

# Thirsty for Change: Considering Water Privatization in Developing Nations

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**Abstract:**

Access, maintenance, and distribution of clean water are daunting tasks for developing nations. Efforts to provide clean drinking water have often fallen short, which has prompted the World Bank to advocate for privatization. From a theoretical perspective, privatization blends the advantages of corporate efficiency with responsible management on behalf of the national government. Analysis of attempts to privatize water in the Philippines, with the establishment of the Metropolitan Waterworks Sewerage System (MWSS), shows mixed results. Between 1997 and 2003, citizens with access to water increased from 58 percent to 84 percent, yet water became five times costlier due to privatization. Advocates may applaud the efficiency of the model, but developing nations must emphasize accessibility and affordability of the resource. Privatization, as a model for water distribution, remains contentious.

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**Introduction:**

Based on current population trends, 3.3 billion people, or more than half of the human population, will be living in urban areas by next year. This number is expected to increase to almost five billion by 2030 (UNFPA, 2007). Given the increasing constraints on scarce natural resources such as fresh water, challenges surrounding the future development of large urban agglomerates are indeed great. This is especially true in developing countries. Only about one percent of the water on earth is suitable for human consumption, and most of that water is inaccessible to humans because it is frozen in the polar ice caps. Sustainable supply and distribution of water is key to successful development and will play an increasingly vital role in urbanization globally.

All people need clean water to survive; access to fresh water is thus essential for development. Today's developed nations made significant investments in water infrastructure, institutions, and management capacities early on. These strategic investments led to improvements in public health, which laid the foundation for steady economic growth and stable societal conditions<sup>1</sup>. Unfortunately, in developing countries, development of clean water and sanitation infrastructure has not kept pace. Global water consumption is at an all time high and yet 1.1 billion people – around one out of six of the current population – lack access to safe drinking water, and 2.6 billion people lack adequate sanitation. As a result, 1.8 million people die annually from curable diseases such as diarrhea and cholera and countless more fall victim to other waterborne diseases. Children in developing countries are the main casualties<sup>2</sup>. Unsurprisingly, developing countries and regions that lack adequate water and sanitation services are generally also hindered economically and/or suffer from political instability. The conflict in modern Darfur is cited as an illustration of this problem<sup>3</sup>.

Providing clean drinking water and sanitation services is extremely costly. Massive infrastructure investments in piping, pumps, water purification and wastewater treatment plants are necessary. Generally, revenues from tap water sales do not cover such costs for treatment. Often, these countries have difficulties in recovering costs and fall far short of full cost-recovery. Additionally, water systems in the developing world are particularly inefficient. Water loss due to the combination of system leakage and theft range from 40 percent to 60 percent for many developing countries compared with 10 percent to 20 percent for systems in the developed world<sup>4</sup>. In order to achieve stability and economic progress, it is vital that developing countries address these water provision and sanitation challenges by making proper infrastructural investments, implementing solid operational principles, establishing regulatory frameworks and fine-tuning economic instruments. Unable, or in some cases unwilling, to finance these investments, governments in the developing world have fallen short of meeting the public's need for

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<sup>1</sup> Sierra, K. (March 14, 2006). Making water available for all. Taipei Times. Retrieved January 11, 2008, from <http://www.taipeitimes.com/News/editorials/archives/2006/03/14/2003297311>.

<sup>2</sup> World Health Organization/UNICEF Joint Monitoring Program for Water Supply and Sanitation. (2005). Water for life, making it happen. Retrieved January 11, 2008, from [www.unicef.org/wes/files/JMP\\_2005.pdf](http://www.unicef.org/wes/files/JMP_2005.pdf).

<sup>3</sup> Siegfried, T., & Pizarro, G. (2007). Options for water resources management in Darfur, Sudan. Submitted to the United Nations Development Programme (UNDP), August 2007.

<sup>4</sup> Haarmeyer, D., & Mody, A. (1997). Private capital in water sanitization. Retrieved January 11, 2008, from <http://www.imf.org/external/pubs/ft/fandd/1997/03/pdf/haarmey.pdf>.

adequate and affordable water and sanitation services. Privatization of public water works has emerged as a possible alternative.

