its competing uses and should be recognized as an economic good."[13] Although treating water as an economic good can safeguard it for the future, opponents are quick to cite the Water Manifesto—a document produced in 1998 by the Global Committee for the Water Contract, headed by previous Portuguese President Mario Soares—which maintains that "water belongs to all the inhabitants of the Earth" and that nobody should be allowed to make it private property for any purpose.[14] Is water privatization fair? Water falls from the sky for free and is essential for human life. The debate continues with positive and negative arguments on both sides of the divide. The three main points of contestation are availability and accessibility, quality, and price.

a. Availability and Accessibility

Availability and accessibility together constitute one of the pivotal issues driving the water privatization debate. Proponents of privatization argue that the private sector can improve water's accessibility by increasing efficiency and investment. Water privatization

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[11] Mancur. Olson, *The Logic of Collective Action : Public Goods and the Theory of Groups*, Harvard Economic Studies ; v. 124 (Cambridge, MA: Harvard University Press, 1965), 6–7.

[12] Kelly Pavelich, "Water Privatization: A Threat to Human Rights?" *Global Societies Journal* 5 (January 1, 2017): 28, https://escholarship.org/uc/item/2dq9f2s7.

[13] Pavelich, 28.

[14] Pavelich, 28.

can expand access to clean and safe water and sanitation.[15] Proponents claim that water privatization can improve accessibility for the poor and coverage among low-income families can rise after the introduction of water reforms (water privatization).[16] Bakker argues that water privatization "will increase efficiency, and deliver water to those who currently lack access."[17] As an example, in Colombia, after water privatization, 60% to 80% of low-income households/families enjoyed new water connections.[18] Therefore, proponents claim that privatization has improved accessibility and that it either has contributed to reducing poverty or at least has no negative effect on it.[19]

On the other hand, opponents claim that the poor are nearly always excluded from access to water sources. Murthy claims that "privatization of state properties could exacerbate the position of the vulnerable and disadvantaged in society."[20] Additionally, Pavelich argues that water privatization deliberately excludes poor areas from the networks in order to maximize profitability.[21] Budds and McGranahan criticize that "the settlements most in need of improvements in water and sanitation provision tend to be those least attractive to private operators."[22] In sum, opponents claim that privatization marginalizes the poor by excluding them from the water network.

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[15] Pavelich, 31.

[16] George Clarke, Katrina Kosec, and Scott Wallsten, "Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America," *Journal of International Development* 21, no. 3 (2009): 334, https://doi.org/10.1002/jid.1458.

[17] Karen Bakker, "The 'Commons' versus the 'Commodity': Alter-globalization, Anti-privatization and the Human Right to Water in the Global South," *Antipode* 39, no. 3 (2007): 436, https://doi.org/10.1111/j.1467-8330.2007.00534.x.

[18] Clarke, Kosec, and Wallsten, "Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America," 334.

[19] John Nellis, "Privatization in Latin America," *SSRN Electronic Journal*, 2008, 15, https://doi.org/10.2139/ssrn.1111716.

[20] Sharmila Murthy, "The Human Right(s) to Water and Sanitation: History, Meaning, and the Controversy over Privatization," *Berkeley Journal of International Law* 31, no. 1 (2013): 14, https://doi.org/10.15779/Z38665F.

[21] Pavelich, "Water Privatization: A Threat to Human Rights?" 29.

[22] Jessica Budds and Gordon McGranahan, "Are the Debates on Water Privatization Missing the Point? Experiences from Africa, Asia, and Latin America," *Environment & Urbanization* 15, no. 2 (2003): 111.

b. Quality

Accessibility of water is useful as long as the water quality is good for consumption. Poor water quality results from cross contamination due to aging infrastructure and contaminated aquifers. Proponents believe that privatization can enhance the quality of services because it is in the company's best interest to improve infrastructure and repair damaged or degraded pipes in order to decrease losses.[23] The quality of water is directly related to the health of the population. In Argentina, for example, the privatized water services have improved water quality and have decreased the levels of child mortality from waterborne diseases by 8%, especially in poor neighborhoods.[24] Proponents argue that private water companies follow international standards of water quality; therefore, privatization tends to improve water quality.

Conversely, opponents argue that water privatization actually reduces water quality. This argument hinges on the idea that private companies often neglect infrastructure maintenance or upgrades, saving money while delivering water of inferior quality.[25] There are reports of recipients of privatized water who have to filter or boil the water due to a brownish color and a rotten-egg smell.[26] Unscrupulous private water companies prioritize profits over quality, especially in areas that lack oversight or regulation. Therefore, proponents and opponents agree that infrastructure affects water quality; proponents argue that private investment tends to upgrade infrastructure, while opponents claim that profit-driven companies disregard infrastructure.

c. Cost

Besides water scarcity and water quality, users most often complain about lack of affordability because water, unlike other services, is essential for life. Proponents of water

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[23] Nellis, "Privatization in Latin America," 7.

[24] Clarke, Kosec, and Wallsten, "Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America," 336; Nellis, "Privatization in Latin America," 7.

[25] Zuhal Gunduz, "Water-On Women's Burdens, Humans' Rights, and Companies' Profits," ed. Zuhal Gunduz, *Monthly Review* 62, no. 8 (2011): 46.

[26] Murthy, "The Human Right(s) to Water and Sanitation: History, Meaning, and the Controversy over Privatization," 21.

privatization agree that water prices often rise after privatizing.[27] The price increase is often necessary in order to increase accessibility, quality, and service.[28] After the private sector takes over a crumbling state-run company, water prices need to be adjusted to reflect the real cost of extraction and distribution. Clarke, Kosec, and Wallsten insist that "public utilities often set prices far below long-run marginal costs and rely on subsidies for investment and, often, operating costs."[29] Poor management and overreliance on government assistance tend to be the demise of public utilities. In 1994, the World Bank reported that the average cost of subsidies in countries with state-run water utilities were 70% of the real costs prior to the participation of the private sector.[30]

In contrast, opponents disagree and argue that greed is often the driver for water privatization. Many countries have been experiencing a rise in water prices after privatization; in France, prices increased 150%; in England, prices increased 450%; in Ghana, prices rose 95%; and in Bolivia, prices increased to the point that residents spent 32% of their income on water.[31] Private corporations set their eyes on profits rather than on people's welfare; setting a price on water is setting a price on life.[32] In general, proponents and opponents agree on modernizing the water system; however, opponents criticize privatized water utilities for expecting huge profits for delivering a necessity for human existence.

2. Water Protests in Mexico

There are many water issues that inspire demonstrations in Mexico, including poor water services, low water quality, high water prices, and water privatization. Delgado-Ramos describes social unrest due to water shortages, water quality, and water prices in

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[27] Clarke, Kosec, and Wallsten, "Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America," 335.

[28] Pavelich, "Water Privatization: A Threat to Human Rights?" 32–33.

[29] Clarke, Kosec, and Wallsten, "Has Private Participation in Water and Sewerage Improved Coverage? Empirical Evidence from Latin America," 335.

[30] Clarke, Kosec, and Wallsten, 335.

[31] Pavelich, "Water Privatization: A Threat to Human Rights?" 32.

[32] Gunduz, "Water-On Women's Burdens, Humans' Rights, and Companies' Profits," 49.

Mexico.[33] From 1990 through 2002, public demonstrations took place, of which 56% were due to water scarcity, 24% to hikes in water prices, and 20% to other issues including water quality.[34] Water scarcity, water quality, and water costs are the main drivers for protests in Mexico. These issues were often the byproducts of water privatization. Most literature observes that most of the protests take place in Mexico City because it is the capital of Mexico and the biggest city in Mexico. Also, Mexico City has one of the worst water crises in the country. Although several other cities in Mexico have some sort of water privatization, Mexico City is a compelling case due to its history of protests over other water issues.

a. Scarcity

Water scarcity is the main issue people protest in Mexico because water is a necessity, not a luxury. Water scarcity encompasses accessibility, availability, and services because all are related to the lack or shortages of water. In Mexico, some protests occur when water services decline. Delgado-Ramos affirms that "in the metropolitan area the districts that experienced the most social unrest were precisely those with less access to water."[35] In Mexico City, some areas get water only once a week and only for a few hours. These areas experience unrest and protest because they feel marginalized. Wester observes that, to cope with the growing demand for potable water in the cities, the Mexican government transfers water from agricultural use to city use.[36] In the past, the government has appropriated large quantities of water resources—traditionally used for crop production—to quench the thirst of expanding cities. The increasing demand for drinking water compels the government to support takeovers of dams. When their irrigation water is repurposed for the cities, farmers organize demonstrations and violently occupy

[33] Gian Delgado-Ramos, "Water and the Political Ecology of Urban Metabolism: The Case of Mexico City," *Journal of Political Ecology* 22, no. 1 (2015): 105, https://doi.org/10.2458/v22i1.21080.

[34] Delgado-Ramos, 105.

[35] Delgado-Ramos, 105.

[36] Philippus Wester, *Shedding the Waters: Institutional Change and Water Control in the Lerma-Chapala Basin, Mexico*, 2008.

government offices.[37] In some instances, water scarcity forces farmers to rely on wastewater for irrigation, which is an undesirable situation with negative health and environmental consequences. Under certain conditions, treatment plants will restrict agricultural use of wastewater, further compelling farmers' protests.[38] When water is scarce, it endangers both lives and livelihoods, leading to protest.

b. Price

Affordability of water is another problem that provokes protests. As Delgado-Ramos found, from 1990 through 2002, 24% of public demonstrations in Mexico cited water affordability as the cause of unrest.[39] In Mexico City, the water utility company (a state-run enterprise with private participation for service contracts) keeps increasing water prices in order to cope with its deficit.[40] Ordinary citizens get upset because they have to deal with water shortages and price increases at the same time. The poor people use a big chunk of their income—about 10%—on bottled water and water trucks because the water system does not supply them with sufficient water.[41] In some parts of Mexico, people have grown used to low water prices thanks to governmental subsidies, but when prices go up, people protest at the political system because politicians usually set the water rates.[42] Politicians play politics with the water system to gain votes during elections and to avoid unrest in the population. When people have to choose between paying a water bill and satisfying their other basic needs, and when politicians use that struggle to their benefit, people begin to voice their discontent.

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[37] Wester, 108.

[38] Delgado-Ramos, "Water and the Political Ecology of Urban Metabolism: The Case of Mexico City," 107–8.

[39] Delgado-Ramos, 105.

[40] Adler, "The War for Mexico's Water."

[41] Lewis Rowles et al., "Perceived versus Actual Water Quality: Community Studies in Rural Oaxaca, Mexico," *Science of the Total Environment* 622–623 (2018): 626–34, https://doi.org/10.1016/j.scitotenv.2017.11.309.

[42] David Barkin, "The Governance Crisis in Urban Water Management in Mexico," in *Water Resources in Mexico: Scarcity, Degradation, Stress, Conflicts, Management, and Policy*, ed. Ursula Oswald Spring, Hexagon Series on Human and Environmental Security and Peace, v. 7 (London: Springer, 2011), 385.

c. Quality

Poor water services lead to poor drinking water quality because aging infrastructure permits infiltration of wastewater in the water network. Poor water quality is described in great lengths and it is highlighted as a big problem in the literature; however, quality is the least significant overt cause of protest. One source indicates that 56.8% of people blame service standards for protesting; service standards cover many grievances including "interruption of the services, lack of network maintenance, water-quality scares, price increases, administrative inefficiency, abuse and speculation by water vendors, etc."[43] Water quality is lumped into this vast array of reasons to protest. Another source briefly mentions poor water quality as a problem because it provokes water-borne illnesses, over which people are starting to voice their outrage.[44] Many people in Mexico still suffer from a lack of running water, others endure water rations and high prices, and most suffer from poor water condition. Most people in Mexico City only drink bottled water due to the bad quality of the water system.[45] In sum, it would seem that people typically protest water quality as a secondary concern and usually only when other grievances are present.

d. Privatization

Water scarcity, water quality, and water prices are all connected to the debate over water privatization in Mexico. Adler states that, due to "struggling with aging infrastructure, strapped resources, and poor access, privatization of the water system is being pitched as the cure to Mexico's water woes."[46] The government offers water privatization as the solution as a result of the political economy of the neoliberal reforms

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[43] José Esteban Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," *Environment and Planning* 36, no. 2 (2004): 330–31, https://doi.org/10.1068/a35159.

[44] Úrsula Oswald Spring, ed., *Water Resources in Mexico Scarcity, Degradation, Stress, Conflicts, Management, and Policy*, Hexagon Series on Human and Environmental Security and Peace (Berlin: Springer, 2011), https://doi.org/10.1007/978-3-642-05432-7.

[45] Rowles et al., "Perceived versus Actual Water Quality: Community Studies in Rural Oaxaca, Mexico."

[46] Adler, "The War for Mexico's Water."

in Latin America.[47] Such reforms have led to the privatization of previously publicly owned systems and the expansion of capitalistic free markets. People in Latin America tend to distrust privatization because they perceive that profit for the private sector will be prioritized over public concern and satisfaction.[48] To a certain extent, when people protest water privatization, they are protesting neoliberalism. Water protests challenge proponents of global neoliberalism by mobilizing against it in efforts to achieve social equality. Stahler-Sholk points out that "the issue of water privatization strikes an emotional chord; water has cultural and symbolic meaning as the essence of life."[49] Protesters claim that it is immoral to sell water as a private commodity. Therefore, protests tend to occur after privatization, or after an increase in privatization, because privatization implies treating water as a private commodity rather than as a public good.

