Mexico City's Water Crisis and Community Activism

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Historically situated in a valley lake basin, the Metropolitan Zone of Mexico City (MZMC) is now facing an urban water crisis with economic, ecological and social dimensions. While vast improvements in addressing leakages and proper metering have been made since the involvement of the private sector, this public-private partnership has not proved effective at providing for the needs of the poor. Indeed most residents of Mexico City are unaware of private sector involvement and there has been little public resistance in contrast to many other Latin American cities. Efforts to tackle the growing crisis have notably excluded the average citizen and activism. In this paper, I will contend that community activism will be a vital element in getting the poor involved with water governance. I propose that greater participation can help private partners fix the gaps in the system and make water management more equitable. Finally, I argue that such activism is a responsibility of urban citizenship and should not be neglected.

BRIEF HISTORY OF WATER MANAGEMENT

To understand current systems of water supply management and the urban water crisis, it is important to look at the history of water management in the city. In pre-colonial times water was intensely controlled in an intricate system of canals, floating gardens, aqueducts, and rainwater conservation (Barlowe and Clarke 2004, 15). Water was plentiful and the indigenous people had strategies for diluting excess saline, protecting against flooding, conducting agriculture, and providing for urban needs. The colonial government neglected such systems and drew on the lakes and aquifers as needed; this depleting usage was not altered by Independence or by the Mexican Revolution (Barkin 2004, 25).

In the late 19th century, Mexico City became a metropolitan centre with increasingly higher demands for water (Garza Merodio 2006, 109). When the municipal government proposed privatizing the water systems of the city in the 1870s there was strong unrest and the idea was dismissed (Garza Merodio 2006, 113). Water and drainage became part of the constitutional mandate in 1917 with municipal authorities being assigned specific responsibility for these areas (Moreno-Jaimes 2007, 142). In the mid 1900s the increasing demand for water led authorities to look to river systems in other states to supply the city; these now make up approximately a third of the MZMC's water needs (Barkin 2004, 25).

In the 1990s the municipal government awarded contracts to some of the largest international water companies which split the city in four quadrants. French companies Suez and Vivendi, the U.K.-based United Utilities and Severn Trent either directly or through their Mexican partners became responsible for recuperating losses and for administering the payment system by improving water meter coverage. Encouraged by the World Bank and the Inter-American Development Bank, Mexico introduced the "Law of National Waters" to encourage private participation in exploitation, distribution and control of water (Barkin 2004, 26-27; Barlow and Clarke 2004, 17). This law also created the Federal District Water Commission (CADF), an autonomous body that would be responsible for supplying drinking water, drainage and wastewater treatment, in partnership with the foreign corporations (Marañón 2005, 166).

The new system was sensitive to the popular unrest that could result from such a move, and took measures to prevent it. One of the unique elements of the Mexican privatized system is that arrangements with private companies were implemented as service contracts rather than concessions, giving government more leverage over corporate

activity. In reality, few water supply systems are either purely public or purely private (Bakker 2010, 105) although they are often presented as exclusive options. David Barkin, explains that this meant rates did not have to be raised: service charges fund half of the cost while the city's general budget covers the rest (2004, 27). This may be part of the reason private involvement went mostly unnoticed by the public. Nonetheless many residents did face increased costs as a result of paying on the basis on consumption rather than a fixed quota (Marañón 2005, 176). This shows a disparity between the government and community perceptions of costs of the public-private system.

Another tactic to mitigate public unrest was implementing the program in phases to avoid mass labour disruption and resulting strikes (Marañón 2005, 166). The changes represented a profound structural change in the management system – and in ideology. Boris Marañón writes that "the thinking behind [the new system] was that water could no longer be regarded as a public right (and, as a result, supplied and subsidized by the state), but as an economic asset, subject to private appropriation" (2005, 165). This is a contentious claim and one I will further explore in the context of water as a human right. I will show that this is far from a mere labelling issue and that it critically affects water management decisions.

MEXICO CITY'S WATER CRISIS: ECONOMIC, ECOLOGICAL AND SOCIAL DIMENSIONS

Mexico City is highly dependent on rapidly depleting water sources which are not being preserved. Its water infrastructure is inefficient, does not provide reliable service and fails to reach many of the poorer residents living in marginalized neighbourhoods. I will now briefly examine how this crisis plays out in economic, ecological and social terms.

Economic

The poor quality of Mexico City's water infrastructure is financially costly for the local government but private involvement has greatly helped this problem. Leakages due to aging pipes and people illegally connecting to the system results in the loss of around 40 percent of processed water (Barkin 2004, 26). Registered consumption makes up an estimated 64 percent of actual connections meaning that 36 percent are illegal. It has also proved difficult to charge households for their water use because most houses lack meters to measure their use: only 49 percent of legal connections are metered (Tortajada 2010, 369-370). Privatization improved both of these problems, with physical losses of water dropping substantially and efficiency increasing from 62.6 to 68.9 percent. Efficiency in measurement improved from 49.1 to 90.2 percent as the companies installed meters while collection of fees has increased from 64.8 to 76.9 percent as more users have been formally registered (Marañón 2005, 174). While there remain constraints such as the centralization of management and inadequate technical expertise (Tortajada 2010, 373), privatization appears capable of resolving many of Mexico City's key water-related economic problems.