Proponents of water privatization believe these challenges can in fact become lucrative business opportunities. Since the late 1980's the World Bank has actively advocated for private sector participation in public water works, reasoning that private entities are better equipped than government-run bureaucracies to deliver clean water and sanitation services to the public<sup>5</sup>. This notion proved popular and spurred water works privatization projects throughout the developed and developing world.

Although levels of public-private involvement differ by project, fundamental goals of privatization efforts are fairly standard across the board. These aims include improving the efficiency of water and sanitation services to the public, expanding coverage area and meeting or exceeding the water quality standards set forth by the World Health Organization. The main difference between private and public water projects is the corporate profit motives which, in some cases, conflicts with the idea of equal distribution of water to all citizens. Results of privatization projects have varied. In some cases privatization resulted in increased rates of corruption, deteriorating service, and loss of local operational control. Other projects successfully improved both service coverage and reliability. It is important to note here that rate increases are not necessarily a negative result. Reasonable rate increases reflect the true cost of water and are the result of removing artificially low tariff requirements specified by the government and subsidized by tax dollars. Of course, inferior water delivery should not accompany these price hikes. Nor should prices increase astronomically over a short period of time.

Given this mixed record, it is not apparent that privatization is the correct prescription to cure the developing world's water woes. Is it reasonable to assume that private companies will be able to generate sufficient profits to cover operating costs and provide a feasible revenue base to finance system expansion? What opportunities do water privatization projects actually present? Who benefits? This paper examines the overall viability of water privatization schemes in terms of their ability to provide for the critical water and sanitation needs of citizens in the developing world. Roles of and the interplay between government entities, private companies, the World Bank and the public are explored in the ongoing privatization of public water works. The privatization of water in the Philippines is used to illustrate the many salient issues that emerge in the process. We conclude with general observations and policy recommendations.

### **The Case For or Against Privatization:**

In the face of growing population and an aging water infrastructure, the prospect of privatizing the water system is increasingly attractive from a government's perspective. Possible incentives include improvement, development, and expansion of infrastructure, increasing efficiency of water supply and distribution, development of technical expertise, securing funds to finance investments and securing income to service debts. At first glance, it seems safe to assume that a private entity will consistently trump a public entity in terms of efficient delivery of services for the benefit of all. Under closer scrutiny however, the validity of this assumption becomes less obvious.

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<sup>5</sup> Spronk, S., & Webber, J. (2007). Contention struggles against accumulation by dispossession in Bolivia: The political economy of natural resource contention. *Latin American Perspectives*, 34.2. Retrieved January 11, 2008, from <http://lap.sagepub.com/cgi/content/abstract/34/2/31>.

While the benefits of a robust water system – increased public health and long-term economic development – are clear on a macro scale, the externalities do not translate well to the corporate bottom line. This fact can potentially cause corporations to make operational and strategic decisions that oppose the appropriate provision of this good.

In addition, the market for water services differs from the typical free market scenario found in other sectors such as telecommunications and power in several important ways. Because of the immense infrastructure investments required to provide these services, direct competition among piped water systems is practically non-existent<sup>6</sup>. Next, this market does not follow normal fluctuation patterns. Particularly in developing nations where urban populations are constantly increasing, aggregate demand for water is constantly on the rise. Because of the monopolistic nature of the sector, prices are not determined based on supply and demand but rather, tariffs are set by governments. Additionally, demand is price inelastic in the traditional sense as services provided are basic necessities. This does not necessarily mean that demand is totally unresponsive to price. Some evidence suggests that demand decreases somewhat with dramatic price increases. However, low tariffs on water make this phenomenon difficult to gauge accurately.