However, Mexicans seem only to protest when they perceive that private operators are taking advantage of them. Although water privatization was cited as the direct cause of only 13.2% of all water-related demonstrations, it directly affected all other causes of protest because privatization alters service, price, and quality.[50] In March 2015, Elena Burns, leader of the "Water for All, Water for Life" campaign criticized the current situation of the water services, water quality, water overexploitation, and water cost.[51] Jose Castro voices concerns about initiatives to further privatize the water system in Mexico City and claims that deregulation and liberalization of the water network benefit the private sector and have aggravated preexisting social conflicts.[52] Castro advocates for universal access to safe and affordable water, and for an efficiently-run public water system. Additionally, opponents claim that water privatization diverts water away from domestic consumers toward its industrial sector; as a result, for domestic consumers, water services

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[47] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 78.

[48] Stahler-Sholk, 78.

[49] Stahler-Sholk, 91.

[50] Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," 330–31.

[51] Adler, "The War for Mexico's Water."

[52] Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," 327.

decline, water quality drops, and water costs increase.[53] Adler argues that "the state must guarantee Mexico's constitutional right to 'safe, acceptable, and affordable' water."[54] Protesters believe that water privatization restricts services, degrades quality, and raises costs.[55]

3. Social Mobilization

In order to better understand when water issues inspire protests in Mexico, it is necessary to explore social mobilization. Social mobilization is defined as "the process by which individuals or sections of society mobilize in order to effect social change."[56] Social mobilization can be expressed in the form of elections, litigation, protests, and even armed struggles. Social mobilization occurs when people with a common interest organize to show discontent. People mobilize when they have a common interest to rally around.[57] Social mobilization gets support from groups with a common interest to increase its strength and further its objectives.[58] Common interest is formed by a collection of self-interest individuals with common goals. For successful social mobilization to occur, individuals must act in a self-interested behavior for a common purpose.[59] Organizers of social movements need to be skillful enough to exploit people's feelings such as grievances and dissatisfactions; they need to convince followers that they are on the right side of history.

Protests are one major expression of social mobilization, which occurs when people collectively demand change. There exist many misconceptions about protests. Eckstein points out that "when the poor and working class rebel, it is not because they are intrinsically troublemakers. They rebel because they have limited alternative means to

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[53] Adler, "The War for Mexico's Water."

[54] Adler.

[55] Watts, "Mexico City's Water Crisis -- from Source to Sewer," 5.

[56] Oxford English Dictionary, "Social Mobilization," accessed August 10, 2018, http://www.oed.com/view/Entry/183739?redirectedFrom=Social+Mobility#eid21924636.

[57] Olson, *The Logic of Collective Action : Public Goods and the Theory of Groups*, 6–7.

[58] Olson, 6–7.

[59] Olson, 166–67.

voice their views and press for change."[60] Protests usually occur when other methods of expressing dissatisfaction are exhausted, such as elections and litigation. The poor are more likely to protest because they usually bear the brunt of unfavorable social conditions; they tend to rally behind social movements that promise them improved conditions. The poor suffer the most from water privatization because they are more vulnerable to water scarcity, low water quality, and high water prices. Also, rural people join social movements when their water sources are threatened by water privatization. Eckstein remarks that "even when peasants are outwardly passive, deferential, and quiescent, they can […] take on the risk of direct confrontation when injustice is perceived to be intolerable […] and when local and national institutions and cultural conditions […] incline them to seek redress collectively."[61] Water privatization has prioritized supplying water to the cities over the agriculture sector through transfers and prohibitions on well-water use. Farmers perceive this as threatening their livelihoods and, therefore, they resort to protest.[62]

The four basic properties of social movements are a collective challenge, common purpose, social solidarity, and sustaining contention.[63] Tarrow emphasizes that "organizers exploit political opportunities, respond to threats, create collective identities, and bring people together to mobilize then against more powerful opponents."[64] Collective actions imply bringing people together for a common purpose. In Latin America, one of the most common goals of social movements is to challenge the proponents of global neoliberalism by demanding a place at the negotiating table. For example, protesters in Bolivia claim "the right to have rights" and in doing so they inspired and helped pave the way for future movements against global capitalism.[65] Evidence indicates that poor people, especially in

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[60] Susan Eckstein and Manuel Garretón, eds., *Power and Popular Protest: Latin American Social Movements* (Berkeley: University of California Press, 1989), 3–4.

[61] Eckstein and Garretón, 15.

[62] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 87.

[63] Sidney Tarrow, *Power in Movement: Social Movements and Contentious Politics*, 2011, 8–13, https://doi.org/10.1017/CBO9780511973529.

[64] Tarrow, 8.

[65] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 339.

the developing world, are starting to refuse to accept private companies that jeopardize water availability.[66] If nothing is done to mitigate the predatory practices of some private water companies, discontent is sure to drive more social mobilization.

C. HYPOTHESES

Although this research began investigating numerous hypotheses to explain when people protest over water privatization in Mexico, the two primary hypotheses were: 1) people in Mexico always protest whenever the government proposes water privatization or an increase in privatization because Mexicans have negative views of privatization, and 2) people in Mexico only protest water privatization (or an increase thereof) when they perceive that related issues, such as poor water service, poor water quality, and unaffordable water price, are not being addressed by the private companies. Comparing and contrasting international and domestic case studies nullified the first hypothesis; it is apparent that, while Mexicans may be aware of the bad reputation of water privatization in Latin America, it is not the causal factor nor the driving motivation of their protests. Ultimately, this research found that issues subsumed under water privatization (such as bad water service, poor water quality, and unaffordable water prices) and the threat to increase privatization without addressing those issues are the most significant causal factors of water-related protest in Mexico. In general, protesters blame privatization when they do not get what they pay for.

D. RESEARCH DESIGN

This thesis will present international and domestic comparative case studies. At each level, the thesis will examine one case in which water privatization provoked protests and one case in which it did not. The international case studies will examine Bolivia, which experienced protests over water privatization, and Chile, which underwent water privatization without social conflicts. The domestic cases will cover Mexico City, which is marred with protests over water privatization, and Aguascalientes, which is a city that

[66] William Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," *The New Yorker* 78, no. 7 (2002): 12.

enjoys social stability with water privatization. The analysis of these cases will prove that propositions of water privatization are not the causes of protest, but rather issues related to and associated with privatization (and increases thereof) are the major causes of protest.

E. THESIS OVERVIEW

Chapter II begins by describing and analyzing the many issues of water privatization. One of the main goals of this chapter is to provide an overview of origins, key terms, arguments, and cases in Latin America of water privatization. It describes the debate between proponents and opponents of water privatization. Then, it presents and analyzes the two international comparative case studies of water privatization: Bolivia and Chile.

Chapter III evaluates why people protest in Mexico over water privatization in some cases but not in others. Two cases are considered for the analysis of water privatization in Mexico: Aguascalientes and Mexico City. While the government of Mexico and the World Bank consider the full water concession of the city of Aguascalientes as a success story, the service contracts of Mexico City have not been able to achieve a similar success. Protests erupt in Mexico City every time the private sector makes changes to the arrangement of waterworks. Lastly, the chapter analyzes the relationship between protests over water privatization in Bolivia and in Mexico City, success stories (no protests) of Chile and Aguascalientes, and protests and no protests.

Chapter IV provides the general conclusions of this thesis. It begins by summarizing the findings of when people protest water privatization in Mexico. Next, it presents policy recommendations to mitigate water pollution and avoid future protests in Mexico. Lastly, it outlines a future agenda to reveal why people do not protest water pollution in Mexico.

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II. WATER PRIVATIZATION

This chapter describes and analyzes the many issues associated with water privatization. One of the main goals of this chapter is to provide an overview of origins, key terms, arguments, and cases in Latin America of water privatization. Also, it identifies the motives of people who protest over water privatization in some cases but not in others. It starts by describing a brief history of water privatization in general terms. Then, it moves on to describe two case studies of water privatization: Bolivia and Chile. While international observers see Bolivia's water wars as disasters for water privatization, they consider the Chilean water privatization a success. In both cases, state capacity played a major role in their failures and successes. Lastly, it analyzes water privatization protests.

A. A BRIEF HISTORY OF WATER PRIVATIZATION

Water privatization is nothing new. Privately owned water utilities have existed since the 19th century, but it was not until the 1990s that they experienced the explosion of the new global wave of water privatization.[67] The World Bank and the International Monetary Fund helped this new trend by putting conditions on their lending in the 1990s. Baer emphasizes that "the World Bank, in particular, promoted the application of market principles to the water sector, including privatizing water utilities, as the solution to inefficient, cash-poor state-run water and sanitation services."[68] Stahler-Sholk notes that "with the neoliberal revolution of the past quarter-century, however, the World Bank began making loans to governments conditioned on privatization of public water utilities in an effort to improve management of 'scarce' water resources."[69] This conditional lending was not only opportune but also essential. As Marin notes, "reforms were badly needed: millions of people lacked access to piped water and sanitation services; and for millions of others, service was often poor. Deteriorated infrastructure, fast urban growth, and large

[67] Philippe Marin, *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries*, Trends and Policy Options, no. 8 (Washington, DC: World Bank, 2009), 13.

[68] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 144.

[69] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 85.

investment needs coexisted with poorly run utilities, artificially low tariffs, and scarce fiscal resources."[70] These issues continue to compound today, as public utility companies clearly need reform to improve water services. Perhaps this reform could come with the help of the private sector.

Governments around the world are realizing that water is becoming scarcer and more costly. Finnegan highlights that "the world is running out of fresh water…less than three per cent of it is fresh, and most of that is locked up in polar ice caps and glaciers, unrecoverable for practical purposes. Lakes, rivers, marshes, aquifers, and atmospheric vapor make up less than one per cent of the earth's total water, and people are already using more than half of the accessible runoff."[71] Fresh water resources need to be managed responsibly because they are unevenly and irregularly distributed.[72] Finnegan predicts that "by 2025, the demand for water around the world is expected to exceed supply by fifty-six per cent."[73] Governments around the world face a dilemma of continuing to dump money into inefficient public water systems or transitioning to privatization of some sort to improve services.

Some of these programs have been successful. Van den Berg explains that "in 1989, England and Wales embarked on one of the first modern privatizations in the water sector. The government sold ten publicly owned water companies-encompassing water and sewerage assets and operating licenses and set up a new, independent sector regulator."[74] Van den Berg continues: "these reforms have delivered an impressive volume of new investment, full compliance with the world's most stringent drinking water standards, a

[70] Marin, *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries*, 13.

[71] Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," 12–13.

[72] Gleick, "Water and Conflict: Fresh Water Resources and International Security," 79.

[73] Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," 12–13.

[74] Caroline Van den Berg, "Water Privatization and Regulation in England and Wales," World Bank Other Operational Studies, 11585 (1997): 1.

higher quality of river water, and a more transparent water pricing system."[75] England is a pioneer of water privatization globally.

Private water companies consist of very different forms and sizes, from multinational conglomerates to small firms. Public-private partnerships (PPP) have emerged as a compromise between public and private companies. Private water companies in the developing world have been on the rise since 1990, from 94 million people served in the year 2000 to about 160 million people by 2007.[76] These figures do not include the developed world, which has also increased the implementation of some sort of privatization in the water utilities. Baer observes that "although the majority of water utilities in the world are still public, water privatization has substantially increased the number of people served by private operators in the last two decades."[77] Two French companies are the largest in the industry: Veolia Environment and Suez Environment. Baer assures that "the French companies Suez and Vivendi (now Veolia) control approximately 70% of the private water markets."[78] Veolia Environment (formerly known as Vivendi) runs eight thousand water systems in over one hundred countries, and Suez Environment has businesses in over one hundred and thirty countries.[79] Figure 1 shows the world's 10 largest private water companies in 2009. All these companies first sprung up in the industrialized world and now they monopolize the water systems in the developing world.

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[75] Van den Berg, 1.

[76] Marin, *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries*, xi.

[77] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 144–45.

[78] Baer, 145.

[79] Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," 12.

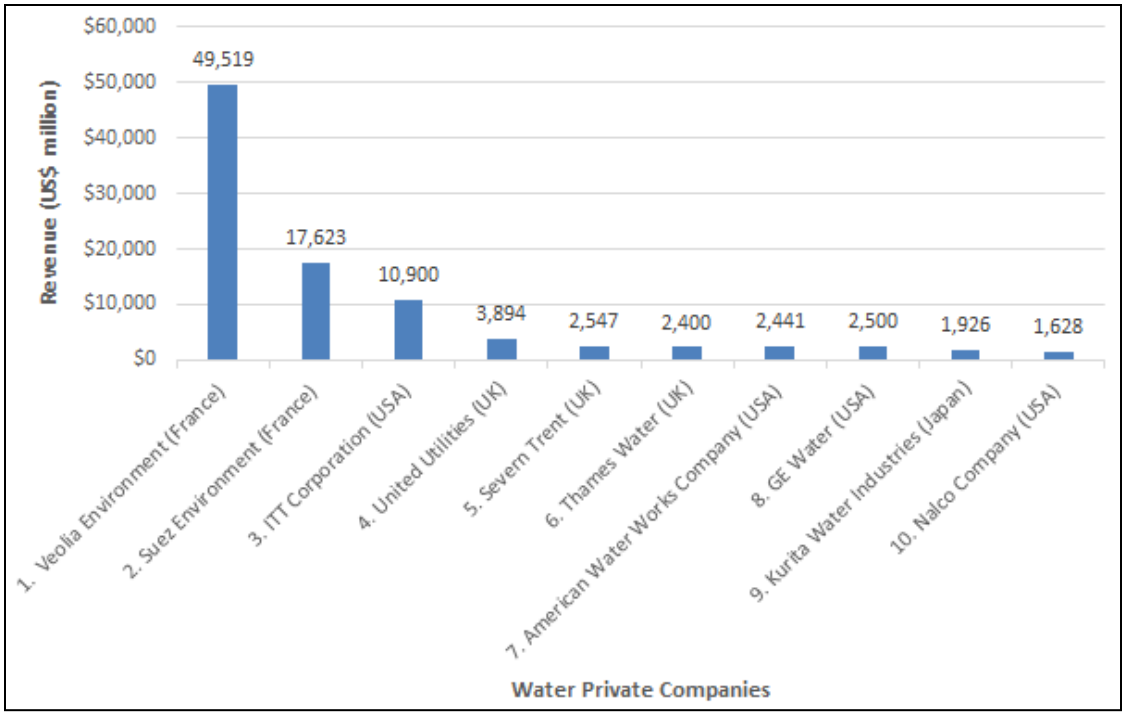

Figure 1. World's 10 largest private water companies.[80]

The scale of water privatization varies from case to case. Baer defines water privatization as a term that "describes a variety of models of private sector involvement in water services. These range from the smallest scale, such as contracting services like installing or reading meters, to full divesture where the entire water business and infrastructure is transferred from the government to a private company through sales of shares in the company, usually in perpetuity."[81] Figure 2 shows several degrees of water privatization, from low to high private sector participation. The three main categories are public companies, public-private companies, and private companies. Public companies are divided into utility corporations and service contracts. Utility corporations are run and managed by a state company; they usually require a high level of economic assistance from the government to function. Service contracts utilities commonly contract out goods and services from the private sector to purchase spare parts or to obtain civil works, such as

[80] Adapted from: ETC group, "World's 10 Largest Water Companies," accessed August 20, 2018, http://www.etcgroup.org/content/worlds-10-largest-water-companies.