Ecological

The ecological aspect of Mexico City's water crisis has direct and indirect contributing factors. In regard to the former, the ZMCM depends on groundwater sources in the valley basin and on interbasin transfers from surrounding states (Tortajada 2010, 360). The environmental costs of such a system is largely being ignored by city officials, costs which include depletion of aquifers, poor ecosystem biodiversity and the sinking of the city into lakebed, as well as severe effects on nearby states (Barkin 2004, 24). These areas are experiencing reduced supply and quality as a result, and the transfers have disrupted agriculture and caused health problems (Barkin 2004, 27).

Increasing urbanization is one of the latter elements affecting the ecological state of the city's water. Many migrants are being permitted to settle on land allotted for conservation by the city. In Aguilar and López's study of informal settlements in the municipality of Xochimilco, an area which is 80 percent conservation land, they found that settlers were causing deforestation and increasing pavement coverage. This reduced the ability of the soil to retain water and to absorb enough water to replenish the aquifers (Aguilar and López 2009, 104). Rainwater would still be able to satisfy almost all of the needs of the city if it were properly managed and absorbed (Barkin 2004, 25).

Social

Some of the social elements have already been implied in the above economic and ecological assessments, including illegal accessing of public water, informal settlements, health issues and agriculture. All of these have disproportionally affected the poorest and most marginalized residents of the city. Their socioeconomic position limits their access to formal settlements and they often have limited legal rights to the land which they are on. Aguilar and López call this "a daily and silent crisis…which is tolerated by those groups holding the political power, resources and technology necessary to solve it" (2009, 98). They also point out that debates over privatization often ignore the fact that poor residents are often already using a privatized system: since public pipes and public tanker trucks may fail to reach these citizens they often resort to unconventional water sources such as diverting public supplies or buying water from private tankers (Aguilar and López 2009, 99). All of these sources involve direct payment or bribery. Economically municipalities lose out not only by illicit usage but also by the diversion of potential customers.

Those who are connected to the municipal water system also face problems. There are many areas which have only intermittent service with timing and duration of water supply varying daily. Marañón explains that residents perceive this as an "inequality in distribution of potable water" and that they are frustrated with the metering system because "they are charged for the air that passes through the meters and not for the water." They argue that they should be charged a fixed quota and not by volumetric consumption (2005, 176). Furthermore, although Mexico City uses a progressive rate that increases with usage, the poor still end up spending a greater proportion of their income on water than the rich do. Barkin suggests that this may be because poorer families tend to be larger and because several families may share a water meter, causing them to exceed the minimum flat rate. He explains that the progressive rate is intended to reduce subsidies, encourage economical use of water, and help the poor (2004, 26). It seems to be failing in the latter goal.

WATER: AN ECONOMIC GOOD OR A HUMAN RIGHT?

As I noted above, privatization usually involves a shift in mindset where water is viewed as an economic good. It sees the involvement of private companies as "invariably introduce[ing] a pernicious logic of the market into water management, which is incompatible with guaranteeing citizens' basic right to water" (Bakker 2010, 137). This market logic was explored by David McKenzie of Stanford University and Dilip Mookherjee of Boston University in an extensive statistical analysis of the economic impacts of privatization. They concluded that in Mexico privatization in general had positive economic impacts and caused only minimal economic plight on a social plane. According to their measurements, water privatization had a negligible impact on inequality, most workers who were laid off found new jobs in the same sector within a year and blue collar wages within the privatized industry rose substantially (2003, 201-203). Proceeds from privatization of multiple industries had a positive effect on gross domestic product (GDP) and were used to pay off public debt, reduce the fiscal deficit and increase social spending (2003, 207-208). This data provides hard evidence for viewing water as an economic asset. The introduction of the private sector transformed "loss-making units [in]to profit-making entities" (McKenzie and Mookherjee 2003, 207-208). This emphasis on profit and loss marks the change from viewing water as something so vital that losses can be accepted, into viewing water as an industry that must be mindful of its bottom line. It is also the type of information that can convince governments to privatize as they struggle to balance budgets, provide services, and stay in power.

The view of water as a human right has a basis in both international law and moral argument. The latter perspective sees water as the ultimate public good because it is the "biophysical and spiritual basis of life" and affirms that public goods are essentially collective (Bakker 2010, 139). This moral argument is used in many non-governmental organizations (NGOs) and community activist efforts to ensure water rights for all citizens.

In international law many of the prescriptions related to water are vague. The United Nation's (UN) 1948 Universal Declaration of Human Rights alludes to water as a human right in Article 25 which prescribes the right to an adequate standard of living (United Nations General Assembly, 1948, Article 25). Water, needed for human consumption, domestic use, and sanitation undoubtedly falls into this category. In 1966 the International Covenant on Economic, Social and Cultural stressed state responsibility for ensuring the safety of food, prevention and treatment of diseases and the physical health of citizens (Irujo 2007, 268-269). In 2002 this was reinforced by the UN Committee on

Economic Social and Cultural Rights' General Observation No. 15, entitled "The Right to Water," which stated that "the human right to water is the right of everyone to have at his or her disposal sufficient clean, acceptable, accessible and obtainable water for personal and domestic uses" (Irujo 2007, 269).