Equality of access is often cited as the rationale for the public provision of water and wastewater systems at subsidized prices. However, this rationale is no longer valid given findings that the lack of cost recovery by commercial pricing prevented public utilities from serving the poor at all. Due to the reliance on private vendors, the latter often pay up to 10 times more for water than the wealthier that have access to subsidized piped water<sup>4</sup>. The World Bank believes that industrializing nations do not have the necessary funds to close the gap between the rich and poor in terms of water delivery. Privatization can potentially place financial power for water delivery into the hands of a more objective third party. The World Bank states that private investment can boost efficiency if two requirements are met. First, the projects must generate enough profit to cover operating costs and provide a feasible revenue base. Second, prior to implementation, risks must be identified and allocated to the parties that are best organized for dealing with them<sup>4</sup>.

International organizations play an instrumental role in water privatization design. A bad economic or social track record can derail governmental negotiations with potential investors. Often, these organizations serve as intermediaries facilitating contract negotiations and providing legitimacy to the process. As an example, the World Bank has used its leverage as an international lender to negotiate contracts between government agencies and specialized utility firms like SUEZ, Veolia Environment, and RWE, a subsidiary of Kemble Water, which are currently the largest multinationals in the sector<sup>7</sup>.

Currently there is no best-practice model for the privatization of water and sanitation services. Feasibility of arrangements is location dependent. Contractual arrangements range from simple management and lease contracts with utilities to complete divestiture. The former defines the provision of specialized, narrow services and thus does not assign full commercial risk to the operator. The latter characterizes situations where the private sector holds

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<sup>6</sup> Wallsten, S., & Kosec, K. (2005). Public or private drinking water? The effects of ownership and benchmark competition on U.S. water system regulatory compliance and household water expenditures. Retrieved January 11, 2008, from <http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/php0A.pdf>.

<sup>7</sup> Pinsent Masons. (2006). Pinsent Masons Water Yearbook 2006-2007. Retrieved January 11, 2008, from <http://www.nedwater.eu/documents/Pinsent%20Masons%20Water%20Yearbook%202006%20%202007.pdf>.

ownership of infrastructural assets and complete control over the process of water distribution and thus bears full commercial risk of private capital investments<sup>8</sup>.

Privatization has not proven to be the panacea for domestic water supply and sanitation, and one must be circumspect in the identification of the underlying causes. While we are aware of the intrinsic problems associated with a case study approach, such as a lack of generalization and other factors, we believe that the rather generic philosophic discussion of access to water as a natural right is less relevant than implications for best policies and institutional settings. Therefore, we now focus our discussion on the privatization of Manila's urban water supply, a project that, at the time of its inception in 1998, was considered to be the largest water privatization project in the world. This privatization project was marked by relative success in one half of the city and absolute failure in another part during the same time period. As such, it provides an interesting historical lesson.

### **Case Study:**

Prior to privatization in 1997, the Philippine capital of Manila had one of the oldest water distribution systems in Asia. The system dated back to the 1870s, and was designed to provide water for a population of 300,000 with 16 million liters of water each day<sup>9</sup>. By the end of the 20<sup>th</sup> century, the population dependent on this system of distribution increased to nearly 12 million<sup>10</sup>. The publicly owned and operated Metropolitan Waterworks Sewerage System (MWSS) was unable to satisfy these growing requirements satisfactorily. In 1995, the MWSS provided 8.25 million of Metro Manila's residents with water connections, while 3.6 million residents had no such water source<sup>10</sup>. In addition, the system's dilapidated pipes were blamed for periodic outbreaks of bacterial diseases, and large percentages of delivered water were lost via leakages and illegal connections<sup>9</sup>.

Functional failures of the corruption riddled MWSS and lack of financial resources available for the system's maintenance and development projects made privatization an attractive alternative in Manila. Given the dismal state of urban water supply, public support for private-public partnerships in the water sector was on the rise<sup>13</sup>. Between 1995 and 1996 a consortium of engineers, lawyers, economists, accountants, and government administrators designed a plan which delineated the privatization process. The plan provided that 25-year concession contracts would be awarded in a competitive bidding process. At the same time, MWSS would concede its position as Manila's water distributor and instead assume a regulatory role monitoring and enforcing service standards, conducting financial audits, handling customer complaints, and guaranteeing provision of raw water to the operators. Furthermore, the plan separated Manila into two divisions – the East Zone and the West Zone – that

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<sup>8</sup> The World Bank. (2006). Approaches to private participation in water services: A Toolkit. Retrieved January 11, 2008, from [http://rru.worldbank.org/Documents/Toolkits/Water/Water\\_Full.pdf](http://rru.worldbank.org/Documents/Toolkits/Water/Water_Full.pdf).