[81] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 144.

laying pipes and installing meters.[82] Private companies exist on the other side of the spectrum; they are 100% owned and run by private enterprises and generally are for-profit with little governmental involvement.

Most PPP companies operate within the middle of the spectrum and they come in four different types: management and operating contracts, leases, concessions, and joint ventures. Figure 3 also shows the four types of public-private partnership. Management contracts require the performance of specific tasks, such as managing an asset or a network, for a short time period of 2 to 5 years.[83] Operating and maintenance contracts need to operate and maintain network or asset for a term of 5 to 10 years.[84] Leases consist of running the operations, which involves some end-user risk; the contract is for a short time period of 3 to 5 years.[85] Concession agreement gives long-term rights (typically 20 to 30 years) to provide a service to end users and to charge them for that service.[86] Build Operate Transfer (BOT) contracts needs to build, finance, operate and maintain assets for the contract term (typically 15–30 years).[87] Joint ventures obtain part of the existing assets and share profits and responsibilities with the government, where the private sector usually manages the day-to-day activities.[88]

[82] Victoria Delmon, "Public Private Partnerships in Water - Contracts" (Washington DC: The World Bank, June 5, 2012), 4.

[83] Delmon, 5.

[84] Delmon, 5.

[85] Delmon, 6.

[86] Delmon, 6.

[87] Delmon, 7.

[88] Delmon, 7.

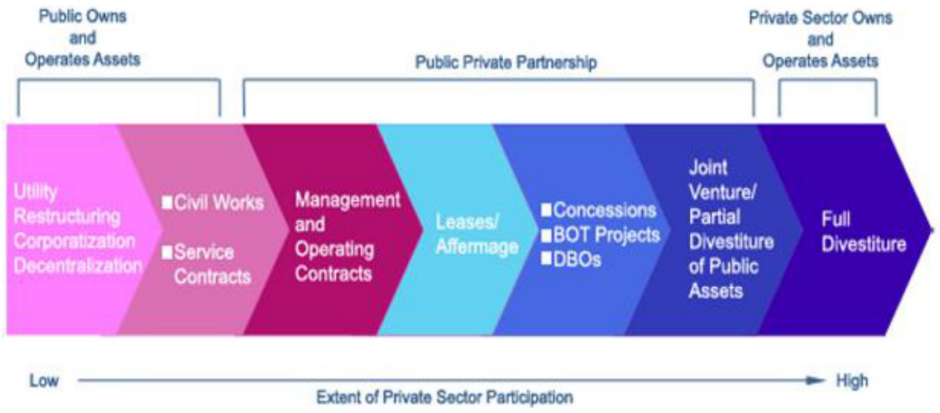

Figure 2. Comparison of PPP models; time versus degree of private involvement.[89]

Proponents of private involvement argue that water privatization can satisfy the world's demands from a larger supply of resources. The World Bank estimates that "feeding 9 billion people by 2050 will require a 60% increase in agricultural production, (which consumes 70% of the resource today), and a 15% increase in water withdrawals."[90] Fresh water scarcity will become a problem that the entire world will need to address more aggressively in the near future. Water privatization currently plays a role in solving the issue of water scarcity, which affects thousands of people in Latin America.

Water privatization is also the result of the political economy of neoliberalism in Latin America. Stahler-Sholk defines privatization as "the release […] of a set of assets formerly owned by the state that can then be seized by private capital and used for profit."[91] Private corporations have an incentive to run a company efficiently; otherwise, the company goes out of business. However, Stahler-Sholk criticizes the greed of private businesses by stating that "in the new liberal era, privatization has become a fundamental strategy of accumulation by dispossession."[92] Accumulation by dispossession implies

[89] Source: Delmon, Victoria. "Public Private Partnerships in Water Contracts." The World Bank, June 5, 2012.

[90] The World Bank, "Understanding Poverty," September 20, 2017, http://www.worldbank.org/en/topic/waterresourcesmanagement#1.

[91] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 78.

[92] Stahler-Sholk, 78.

concentrating resources, and control in the hands of the few often through stripping the many of their public wealth. As a result, people tend to protest water privatization because they are skeptical of the neoliberal reforms that seem to marginalize them further. Baer points out that "local protests in Latin America sparked a global campaign aimed at banning the sale of water utilities to private companies and for including water in the list of internationally protected human rights."[93] Water privatization can be socially catastrophic for stability if implemented incorrectly.

B. CASES OF WATER PRIVATIZATION

This section discusses two cases of water privatization: Bolivia and Chile. These two cases present the two sides of the argument for water privatization. Bolivia shows a case in which water privatization went terribly wrong in two big cities: Cochabamba and El Alto. Chile shows a case where water privatization went well; Chile implemented water privatization correctly with proper involvement of the government. These two cases provide the opportunity to compare and contrast the successful and unsuccessful international cases to the successful and unsuccessful domestic cases presented in the next chapter. The analysis from this chapter will extract theories applicable to the Mexican cases and will help explain when people protest over water privatization in Mexico.

1. Protests: The Bolivian Case

Bolivia underwent its first "water war" in 2000, when water privatization led to rising water prices. In 1999, the city of Cochabamba's municipal utility shifted control to Aguas de Tirani, a private company run by Bechtel.[94] A year after that, protests against privatized water companies erupted due to frustrations over hike in water bills.[95] Water prices became ridiculously unaffordable for regular people in Cochabamba, where "ordinary workers now had water bills that amounted to a quarter of their monthly

[93] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 145.

[94] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 86.

[95] Stahler-Sholk, 86–87.

income."[96] Although water was becoming more expensive, water services were not improving for everyone. Many residents in poor neighborhoods continued to receive sporadic water supply of poor quality due to the decaying infrastructure.[97] Many poor residents felt they were taken advantage of because they were not getting the same water service and quality as the rich neighborhoods. These factors also influenced people to join the protests. The protests grew into a social movement, which attracted thousands of sympathizers from different sectors. Farmers joined the social mobilization because the private water monopoly prohibited them from extracting water from their own wells.[98] The protesters achieved victory; by the end of 2000, a new contract was signed and responsibility went back to the municipal company.[99]

In 2005, a second "water war" emerged; more protests against the private water companies took place in El Alto, Bolivia, due to increased tariffs and poor services. In 1999, the city of El Alto's municipal utility switched control to Aguas de Illimani, a private company run by Suez.[100] Even though El Alto's municipal water company was in better shape than Cochabamba's prior to privatization, water prices increased and water services did not improve as expected. After the first water war, not wanting to repeat the mistakes in Cochabamba, Aguas de Illimani not only increased water tariffs 35%, but also increased the cost for new water connections 61% and the cost for new sewage connections136%.[101] This different approach to generate revenue proved disastrous as well. Many poor people could not afford the new services and those with existing services did not see improvement in their water service. The combination of frustrations for poor water services and increased prices for tariffs and new water services contributed to the second water war in Bolivia. Residents of El Alto protested the hike in prices and the poor water services forcing the

[96] Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," 5.

[97] Finnegan, 5–9.

[98] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 87.

[99] Stahler-Sholk, 87.

[100] Stahler-Sholk, 86.

[101] Stahler-Sholk, 88–90.

government to revert its contract with Aguas de Illumini back to the municipal-controlled water company.

Protesters proved the power of collective action through social mobilization. In both instances in Bolivia, protestors "demanded that the new water companies be publicly owned and operated on a non-for-profit basis."[102] Not-for-profit companies differ from public and private companies because they involve "designating an organization, corporation, etc., which does not operate for the purpose of making a profit."[103] However, Bolivian politicians and international leaders continued to favor private over public water utilities.

Despite the gains of the protesters, the neoliberalism trend continues in Latin America and elsewhere. The problem that some social-movement leaders in Bolivia faced was that the sacrifices made during the struggle seem enormous in comparison with the gains.[104] In Cochabamba and El Alto, the protesters achieved their immediate objective by kicking out the private companies; however, most people still endure an array of other social injustices. For most people, the social struggles are well worth it when the movement reaches its goal. For some other people, the success is worthless because they will still have to endure poverty. It is almost impossible that a single social movement will ever fix all social problems. Stahler-Sholk notes that "access to potable water is fundamental to the quality of daily life but of limited significance to the political economy of the Bolivian state."[105] As long as the overall economy remains stagnant, the trend of neoliberalism will continue in Latin America.

Water privatization continues to spark protests around the world. In Cancun, Mexico, and in Genoa, Italy, protesters argue that it is "immoral" to privatize water.[106]

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[102] Stahler-Sholk, 90.

[103] Oxford English Dictionary, "Not-for-Profit," accessed October 10, 2018, http://www.oed.com/view/Entry/255401?redirectedFrom=not-for-profit#eid.

[104] Stahler-Sholk, *Latin American Social Movements in the Twenty-First Century: Resistance, Power, and Democracy*, 90.

[105] Stahler-Sholk, 90.

[106] Stahler-Sholk, 91.

Protesters believe that governments are responsible for providing sufficient, clean, and affordable water to every citizen. Water can be seen as just another service such as law and order or public roads, which the government is responsible to provide. The disastrous cases with water privatization in Cochabamba and El Alto, Bolivia, suggest that treating water as a private commodity is more problematic than initially anticipated.[107]

In summary, the water wars in Bolivia emerged after the private water companies neglected water services and increased water prices. After just a few months of the introduction of water privatization, tariffs hikes were taking an economic toll on the regular citizens while other citizens did not receive any water. Neoliberalism pushed Bolivia to a quick sale of the water system, which the water private companies noticed the state of disrepair it was in. In efforts to save money, the private companies focused on improvements and services of existing customers, while the poor neighborhoods were disregarded. The protests in Bolivia intensified when the water companies sought to appropriate surface water and groundwater; people were not allowed to collect rain or pump water from their own wells. The system was prone to public unrest when the overall burden of modernization was put on the backs of ordinary people, who paid more than one quarter of their income in water bills.[108] These moves from the private companies and backed by the government proved disastrous, culminating in massive protests and ultimately the reversal of the water system into public hands.

2. No Protests: The Chilean Case

Unlike Bolivia, Chile has enjoyed stability and economic growth since the implementation of water privatization. International observers, such as the World Bank and Chile itself, consider the Chilean case of water privatization as a "success story because it has near universal coverage of safe drinking water and sanitation in urban areas under a fully private system."[109] These gains have been possible through the introduction of the

[107] Stahler-Sholk, 85.

[108] Pavelich, "Water Privatization: A Threat to Human Rights?," 32; Finnegan, "Leasing the Rain; the World Is Running out of Fresh Water, and the Fight to Control It Has Begun," 5.

[109] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 142.

private sector to take over the water and sewage systems. Chile is known, in the developed world, for implementing an extreme free market approach of water privatization; they remain the only countries with fully privatized water systems.[110] Chile began to change its water laws in 1981 and fully implemented water privatization in 1999. The Chilean case is interesting because people have not resorted to protests, despite some increases in water prices. Baer indicates that "Chile's strong state capacity to govern the water sector in the public interest by embedding reforms in state interventions explains the relative success of the Chilean water sector."[111] Chile's strong government system set in place a series of checks and balances, including subsidies for the poor.

Water privatization in Chile was achieved through the policies and reforms under the dictatorship of General Augusto Pinochet. Pinochet ruled Chile with an iron fist from 1973 to 1990; he implemented a series of right-wing reforms, which propelled the country into an economic revolution.[112] Water privatization in Chile occurred primarily through the management of the US-trained "Chicago boys" (Chilean economists educated at the University of Chicago).[113] Inefficiency, low revenue, and aging infrastructure also played a role in the push for water privatization. The Pinochet government altered the water laws establishing the 1981 Water Code, which established that "water is a commodity and should be managed like any other commodity."[114] The idea of treating water as a commodity sparks a great deal of controversy around the world, but in the Chilean case, it has worked. The successful privatization of the water sector in Chile is due in part to the capacity of the state to regulate the private sector.[115] The Chilean case can serve as an example of how establishing a strong capacity of the government prior to water privatization can result in better water services, after privatization, which prevent protests.

[110] Baer, 149.

[111] Baer, 141.

[112] Baer, 147.

[113] Baer, 147.

[114] Baer, 154.

[115] Baer, 142.