Accessibility has also been identified as a key factor. Irujo takes this to include "physical accessibility, economic accessibility, the principle of non-discrimination, and access to information" (2007, 270). I have already shown how physical and economic accessibility can be challenges in the case of Mexico City. Discrimination is an issue for marginalized migrants such as those settling in the conservation lands of Xochimilco, who often do not receive regular visits from public water tankers which service areas not yet equipped with pipes – despite the fact that the Xochimilco reservoir is an important source of water for the external demand from the rest of the city (Aguilar and López 2009, 109). Finally, with many citizens unaware of the semi-privatized system, it is clear accessibility is impeded by a lack of information. As a result, most public dissatisfaction is expressed toward politicians rather than foreign companies and thus there has been only limited change (Barkin 2004, 27).

Water is therefore perceived more as an economic good in the MZMC's water management system than as a human right. Were this to change and water again to become a right of citizens, several vital changes would need to be made. Given the resounding evidence, I do not believe that abolishing privatization completely would solve the problem; Mexico City's unique system of "service" contracts is an opportunity for greater citizen activism on water issues to improve the equity and accessibility of the semi-privatized system. I will now turn to the importance of incorporating citizen activism into water governance structures.

CITIZEN ACTIVISM AND WATER GOVERNANCE

Citizen activism in water governance issues does not have to be oppositional to municipal or private actors. Private actors have brought economic profits to the city, which can also benefit citizens through increasing government finances spent on social services and can increase the efficiency of the system. Metering and expanding the users list help formalize citizens' rights within the water supply system and can be considered "a material emblem of citizenship: a symbol of political inclusion" (Bakker 2010, 218).

However, privatization has not effectively dealt with many of the basic challenges facing the region, including the large number of poor and marginalized communities who are not part of the official water governance system. It is clear that there needs to be a more inclusive system that does not neglect the residents of informal communities such as Xochimilco or the areas surrounding Mexico City. Indeed, L. A. E. Vicente Guerrero Reynoso of the Guanajuato State Commision for Water and Sanitation calls the participation of users in governance "a true modern water management form that is starting to be achieved" (2000, 580).

The water governance system in Mexico City is centralized and vertically bureaucratic, the result of which is "a substantial gap, between users and the authorities, in the perception of the social and geographical realities" (Marañón 2005, 177). Representatives were chosen to remediate the program, but have not been effective, often pushing a personal agenda. Thus direct community participation in these processes needs to become a key part of water supply management and citizen activism should aim to achieve this. Tortajada writes that the relevance of public consultation and involvement should not be underestimated and that "such stakeholders' participation is now conspicuous by its absence" (2010, 373).

Human rights rhetoric can help these stakeholders pursue their demands. They are also useful in critiquing the failure of both government and private services to provide for the poor (Bakker 2010, 219). A balance should be struck between the view of water as a resource and as a human right to ensure equitable and efficient access for all (Marañón 2005, 174). Barkin writes that a "new culture of water" in Mexico will be essential to managing water use, both in reducing wastage and ensuring all residents have regular access to clean water (2004, 28). Reynoso agrees with Barkin and concludes that "Only a culture of citizen participation…may create the right conditions for orderly and efficient water management (2000, 588). This new culture of water could encourage activism as a form of urban citizenship reclaiming water as not only material evidence of citizenship but as a socio-political right.

Marañón, Bakker and Tortajada suggest that there is potential for revising the tariff structure or additional supports to the poor in accordance with the view of water as a right. Current tariffs are based on usage and not on the socioeconomic status or neighbourhood in which the household resides. They suggest a tariff structure that explicitly targets the poor through subsidies (Tortajada 2010, 373-374; Marañón 2005, 174), that tries to incorporate communities currently forced to purchase their water outside the municipal-private system (Aguilar and López 2009, 99-100) and that considers the ecological impacts on communities in the pricing structure (Bakker 2010, 221). These are all goals which could be furthered by greater citizen activism on water issues. This activism would be pragmatic and principled. Karen Bakker outlines principles which could guide such activism: "inclusive participation, transparency, accountability, and environmental conservation." She also reiterates that "communities must have a voice, the playing field must be level, and privatization must not be coerced or forced on communities" (Bakker 2010, 225). Activism toward ensuring these voices are heard is an important step in improving Mexico City's water management.

CONCLUSION

Mexico City's urban water crisis is the result of a long history of poor resource management but has little history of citizen activism on water governance. Its current systems have experienced increased efficiency through the introduction of private partners but remain inequitable as many of the poor and marginalized residents of the city do not have regular and affordable access. The view of water as a human right, which could form the basis for such activist campaigns, is not incompatible with a privatized system but activists should push for more community involvement. This action would be a demonstration of urban citizens reclaiming a right to water that is both material and socio-political.

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