<sup>9</sup> Orwin, A. (1999). The privatization of water and wastewater utilities: an international survey. Retrieved January 11, 2008, from <http://environmentprobe.org/EnviroProbe/pubs/ev542.html#Asia>.

<sup>10</sup> Montemayor, C. (2003). The Manila water privatization fiasco and the role of Suez Lyonnaise/Ondeo: Brief history of water privatization in Metro Manila. Retrieved January 11, 2008, from <http://www.tni.org/altreg-docs/manila.pdf>.

were to be serviced separately. The West Zone comprised about 60 percent, the majority of Manila's population, and yet little of the city's wealth. The East Zone was more sparsely populated but wealthier overall. This duopolistic arrangement sought to encourage competition between concessionaires, provide performance benchmarking, and to ensure that a backup system would be available in case of one concession's failure. Finally, the system of distribution expected to expand in both wealthy and poorer areas indiscriminately<sup>13</sup>.

Bids submitted by the various potential concessionaires were evaluated based on cost. Despite the fact that one concessionaire underbid all others by more than 50 percent, the consortium of decision-makers proceeded with its initial plan to employ two separate private water providers. In 1997 a conglomerate named Manyilad-Ondeo won the bid for the West Zone, and the Manila Water Company won the East Zone. The terms of the contract mandated expansion of water supply and sewerage coverage, water quality and pressure standards, tariff structure, and labor transition packages to be met by the concessionaires<sup>9</sup>.

Before transfer of concession, Manyilad-Ondeo and Manila Water pledged the following: 1) lower water rates, 2) 24 hour availability of water by the year 2000, 3) increased water pressure, 4) compliance with World Health Organization standards, 5) provision of \$7.5 billion in investments for infrastructure, 6) provision of an additional \$4 billion in income tax revenues over the course of the contracted years, and 7) service to the MWSS's \$800 million debt through payment of concession fees<sup>14</sup>.

Within one year Manyilad-Ondeo, the holder of the West Zone concession, began renegotiating its contract to allow for rate increases. In the next three years, Manyilad-Ondeo renegotiated its contract six more times with a seventh being denied due to poor performance. As rates increased service provided to Metropolitan Manila remained unsatisfactory. Daily water availability and water pressure targets were consistently missed, expansion goals were deferred by as much as five years, and nearly 600,000 of the West Zone's poorest residents were still without water as of 2003. Those lacking service were mainly in the urban poor areas and forced to spend a considerable amount of their income on overpriced water sold by private vendors<sup>10</sup>.

The ensuing years were mired in dispute as Manyilad-Ondeo and MWSS clashed over contract negotiations and concessions fees. Despite contractual amendments and relaxed requirements, relations had gone completely amiss between Manyilad-Ondeo and MWSS by mid-2002. Manyilad-Ondeo, while failing to pay concession fees for over a year, still sought additional rate hikes and the government's guarantee on loans. MWSS rejected these demands and Manyilad-Ondeo terminated its contract. Consequently, responsibility for water services reverted to MWSS on February 7, 2003<sup>11</sup>. Manyilad-Ondeo then filed for arbitration before the International Appeals Panel. The private water conglomerate cited MWSS's refusal to implement rate adjustments, the effects of the 1997 Asian financial crisis, delays in the completion of a river basin project, and drought caused by El Niño as primary reasons for their course of action. The arbiter ruled that Manyilad-Ondeo should pay \$150 million in

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<sup>11</sup> Llorito, D., & Marcon, M. (March 26, 2003). Manyilad: A model in water privatization springs leaks. *The Manila Times*. Retrieved January 11, 2008, from [www.manilatimes.net/others/special/2003/mar/26/20030326spe1.html](http://www.manilatimes.net/others/special/2003/mar/26/20030326spe1.html).

withheld concession fees, but that MWSS must allow the conglomerate to raise their rates to meet financial obligations<sup>12</sup>.