The water reforms in Chile attracted international private investment. Baer states that "the main reason given for privatizing water companies in Chile was the need for large investment to expand the treatment of wastewater."[116] Several international companies lined up to participate in the water privatization in Chile. Suez Environmental of France and Aguas de Barcelona of Spain bought 51% of the shares of the water utility company in Santiago.[117]

In Chile, private water companies provide efficient water services, safe water quality, and affordable water prices. In contrast, other Latin American cities have decaying, inefficient, and indebted public water services in desperate need of modernization.[118] The successful water privatization in Chile can be attributable to the early involvement of the government to create a strong state capacity and regulatory framework on the water system prior to the transfer to the private sector. The Chilean government helped in the privatization transition by investing in modernizing the water system years prior to the full privatization. Ultimately, the Chilean case is successful because the water services' regulatory framework was established by law and supported by the constitution, unlike in other countries where the regulatory framework is determined by contracts and underdeveloped at privatization.[119]

The arrival of water privatization brought improvements to the water networks in Chile. Baer reveals that "after privatization, [the private sector] brought investments to the wastewater treatment sector in Santiago, and treatment of wastewater increased from 7% in 1999 to 82.3% in 2007."[120] The private sector has the capacity to innovate and to make the water system more efficient. Through privatization and government regulation, Chile has one of the best sanitation and water sectors in the globe.[121] Chile subsidizes water services for its poorest citizens in order to prevent service cancellation and public

[116] Baer, 157.

[117] Baer, 157.

[118] Baer, 159.

[119] Baer, 160.

[120] Baer, 159.

[121] Baer, 162.

discontent.[122] Baer reports that "Chile spends approximately $46 million/year on subsidies to help pay the water bills for approximately 680,000 households, about 17.4 % of the total clients."[123] This governmental expenditure is part of the government's social responsibility to the poor. The privatization of water and sanitation in Chile is a success because it provides nearly 100% coverage of potable water and sewage service in urban areas, and treats almost all its wastewaters.[124] Water privatization made possible a reliable water service, safe and clean water, affordable prices, and efficient water sewage system.

The arrival of water privatization brought improvements to the water networks in Chile. Baer reveals that "rate hikes [on water] are one of the principal reasons for public protest and subsequent cancellation of water contracts in other Latin American cities."[125] Baer also notes that "Chile's water prices fall within the accepted range of affordability."[126] The Chilean government has put in place a series of subsidies to alleviate public discontent. Even though the water tariffs tripled between 1989 and 2002, the subsidies mitigated these rising rates for the poor.[127] These events led to the creation of a program in 2004 where the government pays 100% of the water bill of the minimum bracket for the poorest households.[128] The subsidies program guarantees water for the most vulnerable people and it also promotes social stability.

In summary, water privatization in Chile is considered a success because private operators sell water to the people while social stability is maintained. Chile also implemented a series of neoliberal reforms in the 1980s and 1990s. The Chilean government put in place a regulatory framework and a strong state capacity to regulate and oversee the private water companies. After privatization, the Chilean government continued to be involved in overseeing the efficiency and expansion of the water system.

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[122] Baer, 162.

[123] Baer, 162.

[124] Baer, 150.

[125] Baer, 164.

[126] Baer, 150.

[127] Baer, 162.

[128] Baer, 162.

Chile continues to subsidize water services for its poorest citizens in order to prevent service cancellation and public discontent. The successful water privatization in Chile can be attributable to the state capacity and the regulatory framework and to the implementation of subsidies for the poorest people. As a result, water privatization in Chile provides efficient water services and safe water at affordable prices for nearly everyone.

C. ANALYSIS

These two cases indicate that people protest water privatization when the state fails to put in place a series of governmental oversights on the private water companies to ensure efficient water service, clean and safe water, and affordable water prices. Governmental oversight regulates private operators and protects its citizens from paying unaffordable water prices. In the 1990s, Bolivia and Chile implemented a series of neoliberal reforms to privatize their public sectors, including the water system. Bolivia erupted in protests because the government allowed the private companies to charge the modernization cost to its citizens. Passing the cost of modernization to the consumers has negative consequences. Usually, the most affected are the poor, who tend to express their displeasure of the consequences of neoliberalism by protesting. The government fails its people when it does not pick up the tab for modernization of the water system. The government also fails when it does not provide economic assistance to the poor. The subsidies program is expensive, but it is worth it because it provides a safety net and it safeguards the survival of the state and the water privatization companies. As a result of the disastrous measures in Bolivia by the private operators and government, water privatization and neoliberalism acquired a bad reputation in all of Latin America.

The Chilean case proves that when the state succeeds in establishing a series of governmental oversights over the water operators, people have no cause to protest. Adequate government involvement when privatizing water systems can improve water systems and promote stability. Success of water privatization hinges on government oversight, which derives from strong state capacity and strong regulatory framework. The government needs to assure that the revenue is sufficient for private companies to generate profits and continue to make improvements to the water network. The government also

needs to make sure the water network improves services and quality at an affordable price. Strong regulatory framework of the water system prevents manipulation and negligence of water networks by greedy private operators. The government continues to be responsible for guaranteeing water services to its citizens after water privatization takes over.

People only protest water privatization when privatization initiatives do not improve water services and water quality at an affordable price to the public. When private water companies arrive, they expect to run the water system as a profitable business. But when the infrastructure is not in place or the system is not efficient, some private companies are forced to neglect water services, disregard water quality, and even raise water prices. This situation calls for governmental oversight to regulate the private companies and cover the extra cost when necessary. Otherwise, common interest in mobilizing is sure to occur. Some people are willing to pay extra as long as services and quality improve. Some other people, due to their economic situation, cannot afford the extra cost. Bolivian's poorest people were the most affected by the hikes in water prices and the first to protest. Chile's poorest people received subsidies for water prices, which keeps them from protesting. It is beneficial for the government to provide financial assistance for its citizens who cannot afford their water bills in order to prevent social unrest.

Furthermore, modernization of the water system should not rest on citizen's payments at first; modernization is a responsibility of the private companies or government. After privatization, states should plan for hikes in water prices and for measures to absorb them by continuing to implement subsidies for the poor to avoid public discontent. The success of privatization comes down to state capacity, which ideally should slowly prepare the water system for privatization. The problem is that the sometimes governments embark on rapid sales of public utilities without putting checks and balances on the private companies, which disregards the welfare of its citizens. The key to successful water privatization is a slow and a careful transaction, and not quick and careless sale.

Furthermore, not only improvements to accessibility, quality, and affordability of water services are important to avoid public discontent, but also the participation of citizens

in decision-making.[129] Public involvement monitors the activities of the privatized water companies and advocates for better services and prices for the community. Therefore, people are less likely to protest when water privatization improves water services, quality, affordability, and public involvement.

In conclusion, this chapter evaluated the many issues of water privatization. Water privatization seems to be the preferred solution for many governments around the world, which are realizing that water is becoming scarcer and more costly. Governments pursue privatization of some sort to improve services, quality, and tariffs, which are the same issues that spark protests. The ten largest private water companies come from the developed world and operate in markets in the developing world. Clearly, the main motivator for private companies is profit and not social welfare. The two cases presented here were Bolivia and Chile. While international observers see Bolivia's water wars as disasters for water privatization, they consider the Chilean water privatization a success. In both cases, state capacity played a major role in their failures and successes. These cases also proved that the government should remain involved in management and operation to look out for its citizen well fare and social stability. Lastly, the analysis demonstrates that protest occurs in response to the issues related to or associated with water privatization, such as poor water service, poor water quality, and unaffordable water price.

[129] Baer, 147.

III. PROTESTS OVER WATER PRIVATIZATION IN MEXICO

This chapter examines why people in Mexico protest over water privatization in some cases but not in others. This chapter starts by describing the predicament that Mexico is in regarding water privatization. It then shows that water privatization in Mexico has produced mixed reactions. Two cases are considered: Aguascalientes and Mexico City. While the government of Mexico and the World Bank consider the full water concession of the city of Aguascalientes a success story, the service contracts of Mexico City have not been able to achieve a similar success. Protests emerge in Mexico City every time the private sector changes the arrangement of the water system. Lastly, it analyzes the connections between protests over water privatization in Bolivia and in Mexico City and lack of protest in Chile and Aguascalientes.

A. WATER PRIVATIZATION IN MEXICO

Mexico has to walk a thin line when considering water privatization because the consequences can be catastrophic. On one side of the line, it can look at the Chilean model for inspiration. On the other side of the line, it can look at Bolivian for discouragement. Water privatization is often associated with poor water services, poor water quality, and high water prices. Mexico faces a tough predicament on water privatization. Watts reports that "Mexico's center-right ruling coalition believes privatization is the only way to finance the necessary upgrades. It has proposed a bill to amend the General Water Act that would allow private firms to take over the supply system."[130] The public water utilities in Mexico have suffered from low budgets, low revenue, mismanagement, aging infrastructure, inefficiency, and political manipulation. Water privatization seems attractive in solving most water-related issues. However, opponents believe that water privatization would raise costs, degrade quality, and restrict services for the poor.[131] Proponents argue the contrary and see water privatization as the solution to the current water crisis. Opponents also point out the promise protected in the Mexican constitution: "safe, acceptable and affordable

[130] Watts, "Mexico City's Water Crisis -- from Source to Sewer," 5.

[131] Watts, 5.

water" for all.[132] The water privatization debate concentrates on water services, water quality, and water pricing, which are the same issues that inspire protesters to take to the streets, when they feel like they are getting a bad deal.[133] Water privatization has to be done right; otherwise, protests are likely to follow.

In the 1980s and 1990s, Mexico followed the neoliberalism trend in Latin America. Mexico undertook a series of reforms to decentralize its service sector and to bring in private investment. Efforts were made to promote the domestic and international private sector involvement in the modernization and management of infrastructure.[134] The advantages of the private sector can include greater accountability, innovation, financing, technical knowledge, management efficiency, and entrepreneurial spirit. Private investment not only brings investment and technical capability but also management and operation expertise to deal with the increasingly outdated and inefficient water system in Mexico. Despite the efforts, Mexico still faces overwhelming challenges such as providing potable water and sewage services efficiently and affordably to millions of people in an environmentally friendly manner.

Several cities throughout Mexico are riddled with infrastructural and administrative problems. In Mexico, most "water services are deficient, inequitably distributed, and offensively inefficient […] In general, then, water management in the public sector is inadequate."[135] The cities continue to consider bringing in private sector investment to improve and to modernize the water systems. Cities are aware of the social conflicts that can arise by doing nothing, but they are also concerned about private sector participation. Figure 3 shows a map of the conflicts over water services in most Mexican cities from 1980 to 2000. Most of the population in Mexico is still not affected by private water companies. The private companies tend to concentrate in large urban centers for cost-effective reasons. Barkin affirms that "in 2010, in Mexico and in a large part of the world, private companies

[132] Watts, 5.

[133] Bernard Barraque, *Urban Water Conflicts*, UNESCO-IHP (Boca Raton, FL: CRC Press, 2011), 137.

[134] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 382.

[135] Barkin, 386.

control less than 5 per cent of consumption."[136] Still, Mexico is desperately looking at the private sector for help with the current water crisis.

[136] Barkin, 383.

Figure 3. Map of conflicts over water supply services in Mexican urban centers (1980–2000).[137]

In spite of the government's efforts to increase the participation of the private sector, water investment has been rare. The private sector has participated in a few contracts in the water and sanitation sector and has raised funds for investments in facilities.[138] The most prominent cities with some degree of water privatization are Mexico City, Aguascalientes, Cancun, Saltillo, Monterrey, Tijuana, Puebla, Queretaro, and San Luis Potosi.[139] Critics complain that private involvement has not improved the efficiency of water and sanitation; on the contrary, it has increased the cost of service.[140] A few exceptions exist such as Aguascalientes, Cancun/Isla Mujeres, and Saltillo, which stand out as good examples of fiscally responsible and well run private water companies.[141] Without many options, the Mexican government is engaged in a water policy dialogue with the Organization for Economic Co-operation and Development (OECD) to support the implementation of the 2030 water agenda, which calls for sustainable aquifers, clean rivers, universal coverage, and prevention of floods by the year 2030.[142] The agenda contains an ambitious program that involves more participation from the private sector.

In fact, a few metropolitan cities in Mexico operate their water services and sanitation with the involvement of the private sector. According to the OECD report, between 1992 and 2000, out of over 1,200 water operators in Mexico, only 5 concessions and 26 contracts—9 service contracts, 2 management and contracts, and 15 build-operate-transfer contracts—were signed and between 2002 and 2008, only eight contracts were signed—all of them build-operate-transfer for wastewater treatment plants.[143] Table 1 shows the 4 major metropolitan cities run with the private sector in some way or another. In Mexico, partial or total management contracts with the private sector are located in

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[137] Source: Barraque, *Urban Water Conflicts.*

[138] OECD (2013), *OECD Environmental Performance Reviews: Mexico 2013*, OECD Environmental Performance Reviews (Paris: OECD Publishing, 2013), 82, http://dx.doi.org/10.1787/9789264180109-en.

[139] SEMARNAT, "Guía Sobre La Participación Privada En La Prestación de Los Servicios de Agua y Saneamiento," December 2010, 64, http://centro.paot.org.mx/documentos/conagua/SGP-23-10.pdf.

[140] OECD (2013), *OECD Environmental Performance Reviews: Mexico 2013*, 82.

[141] OECD (2013), 82.

[142] OECD (2013), 82.

[143] OECD (2013), 82.

Aguascalientes (full concessions), Cancun and Isla Mujeres (full concessions), Saltillo (full concession through a joint venture), and Mexico City (service contracts). Aguascalientes, Saltillo, and Cancun are showcased as successes by involving the private sector in dealing with the water crisis in Mexico. Mexico City; however, is a different story.

Mexico City differs from the other cities with private partnerships due to the many social, economic, and political factors that plagued the city. However, in some other aspects, Mexico City resembles the rest of Mexico in how water services are plagued with deficiency, unequal distribution, and high inefficiency.[144] These problems come from political favoritism, obsolete administrative processes, poorly trained personnel, aging infrastructure, lack of planning, and inadequate natural and monetary resources.[145] No wonder Mexico City is constantly in the news for protests over insufficient water services, poor water quality, and high water prices. The water system in Mexico City has been dealing with the private sector since the first service contract came into effect in 1994.[146] The service contracts in Mexico City are responsible for the day-to-day management, services, and operations. The first service contract was signed for 10 years and was renewed right before it expired in 2004, followed by another contract for 5 years with the same water distribution companies.[147] Since then, continuous extensions for the four concession titles have been the norm. Officials claim that these continuous extensions create a series of deductions and bonuses that encourage actions on the part of the private companies for the benefit of the people of Mexico City.[148] In reality, these continuous extensions and subsidies help keep elected officials in power.

[144] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 386.

[145] Barkin, 386.

[146] Sistemas de Agua de la Ciudad de Mexico, "Empresas Concesionarias," accessed August 25, 2018, https://data.sacmex.cdmx.gob.mx/empresas-concesionarias.

[147] Sistemas de Agua de la Ciudad de Mexico.

[148] Sistemas de Agua de la Ciudad de Mexico.

Table 1. Most prominent private contracts in Mexico for water systems.[149]

City	Consortium	Private Partner	Type of privatization	Start of Contract	End of Contract
Zona A. Mexico City—North	Servicios de Agua Potable (SAPSA)	Ingenieros Civiles Asociados (ICA) and Veolia Environment	Service contracts	1993	2010 (since then, yearly extensions have been granted)
Zona B. Mexico City—Center North	Industrias del Agua (IASA)	Socios Ambientales de Mexico (SAMSA) and Seven Trent	Service contracts	1993	2010 (since then, yearly extensions have been granted)
Zona C. Mexico City—South East	Tecnología y Servicios de Agua (TECSA)	Suez Environment and Anglian Water	Service contracts	1993	2010 (since then, yearly extensions have been granted)
Zona D. Mexico City—West	Agua de México (AGUAMEX)	GUTSA and Northwest Water	Service contracts	1993	2010 (since then, yearly extensions have been granted)
Aguascalientes	Concesionaria de Aguas de Aguascalientes, S. A. de C. V. (CAASA)	Veolia Environment	Concession	1993	2026
Cancún/Isla Mujeres	Aguakán	Suez Environment	Concession	1994	2023
Saltillo	Aguas de Saltillo	Suez Environment	Joint venture	2001	2026

B. CASE STUDIES IN MEXICO

This section discusses two cases of water privatization in Mexico: Aguascalientes and Mexico City. Aguascalientes shows a case where water privatization went well because it implemented water privatization correctly with proper involvement of the government. Mexico City displays a case in which water privatization has not been going well since its implementation because of many issues including insufficient water services, poor water quality, and hikes in water prices. These two cases directly address the research question of this thesis. Also, the analysis from these two cases will draw parallels from them and the Bolivian and Chilean cases to assess the hypotheses.

[149] Adapted from "CONAGUA," gob.mx, accessed March 3, 2018, https://www.gob.mx/conagua.

1. No Protests: Aguascalientes

The city of Aguascalientes is often cited as a success story in water privatization in Mexico. The cities of Saltillo and Cancun have also had some success by involving the private sector in dealing with water management. However, Aguascalientes has enjoyed a longer period of stability with little opposition from the public. Aguascalientes is an industrial city in the arid center of Mexico. Aguascalientes was the first water system to be privatized, in 1993, after the introduction of the neoliberal reforms of the public policy in Mexico.[150] Concesionaria de Aguas de Aguascalientes, S. A. de C. V. (CAASA) is the private water company that operates and manages the water system in Aguascalientes. CAASA is comprised of a partnership between the local government, domestic investors, and foreign investors (Veolia). The process of private sector participation in Aguascalientes evolved gradually: it began in 1988 with the privatization initiatives established by law and in 1989 with a renewable 3-year partial service contract, followed by a 20-year full concession contract awarded in 1993, which was later extended to 30 years.[151] CAASA now provides the drinking water and sewerage services to over 800,000 inhabitants, operating 210 deep wells, 2,297 kilometers of potable water networks, 2,134 kilometers of drainage and attending to little more than 271,000 faucets.[152] CAASA is considered one of the best-run private water companies in Mexico.

Before privatization initiatives and due to lack of revenue, the municipal water system of Aguascalientes was in trouble; the state-run company provided poor water services and poor water quality and was heavily indebted almost to the point of bankruptcy.[153] Aguascalientes embarked in water privatization due to a necessity to increase service reliability through sound economic initiatives and infrastructure upgrades. At times, water privatization in Aguascalientes may raise some disgruntlement, but the

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[150] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 384.

[151] OECD (2013), *OECD Environmental Performance Reviews: Mexico 2013*, 82.

[152] "Quienes Somos," CAASA Aguascalientes, accessed August 25, 2018, http://caasa.com.mx/quienes-somos/nuestro-origen/.

[153] Jorge Kirchbach, "The Politics of Privatization Policies at Local Level in Mexico: The Case of the Water Utilities in Aguascalientes" (PhD diss, The London School of Economics and Political Science, 2000), 140–200, UMI U615444.

benefits of the for-profit company are hard to deny.[154] Prior to privatization initiatives in Aguascalientes, the municipal government ran the water system as in most other municipalities in Mexico; the water system was losing more than 60% of the water due to leaky pipes and old water infrastructure.[155] On top of that, many water bills were not being paid, water theft occurred through illegal connections, around 30% of residents lacked potable water, about half of all the neighborhoods did not receive continuous water service, the government heavily subsidized water service for all, and the water rates failed to cover the cost of operations.[156] In short, CAASA brought in efficiency and efficacy to Aguascalientes' potable water system, which was badly neglected and full of service problems.

Numerous improvements have been carried out under the CAASA management, such as efficiency, efficacy, infrastructure, and accountability. Under the concession contract, the private operator procures water, treats it, supplies it to customers, bills for it, collects payment, and provides customer service.[157] The initial contract in 1989 focused on increasing commercial performance and the achievements include a 42% increase in the number of registered customers, the installation of over 300,000 feet of pipe, the increase in productivity while reducing the number of employees from 5 to 3 per 1,000 connections, and the fourfold increase in revenue.[158] In 1993, the full concession was granted to CAASA to upgrade and expand infrastructure in order to increase coverage, service quality and efficiency. The main indicators of success are improvements in technical efficiency (from 30% in 1993 to 50% in 2002 by reducing water losses), commercial performance (the bill collection rate reached 97% in 2009), coverage (it reached 98% in 2009, up from 61% in 1993, including many homes built without proper permits), and revenue increase (between 1993 and 2002, tariffs quadrupled).[159] As a result of these improvements in metering,

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[154] David Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate," March 23, 2006, http://agren.blogspot.com/2006/03/aguascalientes-experience-provides.html.

[155] Agren.

[156] Agren.

[157] OECD (2013), *OECD Environmental Performance Reviews: Mexico 2013*, 82.

[158] OECD (2013), 82.

[159] OECD (2013), 82.

billing, and bill collection, water consumption was reduced over 50% from 1993 to 2002.[160] These and other achievements are the reason Aguascalientes has been used as the poster child of proponents of water privatization in Mexico.

The improvements have not come without some criticism. The water privatization in Aguascalientes has brought up some discontent in the public. The Aguascalientes case demonstrates remarkable improvements at the administrative level, but critics point out that it has not been easy to transfer these benefits to the poor.[161] Water prices in Aguascalientes are one of the highest in the nation. Figure 4 shows water and sanitation tariffs for residential use in 10 cities in Mexico in 2017. The most affordable water in Mexico was found in Villahermosa, Tabasco at MX$1.31/m3, which is provided by a state-owned company. Villahermosa enjoys the lowest water tariffs in the country because its geographical location provides abundant water resources and the government heavily subsidizes it.[162] The most expensive water in Mexico in 2017 was found in Pachuca de Soto, Hidalgo at MX$35.27/m3. Pachuca de Soto endures the most expensive water in the country because its arid geographical location limits the amount of water and the government lightly subsidizes it, even though the water company is state-owned. The average price for water in Mexico in 2017 was MX$15.25/m3. In 2017, Aguascalientes's water price was MX$23.90/m3, clearly above the price average in Mexico.

[160] OECD (2013), 82.

[161] Margaret Wilder and Patricia Romero, "Paradoxes of Decentralization: Water Reform and Social Implications in Mexico," *World Development* 34, no. 11 (November 2006): 1984, https://doi.org/10.1016/j.worlddev.2005.11.026.

[162] Miguel Canton, "Villahermosa: La Ciudad Con El Agua Más Barata Del País," *Tabasco Hoy*, April 23, 2014, http://www.tabascohoy.com/nota/189371/villahermosa-la-ciudad-con-el-agua-mas-barata-del-pais.

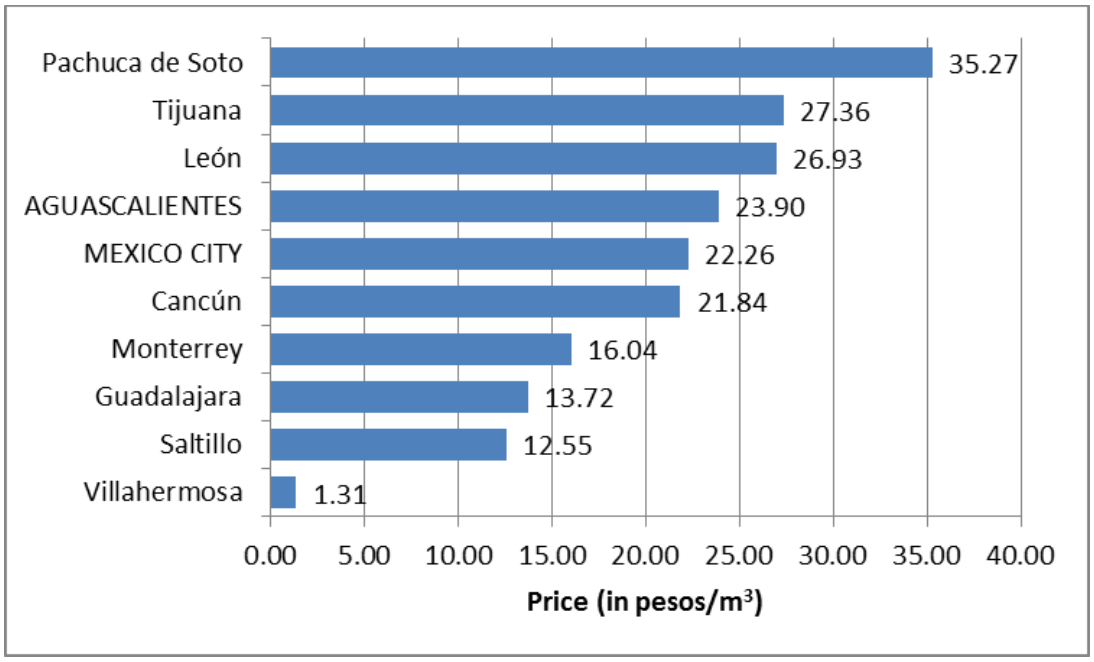

Figure 4. Water and sanitation rates for residential use in 10 cities in Mexico in 2017.[163]

Despite the high water price for domestic purposes, Aguascalientes has enjoyed long social stability without major protests. A small-home owner in Aguascalientes expresses that "it's expensive, but it's a good service […] the service fails less often."[164] This resident talks about the paradox of expensive water and the appreciation for the availability. Aguascalientes water prices are expensive for Mexico's income level, but it is important to recognize the improved serve since CAASA took over.[165]

CAASA also runs a social program to help the poor and needy. As a company policy, CAASA puts 7% of the revenue into a social fund to provide support for households—primary the elderly—that could not afford to pay the water tariffs.[166] This social fund helps to maintain good relationships with the community and mitigates

[163] Adapted from "Tarifas Nacionales," COAGUA, August 26, 2018, http://sina.conagua.gob.mx/sina/tema.php?tema=tarifas&ver=reporte&o=0&n=nacional.

[164] Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate."

[165] Agren.

[166] OECD (2013), *OECD Environmental Performance Reviews: Mexico 2013*, 82.

discontent. The government uses part of the revenues from bill collection for subsidies for poor customer who cannot pay their water bills.[167] Since the government provides subsidies to the poor to pay for water, people are less likely to resort to violent protests.

The benefits and progress from water privatization are obvious in Aguascalientes. The private company has provided drinking water for thousands of people and treatment of wastewaters in Aguascalientes. CAASA has improved the health of people by improving the sewer service; by treating 98% of all wastewater while, as a comparison, only 20% of sewage is treated in Mexico.[168] By providing and improving the sanitation system, people in Aguascalientes are less exposed to waterborne illness from the sewer system. CAASA has also been able to do more with less; the average water consumption per households has dropped by half, it has expanded its water service to more people, reduced leaky pipes, and reduced the periods that some neighborhoods go without water.[169] By improving the water infrastructure and by reducing leaky pipes, CAASA has improved the water quality. The achievements of CAASA have been made in part through the economic support from the World Bank.[170] Despite its rough start and setbacks,[171] Aguascalientes showcases a relative success of water privatization in Mexico with relatively low social, political and economic issues. At times, water privatization in Aguascalientes may raise some disgruntlement, but the benefits of the for-profit company are hard to deny.[172]

In spite of some criticism from water privatization opponents, Aguascalientes has not experienced a period of major protests over water privatization. The social programs that CAASA has sponsored may have helped the image of the company and the harmony

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[167] Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate"; Kirchbach, "The Politics of Privatization Policies at Local Level in Mexico: The Case of the Water Utilities in Aguascalientes," 158–65.

[168] Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate."

[169] Agren.

[170] Kirchbach, "The Politics of Privatization Policies at Local Level in Mexico: The Case of the Water Utilities in Aguascalientes," 154.

[171] Kirchbach, 127–211.

[172] Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate."

with the community. In addition, most citizens in Aguascalientes enjoy the efficiency and efficacy of the water systems that CAASA provides. CAASA also holds public meetings to hear from the public and to show transparency of the services.[173] By doing so, CAASA involves ordinary people in some decision making. CAASA does not have to do any of these programs, but the company does it to maintain a good standing with the community. CAASA maintains a good relation with the community, which translates to a long period of stability without protests over water privatization.

With a water service like CAASA, there is less incentive to resort to violent protests as in some other parts of Mexico. CAASA is proven to be a sound and responsible company that works hand and hand with the government and people of Aguascalientes to provide water service to all citizens and industry. Efficiency is the hallmark of CASSA; customers steal less than 4% of the water and pay more than 90% of their water bills.[174] In the end, people do not care whether the water service is private or public, as long as they get good services, good quality, and affordable tariffs.[175]

Aguascalientes achieved success because the city provides governmental oversight in the form of regulatory framework to guarantee efficient water services and clean and safe water at affordable prices. However, the success of CAASA was not instantaneous; state capacity and regulatory framework paved the way for its success. In 1984, shortly after the decentralization initiatives in Mexico, Aguascalientes created the Potable Water and Wastewater Commission for the City of Aguascalientes (CAPA) to provide governmental oversight and regulate the water systems of the state-owned water utilities.[176] Later, CAPA became a regulatory body to standardize and control the privatization initiatives. In 1988 the government of Aguascalientes put in place privatization initiatives to remove local authorities from the water systems management and operation.

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[173] CAASA Aguascalientes, "Quienes Somos."

[174] Agren, "Aguascalientes' Experience Provides Insight into Polemic 'Public or Private' Water Debate."

[175] Agren.

[176] Kirchbach, "The Politics of Privatization Policies at Local Level in Mexico: The Case of the Water Utilities in Aguascalientes," 130–39.

Privatization began as an experiment to combat aging infrastructure, stagnant and poor water services, poor water quality, financial insolvency, and poor management and operations.[177] The privatization initiatives consisted of a plan to fully privatize the water system in Aguascalientes in four stages from 1988 to 1993, culminating in the creation of CAASA. After the creation of CAASA, CAPA continued to evolve to better monitor and regulate the private water sector and receive public complaints against CAASA.[178] Regulatory oversight in the early stages of privatization proved successful. Governmental oversight was instrumental in creating the regulatory body and the success of CAASA.

In summary, Aguascalientes is a success story in Mexico because it supplies efficient water services and clean and safe water at affordable prices. The process to privatize the water system in Aguascalientes began in 1988 during the wave of the neoliberalism that swept through Latin America. CAASA emerged as a partnership between the local government, domestic, and foreign investors to supply water to all people in Aguascalientes. CAASA transformed the badly-run and heavily indebted public water utility into an efficient and profitable business in less than ten years. With government help, CAASA embarked in a series of improvement to repair and improve the infrastructure to expand water services, increase water quality, and provide subsidies to the poor. In Aguascalientes, the state capacity continues to provide governmental oversight in management and operation of the water system to safeguard the water needs of all its citizens.

2. Protests: Mexico City

a. The General Situation in Mexico City

Unlike Aguascalientes, Mexico City has been marred with constant protests over water privatization. Mexico City is the prime example of protests over water privatization in Mexico. Thousands of people regularly take to the streets demanding greater water availability, better quality, and lower rates. Morales and Rodríguez affirm that "Mexico

[177] Kirchbach, 130–39.

[178] Kirchbach, 140–200.

City—with a population of more than 20 million people—is confronting one of the most serious short-term water resource problems in the world […] due to an inability to supply water to several of its zones."[179] Despite the introduction of the private sector in the water system in Mexico City since 1994, the city is still struggling with providing good services and balancing the books. Barkin states that "during the first seven years under [private] company administration, […] the water fee collections almost doubled. Of course, this dramatic increase in revenues had a direct effect on the population, which frequently organized to express its displeasure with the new rates."[180] Increases in water tariffs has been one of the main culprits for protests in Mexico City. Mexico City is of particular interest to politicians because such a large population represents a large number of votes. Politicians in Mexico and Mexico City usually resort to social programs and subsidies to maintain electability. In order to avoid social unrest in the most populous city in Mexico, potable water has been heavily subsidized. However, despite promises to keep potable water affordable, tariffs have continued to rise.

Mexico City has been dealing with the private water sector since 1994. Substantial parts of the city's water network were transferred to the private sector since the mid-1990s under service contracts for bills management and repairs.[181] In 1994, the first service contract was signed for 10 years, followed by another contract for 5 years up to 2009; since then yearly extensions have been granted for the four concessions in Mexico City.[182] In 1994, Mexico City's water system was broken down into four zones—Zones A, B, C, and D—in order to avoid the formation of a monopoly. The main foreign, private players were originally Veolia Environment, Seven Trent, Suez Environment, and Northwest Water; later on, the companies were reorganized.[183] Table 1 also provides more details on the four

[179] Jorge Morales and Lilia Rodríguez, "The Growth of Water Demand in Mexico City and the Over-Exploitation of Its Aquifers," in *Water Resources in Mexico: Scarcity, Degradation, Stress, Conflicts, Management, and Policy*, ed. Ursula Oswald Spring, Hexagon Series on Human and Environmental Security and Peace, v. 7 (London: Springer, 2011), 395.

[180] David Barkin, "Mexico City's Water Crisis," *NACLA Report on the Americas* 38, no. 1 (2004): 4.

[181] Barkin, 3.

[182] Sistemas de Agua de la Ciudad de Mexico, "Empresas Concesionarias."

[183] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 385.

water zones in Mexico City. Mexico City created these four zones to improve water services by generating a complete roll of customers in each zone, installing meters, increasing collection practices, and providing maintenance services for the distribution network to the users.[184] In the end, the private water companies realized that the waterworks in Mexico City was more complex that anyone had anticipated.

After the arrival of the private sector, Mexico City's water system underwent several improvements. Between 1997 and 2001, water leakage was reduced in the distribution system from 37% to 30%, "the numbers of ratepayers increased six-fold and water fee collections almost doubled."[185] Due to repairs to leaky pipes, water flow increased from 35.2 m3/s in 1993 to 35.31 m3/s in 1999.[186] This was a very small increase in water flow in six years, but private participation was able to reverse the past trend of losses in water flow and keep up with demand.

Additionally, before the beginning of the service contracts, water tariffs charged a flat rate for each connection regardless of the consumption and the utility company was recovering "less than 40% of its operating costs."[187] By 2004, the water company was recuperating over 50% of operating costs.[188] The improvements in recuperating cost have to do with repairing leaky pipes and installing water meters. The service contracts have also created a "computerized database of users, and meter readings have enabled an analysis of water use and improved billing practices and a new ability to identify leaks electronically."[189] Finally, in ten years, water contracts have reduced the average water consumption from 95 to 80 gallons per capita per day.[190] Education, tariff increases, fixing some water leaks, and installing water meters have contributed to the consumption drop.

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[184] Barkin, 385.

[185] Barkin, "Mexico City's Water Crisis," 4.

[186] Wilder and Romero, "Paradoxes of Decentralization," 1984.

[187] Barkin, "Mexico City's Water Crisis," 3.

[188] Barkin, 3.

[189] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 385.

[190] Barkin, "Mexico City's Water Crisis," 3.

Despite the improvements in the water system in Mexico City, significant problems persist. Although efficiency and revenue have increased, a considerable section of the people (including many federal government agencies) "still does not pay its water bills."[191] The lack of enforcement of water tariffs has created a culture of negligence and irresponsibility. Wilder and Romero emphasize that "customers have neither an incentive to pay fees nor is there a punishment for failure to pay fees, and local politicians in the Federal District hesitate to raise water charges for fear of compromising their electability."[192] This condition puts the water companies in a tough situation to improve waterworks; while tariffs cannot be raised, services cannot be cut off either. As of 2006, water tariffs have not been reasonably increased for domestic users; therefore, implementing a water-management plan is difficult due to lack of revenue.[193] The lack of revenue is due in part to the continuation of the old system to reduce subsidies and water consumption for residential users by changing a "progressive rate that rises as water use increases."[194] The progressive rate fails to charge less to the poor and more to the rich because the poor usually live in large households where the progressive rate does not benefit them.

One of the most serious problems in Mexico City is the lack of revenue to make the water utilities self-sufficient. In 2006, the water system was recovering about 50% of operating costs and the city's budget was making up for the remaining bill.[195] Aggravating the situation, "the total water extraction in Mexico City exceeds the natural availability of water in the basin by 1.73 times, putting extreme pressure on the aquifers of the Valley of Mexico" and on the extensive waterway systems to supply its water needs.[196] Even though efforts to repair leaky pipes have been substantial, it is believed that water leaks make up

[191] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 385.

[192] Wilder and Romero, "Paradoxes of Decentralization," 1984.

[193] Wilder and Romero, 1984.

[194] Barkin, "Mexico City's Water Crisis," 3.

[195] Barkin, 3.

[196] Morales and Rodríguez, "The Growth of Water Demand in Mexico City and the Over-Exploitation of Its Aquifers," 395.

35% of water use.[197] These findings show that water reform in Mexico City has made some improvements, but has not produced the expected results; it has not reduced water extraction, not increased access to water services, not increased water quality, and not provided financial self-sufficiency.[198] The inefficient water services, poor water quality, and lack of affordability produce discontent in the population.

The water situation remains stagnant in Mexico City due to competing party politics. The politics in Mexico City reverberate throughout the country because of the political concentration and the influence of 20 million people. The governor of Mexico City (known as governor and not as a mayor) used to be appointed by the president of Mexico up until 1997 when the left-leaning party (Party of the Democratic Revolution, or PRD) seized power in the first governmental elections in the city.[199] The PRD tends to be against the privatization of water in Mexico City, but even after taking power the water contracts keep getting renewed (usually very discretely). Therefore, the fears of undoing the private water contracts have not come to fruition, which is a remarkable contrast to other leftist governments in Latin America.[200] The city government has realized that running a public water company for such a large population can be problematic; therefore, the current water management scheme continues. The governor of Mexico City directly sets the water rates and connection costs, a measure that aggravates the water problem.[201] During election cycles, politicians tend to use the private water companies as punching bags to score political points. When water tariffs go up, the opposition party (the Institutional Revolutionary Party, or PRI) opportunistically criticizes the PRD.[202] Politicians play politics to win elections by keeping water rates low and to avoiding unrest in the population. As a result of party politics, Mexico City has not benefited from improvements in water services, water quality, and affordable water rates.

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[197] Morales and Rodríguez, 395.

[198] Wilder and Romero, "Paradoxes of Decentralization," 1984.

[199] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 385.

[200] Barkin, "Mexico City's Water Crisis," 3.

[201] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 385.

[202] Barkin, "Mexico City's Water Crisis," 5.

b. Protests

Despite the efforts of politicians, water-related unrest continues to occur in Mexico City. Dissatisfied customers tend to protest, primarily over increased water tariffs, without improvements in service.[203] Rises in tariffs provoke a negative effect on the stability of the population, "which frequently organizes to express its displeasure with the new rates."[204] Politicians receive most of the public's rage rather than the private water companies because the local legislature sets the water tariffs.[205] Politicians are aware of the stakes in water tariffs; therefore, political schemes have continued to keep water affordable for the poor, such as subsidies and flat fees with progressive rates.[206] Despite these efforts at keeping water affordable are in place, water prices have increased considerably in the past 10 years. Figure 5 depicts increases in water prices in a span of 11 years affecting Mexico City and Aguascalientes. It is interesting to notice a hike in water prices of 686% in Mexico City from 2007 to 2017, while Aguascalientes' water prices increased only 175%. No wonder people protest about water prices in the capital. Mexico City enjoyed an artificially low water price for decades. The most abrupt increase in water prices took place from 2009 to 2010 in Mexico City, when water prices almost tripled. In 2017, water prices in Mexico City were comparable to those in Aguascalientes. Unsustainable low water prices in Mexico City have been slowly adjusted to more realistic tariffs; however, this measure has created protests.

[203] Barkin, 4.

[204] Barkin, 4.

[205] Barkin, 4.

[206] Barkin, 3.

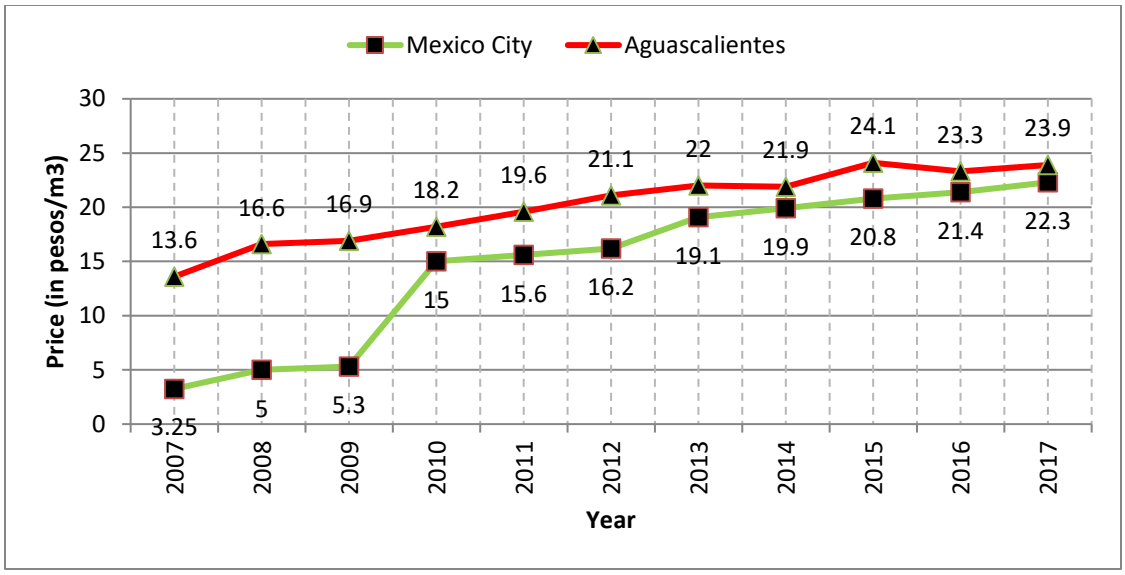

Figure 5. Water price comparison between Mexico City and Aguascalientes from 2007 to 2017.[207]

A vast array of water factors incite unrest in Mexico City, including water services, water quality, and water tariffs. A 12-year study in 2002 reported that 49% of water conflicts took place in Mexico City.[208] Public demonstrations (including facility takeovers) took place and about 56% were due to water shortages, 24% were due to a hike in prices, and 20% to other issues including poor water quality.[209] Water prices alone are not responsible for protests; poor water services and poor water quality also factor for protests. Another study in 2004 indicated that the main causes of water protests were 56.8% over scarcity, maintenance, quality, price, and administrative inefficiency.[210] Water scarcity is associated with poor services, which is a common theme and complain in Mexico City. Delgado-Ramos affirms that "in the metropolitan area the districts that experienced the

[207] Adapted from: "Tarifas Nacionales." COAGUA, August 26, 2018. http://sina.conagua.gob.mx/sina/tema.php?tema=tarifas&ver=reporte&o=0&n=nacional.

[208] Delgado-Ramos, "Water and the Political Ecology of Urban Metabolism: The Case of Mexico City," 105.

[209] Delgado-Ramos, 105.

[210] Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," 330–31.

most social unrest were precisely those with less access to water."[211] In Mexico City, some areas get water only once a week and only for a few hours. The city rations water in order to supply some water to most citizens. Some improvements to infrastructure have modestly increased water availability and water quality in the city due to the implementation of private service contracts. However, the water utility companies keep increasing water prices in order to be self-sufficient. Ordinary citizens get upset because they have to deal with water shortages, poor water quality, and price increases at the same time. This situation is a recipe for social unrest.

Water privatization has sparked a great deal of social unrest in Mexico City since 1994. The neoliberal reforms that swept through Latin America in the 1980s and 1990s produced mixed outcomes; the cases of Argentina and Bolivia were in the news due to public discontent with water privatization.[212] The Mexican people know about the well-publicized water wars in Bolivia. Water privatization sparks fears of private takeovers, where water is treated as a commodity rather than as public good. A study in Mexico City, in 2004, revealed that 13.2% of protests occurred over privatization alone.[213] Proponents believe that if water was treated as a private commodity, then water prices would reflect its true cost; however, many people oppose this measure. Adler reports that, due to "struggling with aging infrastructure, strapped resources, and poor access, privatization of the water system is being pitched as the cure to Mexico's water woes."[214] Full privatization in the form of concessions is an alternative to the current water scarcity and lack of affordability in Mexico City; however, many people oppose it. Castro criticizes privatizing the water system in Mexico City and argues that deregulation and liberalization of the water network benefit only the private sector and have aggravated preexisting social conflicts.[215]

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[211] Delgado-Ramos, "Water and the Political Ecology of Urban Metabolism: The Case of Mexico City," 105.

[212] David Barkin and Daniel Klooster, "Water Management Strategies in Urban Mexico: Limitations of the Privatization Debate," *IDEAS*, 2006, 9.

[213] Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," 330–31.

[214] Adler, "The War for Mexico's Water."

[215] Castro, "Urban Water and the Politics of Citizenship: The Case of the Mexico City Metropolitan Area during the 1980s and 1990s," 327.

He advocates for universal access to safe and clean potable water and for a well-run government water system.

Opposition to further privatization has provoked protests in the capital. In March 2015, "while the United Nations celebrated World Water Day, hundreds of protestors marched down […] toward the office of the National Water Commission […] they chanted through loudspeakers, painted posters, and, arriving at the office, scaled the front gates and erected signs."[216] The protesters displayed their displeasure by shouting "'El agua es nuestra, carajo!' screamed one poster. The water is ours, goddamnit! A more diplomatic sign read: 'El H20 no es un negocio.' Water is not a business."[217] Protesters are worried that private companies will disregard water services in poor areas, neglect water quality, and increase water tariffs. Proponents of privatization (right-wing parties and their allies) argue that the private sector can provide water better, cleaner, and cheaper than the public sector, and can also improve the fiscal deficit. Opponents (left-wing parties and grassroots activists) argue that water privatization will prioritize industries over people, water tariffs will rise, and water quality will decline for residents.[218]

On 8 April 2015, activists demonstrated in front of the offices of CONAGUA, protesting a proposed bill to increase privatization of water in all Mexico.[219] Mexican lawmakers suspended a vote on a bill "to allow full or partial concessions to private companies to operate, preserve, maintain, rehabilitate, modernize or expand water infrastructure funded by the federal government."[220] Nevertheless, the vote on the bill to allow the construction of water infrastructure by the private sector was suspended indefinitely due to public demonstrations. Left-wing parties argued that the new bill favors water for industrial use and promotes water concessions for private companies, infringes on Article 4 of the Mexican Constitution, in which: "everyone has the right to access,

[216] Adler, "The War for Mexico's Water."

[217] Adler.

[218] Adler.

[219] Vandita, "Mexico: Attempt to Privatize Water Thwarted by Activists," Anonhq.com, April 8, 2015, https://anonhq.com/mexico-attempt-privatize-water-thwarted-activists/.

[220] Vandita.

provision and sanitation of water for personal and domestic consumption as sufficient, safe, acceptable and affordable."[221] Right-wing parties claim that it is not a good time to stop the inevitable and describe the opposition 'slow learners.'[222]

Since 2015, opponents of full water privatization have continued to demonstrate in Mexico City. On 20 June 2018, a group of people protested against the privatization of water on World Water Day in Mexico City.[223] On June 5, the president of Mexico, Enrique Pena Nieto, approved 10 decrees for water revenue use, which eliminate bans on extracting water from 300 hydrological basins (about 55% of the country's lakes and rivers) to allow mining, fracking, and oil industries to operate.[224] This change means that obstacles are removed for water extraction from these basins, allowing the private water companies to bid for water concessions. These initiatives permit private water companies to extend their business for the next 50 years into previously restricted areas. Opponents voiced their discontent with these measures. Figure 6 shows protesters marching on the streets of Mexico City on Water World Day. The sign reads "*el agua no se vende, se cuida, y se defiende*" which translates into "water should not be for sale, it should be taken care of, and defended."

[221] Vandita.

[222] Vandita.

[223] Karen De la Torre, "New Decrees to Privatize Water in Mexico?," El Universal, June 20, 2018, http://www.eluniversal.com.mx/english/new-decrees-privatize-water-mexico.

[224] De la Torre.

Figure 6. Protesters march on the streets of Mexico City on Water World Day with banners that read "water is not for sale."[225]

In summary, this section covered the general state of water privatization in Mexico City, including protests. The first part began with a general overview of the situation in Mexico City to highlight the intricacies of water privatization, politicians, and subsidies. It followed to describe the partially privatized system, which consists of water contracts. Then, it dove into the benefits and improvements that the water contracts have brought to Mexico City. Despite the benefits and improvements to the water system, problems persist due to political restriction to increase revenue from tariffs. The second part of this section focused on protests. The main reason protesters take to the streets is for poor water services, low water quality, and increasing water rates. The public protests are directed at politicians because they usually set the water tariffs. Protesters demand better water services, higher water quality, and lower water prices. Lastly, it dealt with protests over future water privatization. People's discontent with the current partly privatized system has created opposition to greater privatization, which could increase prices, without improving

[225] Source: "As Mexico Was Busy Celebrating World Cup Win, Gov't Approved Water Privatization Decrees," Telesur, June 19, 2018. https://www.telesurtv.net/english/news/Mexico-Is-One-Step-Closer-to-Privatization-Of-Water-20180619-0016.html.

services. Water privatization sparks fears of treating water as a private commodity rather than a public good. The bad experiences of some Latin American countries during neoliberalism influence distrust in the Mexican people of water privatization.

C. ANALYSIS

Water privatization acquired a bad reputation during the neoliberal reforms that swept through Latin America in the 1990s; the Bolivian water wars are a prime example of it. It is possible that protest organizers could have exploited this bad reputation to magnify the problem, provoke fears in the public, and gather supporters. In terms of social mobilization, focusing on the bad aspects and a few bad examples of water privatization could be a good technique to arouse the masses against it. Protesters in Mexico City often cite the UN declaration to point out that water is a human right. Protesters believe that water a social good and not a private commodity. This notion clearly defies neoliberalism, which tries to make all services and goods function in free-market capitalism. People may tend to protest water privatization because they are skeptical of the neoliberal reforms that seem to disenfranchise them further. If water is left to the private sector to collect, manage, sell, and profit, where does that leave the role of government? The role of the state is to provide services to its citizens. People believe that water should not be for sale; it should be taken care of, and defended. The defense of water as a human right is often expressed through protests. However, although negative precedents and the bad reputation of privatization may help ignite water-related protest in Mexico, these are not the primary causal factor for protest.

These two case studies show that Mexicans protests only when water privatization fails to improve water services, increase water quality, or maintain water prices affordable. People associate water privatization with poor water services, low water quality, and hiked water prices. People do not necessarily protest at water privatization; they protest at the negative consequences of it or from fear of its negative consequences. Therefore, most of the protests' grievances are directed towards the government for lack of oversight, lack of accountability, lack of regulatory framework, lack of state capacity, excessive bureaucracy, government corruption, political favoritism, infrastructure neglect, lack of town hall

meetings, and lack of transparency. The government is ultimately responsible for providing basic services to the people.

In their defense, the governments in developing countries, such as Mexico, often lack the capacity to maintain or expand current services due to years of neglect and lack of continuity. The governments tend to look at the private sector for possible solutions to the lack of modernization in the water system. The lack of modernization in the water system in Mexico is caused by aging infrastructure, lack of revenue, and inefficient management scheme. These problems are responsible for the inefficiency of the water system in Mexico City. When people protest water privatization for poor water services, poor water quality, and higher water prices, they are protesting the inefficiency of water system scheme in Mexico City. Ultimately, Mexican protests when they do not get what they pay for, whether a water system is privatized or not.

Private participation in Mexico City has not been able to remedy poor services, poor quality, and increasing prices for the poor for the following reasons. First, a partially privatized system; the water system has not been able to fully live up to the public expectations because the water system is not completely under private control. The water system needs to be responsible for broader decisions, such as setting water prices, updating infrastructure, and expanding services. Second, too much political involvement; politicians play politics by manipulating water rates. Third, there is not enough state capacity to oversee water privatization; Mexico City did not establish a regulatory framework before or at the time of private participation. Fourth, the preexisting complexity increased by dividing Mexico City into four zones. Fifth, not enough revenue is generated; politicians tend to set the water rate to maintain electability. Sixth, methods to bring water to the city are increasingly expensive; more water is brought in from deeper wells and farther distances. All these reasons continue to contribute to the inefficiency of the water system in Mexico City.

Protesters in Cochabamba and in Mexico City have a lot in common, including unrest due to government neglect of the water crisis. In both cases, people mainly protested over hikes in water prices (coupled with poor services). Protesters know that the government is ultimately responsible for proving basic services. Anger and frustration are

directed at the government, more than against the private companies. In Cochabamba, the government was forced to rescind the water concessions with private companies. In Mexico City, the government has not been able to transform service contracts to full concessions. Out of fear of upsetting the public, the government of Mexico City has been forced to only extend yearly service contracts to the partly-privatized water sector. Through collective action, Bolivians in Cochabamba and Mexicans in Mexico City exercised the power of social movements to reestablish governmental involvement in the management of water utilities. In Dec 2018, a left-leaning president (Andres Manuel Lopez Obrador) will run Mexico. It will be interesting to see what will happen to the private water contrasts in Mexico City. The options are: continue the status quo, kick out the private companies, or engage in further privatization.

Stability in Aguascalientes has some similarities with the Chilean water privatization. In both cases, improvements to the waterworks are hard to deny. In Aguascalientes, water privatization brought more water coverage to some areas (especially poor areas), as well as an increase in availability. Water quality has improved, which translates to fewer people getting sick due to waterborne diseases. Despite hikes in prices in both cases, people have not resorted to protests. A reason for this could be to the extensive social programs the water companies and government provide. The company steps in with its social fund when senior citizens cannot pay their bills. Another reason could be public participation in the company's meetings to voice their concerns. It is important to feel part of an organization or to have someone there who looks out the community's best interest. The relationship between the company and the public is important to maintain stability. In general, the stability in Aguascalientes is due to a series of positive factors, such as public participation, subsidies, social programs, higher efficiency, larger coverage, and better quality.

As the case studies revealed, state capacity is one of the deciding factors when people protest water privatization. State capacity encompasses the governmental regulatory framework. For the sake of citizens and social stability, the government needs to continuously be at the table of any utility company to make sure private actors follow the regulations. Enforcing the regulation can pay dividends; the public rests assured that the

water service is priced right, meets the quality criteria, and no areas are subject to discriminatory practices. Baer explains, "Chile can offer a model for building a strong public water sector and for embedding reforms to the sector in state interventions."[226] Baer continues, "the strong state capacity to govern the water sector in the public interest by embedding reforms in state interventions explains the relative success of the Chilean water sector and the fulfillment of the minimum criteria for the human right to water."[227] State capacity and government regulation play important roles in mitigating protests. The job of the government is not over once the concession takes over; the government continues to be ultimately responsible for the welfare of its citizens.

In conclusion, governments in the developing world struggle to find a solution to the current or looming water crisis. Often, water privatization is pitched as the solution to the water crisis. This chapter evaluated why water privatization in Mexico is problematic in some cases but not in others. Also, it identified why people protest over water privatization in some cases but not in others. This research exposed that state capacity plays a significant role in the success of water privatization in a country. State capacity sets the rules, regulates the standards, and enforces the criteria. Furthermore, the case studies of water privatization are important to extract theories of the good and bad in each case. The results show that state capacity is fundamental in water privatization. Aguascalientes established a regulatory framework from the beginning, while Mexico City did not. Instead, in Mexico City, the state has undermined the efficiency of private water companies. The consequences are reflected in the constant protests in Mexico City, while Aguascalientes maintains social stability. Residents of Aguascalientes do not protest because the water system is well-run. Therefore, people are less likely to protest when water privatization improves water services, increases water quality, and maintain affordable water prices.

[226] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 164.

[227] Baer, 163–64.

IV. CONCLUSIONS

This chapter provides the general conclusions of this thesis. Overall, this thesis has addressed the question: when do people protest over water privatization in Mexico? The two hypotheses explored in this thesis were: 1) people always protest water privatization whenever the government proposes water privatization or an increase in privatization because Mexicans have negative views of privatization and 2) people in Mexico only protest water privatization when they feel they are getting a bad deal on water service, water quality, or water price by the private companies. This thesis found that Mexicans only protest water privatization when they feel that private operators are giving them a bad deal by restricting water services, degrading water quality, or offering unaffordable water prices. In general, protesters blame privatization when they do not get what they pay for. After the findings, it presents policy recommendations to mitigate water-related issues and avoid future protests in Mexico. Lastly, it offers future research on preliminary hypotheses explaining why people do not protest on water pollution, which can be tested in future work.

A. FINDINGS

The purpose of this thesis was to shine light on the obscurity of when people protest water privatization in Mexico. Ultimately, this research found that issues subsumed under water privatization (such as bad water service, poor water quality, and unaffordable water prices) and the threat to increase privatization without addressing those issues are the most significant causal factors of water-related protest in Mexico. Comparing and contrasting international and domestic case studies nullified the first hypothesis (people always protest water privatization because Mexicans have negative views of water privatization); it is apparent that while Mexicans may be aware of the bad reputation of water privatization in Latin America, it is neither the causal factor nor the driving motivation of their protests. Although the bad reputation of water privatization in Latin America may influence some people to protest, people are most likely to engage in protests only when they perceive they are taken advantage of by the private operators.

Private water companies expect to run the water system as a profitable business. But when the infrastructure is not in place or the system is not efficient, some private companies are forced to restrict water services, ignore water quality, and even increase water tariffs. Discontent brews and common interest mobilizes people to protest when they perceived they are not being treated fairly by the water company and the government. People protests at the government not at the private utilities because they know that the government is ultimately responsible for the water system. Some people, due to their economic situation, cannot afford the extra cost when water prices increase. It is a social responsibility of the government to ensure all its citizens have sufficient water, and clean and safe drinking water at an affordable price. It is beneficial for the government to provide financial assistance for its citizens who cannot afford their water bills in order to prevent social unrest. Most water protests in Mexico come from the lower class, who usually are poorly educated and struggle the most to pay their water bills. Due to misinformation, most people associate water privatization with poor water services, poor water quality, and increasing water prices. Protests have prevented the private sector from playing a larger role in solving the water crisis in Mexico; "in Mexico and in a large part of the world, private companies control less than 5 per cent of consumption."[228] Mexican officials have sought to include water privatization to improve water services, increase water quality, and set affordable water tariffs. Water privatization could be one solution to the water crisis in Mexico, but protests prevent further privatization.

Water privatization seems to be the preferred solution for many countries, including Mexico, because they are realizing that water is becoming scarcer and more costly. Governments include privatization of some sort to deal with water services, quality, and tariffs, which are the same issues that typically spark protests. Clearly, the main motivator for private companies is profit and not social welfare. Governmental oversight needs to be in place to guarantee citizens do not get an unfair deal and to avoid unrest. This thesis also showed that the government should remain involved in management and operations to look out for its citizen welfare and social stability. While international observers see Bolivia's

[228] Barkin, "The Governance Crisis in Urban Water Management in Mexico," 383.

water wars as disasters for water privatization, they consider the Chilean water privatization a success. In both cases, state capacity played a major role in their failures and successes. This research exposed that state capacity plays a significant role in the success of water privatization in a country. Aguascalientes established a regulatory framework from the beginning, while Mexico City did not. The consequences are reflected in the constant protests in Mexico City, while Aguascalientes maintains social stability. Therefore, people are less likely to protests when water privatization improves water services, increases water quality, and sets affordable water prices.

Mexico has to walk a thin line when considering water privatization because the consequences can be catastrophic. Aguascalientes demonstrates how water privatization with adequate governmental oversight can solve most water issues. Mexico City presents a more complex situation; where politics, conflicting interests, and poor state capacity have prevented a success of the partially privatized water system. In both cases, state capacity has played a major role in the successes and failures. The success of privatization comes down to state capacity, which should prepare public water system for privatization. A preexisting efficiency of the public water system is desirable prior to privatization because it is can contribute to the success of private utilities. However, a government can also establish regulatory oversight in the early stages of privatization. The problem occurs when governments embark on rapid sales of public utilities without establishing checks and balances on private utilities. The government is ultimately responsible for providing an efficient water service, good water quality, and affordable water prices to its citizens.

The main difference between the successful Aguascalientes and problematic Mexico City lies on the state capacity because the state capacity sets the rules, regulates the standards, and enforces the criteria. The Chilean government was quite involved in the water transfer from public to private, whereas the Bolivian government was not. Chile's state capacity and regulatory framework made possible a transition without public discontent. State capacity and regulatory framework prevented the city of Aguascalientes to fall victim of water protests, while the deficiency in state capacity and in regulatory framework has fueled water protests in Mexico City. In Mexico City, one of the main reasons protesters take to the streets is for increasing water rates. From 2007 to 2017,

Mexico City's water prices saw an increase of almost sevenfold while Aguascalientes's water prices not even doubled. In Mexico City, the public protests at politicians because they usually set the water tariffs. Protesters demand better water services and higher water quality. Therefore, people are less likely to protest when water privatization improves water services and water quality at an affordable price. Despite some improvements, Mexico City still struggles with poor water services, poor water quality, sudden increases in water prices, and poor sanitation services. Mexico City does not need more water, it needs better water management.

B. POLICY RECOMMENDATIONS

Mexico should consider the following recommendations to prevent protests over water privatization. Subsidies should accompany each of these recommendations because subsidies ensure access to water at an affordable price or no cost for the very poor. First, this thesis recommends that the Mexican government implement a series of water reforms aimed at public institutions to strengthen state capacity. An example to follow is Chile, where "strong state capacity to govern the water sector in the public interest by embedding reforms in state interventions explains the relative success of the Chilean water sector."[229] Mexico should follow the example of Chile to create a strong state capacity to develop an efficient water sector. A strong state capacity provides government oversight before, during, and after privatization to ensure the private companies follow the same rules. The government should continue to be involved in overseeing the efficiency and expansion of the water system after the initial privatization. The private companies are accountable to the government and the government is accountable to its people. Ultimately, strong state capacity plays a major role in the success of privatizing water utilities. This recommendation is viable because Mexico has already made some other institutional reforms.

Second, in addition to strengthening state capacity, the government of Mexico should also improve the regulatory framework of the water system through its public

[229] Baer, "Private Water, Public Good: Water Privatization and State Capacity in Chile," 141.

institutions. Mexico should establish a strong regulatory framework on water privatization to ensure good water services, guarantee clean and safe water, and protect its citizens from unaffordable water prices. The Mexican government should provide governmental oversight on the private water utilities to make sure its citizens get a get a fair deal. The Chilean case is successful because of the regulatory framework for the water services was established by law and supported by the constitution, unlike in other countries where the regulatory framework is determined by contracts and underdeveloped at privatization.[230] Mexico City fits this negative description, the regulatory frameworks was underdeveloped at privatization and its regulation is still determined by contracts. Like Chile, Aguascalientes is a success story because the government not only allowed full privatization of the water services, but also provided governmental oversight in the form of regulatory framework. This recommendation is viable if provided adequate staff, training, and budget.

Third, the Mexican government should establish not-for-profit water utilities as an alternative to water privatization. Not-for-profit companies differ from public and private companies because they involve "designating an organization, corporation, etc., which does not operate for the purpose of making a profit."[231] All the revenue is injected back into expansion of services, salaries of employees, maintenance of the network, improvement to water services, water quality, and subsidies for the poor. Mexico should promote not-for-profit water companies to avoid predatory practices form the private water companies and corruption from the movement side. Not-for-profit water companies are usually small because all the revenue is invested back in the company operations rather than using the revenue to enrich certain individuals or acquiring more assets. Not-for-profit water companies function in a similar way to PPPs, the exception being that PPPs still make a profit. The recommendation is viable because the public would be receptive to the idea of involving public participation in the daily operations.

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[230] Baer, 160.

[231] *Oxford English Dictionary*, s.v., "Not-for-Profit."

C. FUTURE RESEARCH: WATER POLLUTION AND PROTESTS

This section proposes water pollution as a critical area for future research to examine and analyze as a supplementary component to this thesis' research on water-related protests in Mexico. The water pollution problem in Mexico is not just an environmental stress; it is an environmental disaster. In Mexico, water pollution has been a major problem since the cities began to overpopulate dramatically during the rapid industrialization from 1950 to 1981, when the economy grew at an annual GDP of 6.5%.[232] The neoliberal reforms in the late 1980s further exacerbated the water pollution problem in Mexico. Water pollution is the byproduct of the political economy of neoliberalism in Mexico. As cities began to overpopulate, they put a stress on sanitation services. Industry and cities continue to discharge their wastewaters directly into rivers and lakes. Nearly 50% of municipal and 70% of industrial wastewater goes untreated; as a result, 20% of underground and over 30% of surface water are contaminated.[233] Only two states treat about 90% of their wastewater: Aguascalientes and Nuevo León.[234] Mexico has neglected the environment in favor of economic prosperity; Mexico ranks 106th out of 122 countries on good water quality of bodies of water.[235] Antiquated technology limits the monitoring of bodies of water in Mexico, as a result, only 10% of 70 lakes, 52% of 125 lagoons, 34% of 149 rivers, and 2% of 667 large dams are checked.[236] Despite the fair amount of protests over other water issues,[237] protests over water pollution seem almost nonexistent.

Although Mexico's water pollution issue is urgent and significant, most Mexicans do not recognize it for the problem that it is. The Mexican people primarily protest about

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[232] Timothy Kehoe, Felipe Meza, and Felipe Meza, "Rapid Growth Followed by Stagnation: Mexico [1950-2010]," *El Trimestre Economico* 80, no. 2 (2013): 2.

[233] Godinez, Jonathan, van Der Zaag, Peter, and van Cauwenbergh, Nora, "A Half-Baked Solution: Drivers of Water Crises in Mexico," *Proceedings of the International Association of Hydrological Sciences* 376 (2018): 58, https://doi.org/10.5194/piahs-376-57-2018.

[234] P Garcia-Garcia, L Ruelas-Monjardin, and J Marin-Muniz, "Constructed Wetlands: A Solution to Water Quality Issues in Mexico?" *Water Policy* 18, no. 3 (2016): 655, https://doi.org/10.2166/wp.2015.172.

[235] Garcia-Garcia, Ruelas-Monjardin, and Marin-Muniz, 655.

[236] Garcia-Garcia, Ruelas-Monjardin, and Marin-Muniz, 655.

[237] Delgado-Ramos, "Water and the Political Ecology of Urban Metabolism: The Case of Mexico City," 105.

other issues that are more obvious to them. Water pollution is a problem; however, issues such as access to water, water scarcity, and water tariffs appear to be more important. Mexicans have misplaced their priorities on secondary issues that spring out from water pollution. Also, complacency for water pollution is a common attitude. People feel powerless against the massive industrial complexes that pollute most of the water. The polluting industry disregards the environment because the regulatory framework is weak and unenforced in Mexico. Peasants, instead of protesting, opt to adapt by working around the issue of water pollution or move to the cities for better opportunities, not realizing that water pollution is as bad in the cities as in the farm fields. The public does not realize that water pollution could be the root cause of all these other water problems in Mexico.

1. The following is a list of preliminary hypotheses to explain why people do not protest water pollution in Mexico. These preliminary hypotheses should be further researched in a future agenda. The purpose of future research should be on linking water pollution to water protests or lack thereof.

2. Lack of awareness of water pollution. People do not protest because they are oblivious to the water pollution problem.

3. Fear of the consequences. People are afraid of voicing concerns about water pollution because companies retaliate or shut down. The polluting company may be their only source of employment.

4. Water pollution is the status quo. People adapt to the water pollution problem by purchasing bottled water or by restricting their recreational activities.

5. Misplaced priorities. People's priorities rest on water issues obvious to them, such as poor water services, poor water quality, and increasing water prices. People do not realize that all these problems stem from water pollution.

6. Lack of media coverage. Protests do not occur because the media fail to cover water pollution.

Pursuing these hypotheses as follow-on research to this thesis will provide a more comprehensive analysis of the water-related issues and protests in Mexico and could lead to further recommendations for reform. This future research may benefit from analyzing the U.S. Clean Water Act of 1972 and may find that elements of that act could be implemented in Mexico to combat the water pollution crisis.

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