Interestingly, Manila Water, the concessionaire of the East Zone, managed control of operations in a satisfactory manner and as of today still provides water under its long-term concession in a profitable manner. Based on these facts, proponents of privatization highlight the overall positive aspects of the Manila water privatization project. Their claim is that privatization has generally improved the infrastructure and level of service in Metropolitan Manila. Even in the problem-stricken West Zone, residential service coverage has expanded from 58 percent prior to privatization to 84 percent afterwards<sup>12</sup>.

Certainly no easy conclusions can be drawn and ready made recommendations cannot be provided based on the Manila case study. Neither of the two private water companies saw the level of profits they expected at the outset of their venture until today. The lack of hedging for currency fluctuations exposed this multi-national project to serious foreign exchange risk. Between local revenue generation, international borrowing and the Asian financial crisis of the late 1990's these risks were realized. However, both companies were confronted with different operational environments at the micro-level. The managerial approach changes with the switch to privatization and perhaps the profit outlook was not properly assessed in supplying the West Zone.

Operational efficiency decreased with increasing household coverage in the West Zone. In other words, more water was wasted as more connections were established and hence more money lost for Manilylad-Ondeo relative to the increasing operational expenses. However, not all of the unaccounted water was seeping into the ground. Ironically, this inefficiency was the result of an emerging cottage industry. As it turned out, a thriving multi-million-peso black market of water directly stolen from pipes emerged in response to continued lack of ubiquitous service coverage<sup>11</sup>.

### **Conclusions:**

Theoretically, privatization presents an opportunity to improve domestic water supply and wastewater systems in the absence of powerful local governments. Private firms offer resources and expertise. These partnerships can be successful; the Manila Water Company in the Philippines case study is a good example. There are also copious examples of failed partnerships. Successful fusion of public and private entities requires careful arrangement of responsibilities, clear goals and expectations for government and private organizations, and transparency of operations.

Privatization of water resources is a very delicate endeavor that requires a purposeful, careful balancing of interests. It is delicate from the get-go because it exposes both consumer and providers to market forces that are largely out of their control. In developing countries where consumers are particularly, sensitive to rate hikes, it

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<sup>12</sup> Slattery, K. (2003). What went wrong? Lessons from Cochabamba, Manila, Buenos Aires, and Atlanta. Retrieved August 10, 2007, from <http://www.rppi.org/apr2003/whatwentwrong.html>.

<sup>13</sup> Rosenthal, S. (2001). The Manila water concessions and their impact on the poor. Retrieved January 11, 2008, from [http://www.yale.edu/hixon/research/pdf/SRosenthal\\_Manila.pdf](http://www.yale.edu/hixon/research/pdf/SRosenthal_Manila.pdf).

<sup>14</sup> Asia Pacific Movement on Debt and Development (APMDD) and the Freedom from Debt Coalition (FDC). (2006). Profiting from people's lives: Metro Manila's water privatization saga. Retrieved January 11, 2008, from [jubileesouth.org/upload1/fdc\\_low.pdf](http://jubileesouth.org/upload1/fdc_low.pdf).



becomes important to develop resilience by sound management and to be acutely aware of the specific economic, political and cultural operational environment. In developed countries, where consumers are able to pay the true price of water, privatization and the accompanying rate hikes may be a suitable method for encouraging water conservation.

Governments and private firms must maintain the notion of mutual benefit. Private firms that are unregulated, lack proper enforcement, or possess unfairly profitable contract rights, will inevitably erode public and governmental support through price hikes. Governments can also maintain overly high standards for private firms, stifling their profits. However, the root of an unhealthy partnership is often the profit motive of private firms. This motive, when pursued above all other interests, can inevitably undercut government and public support. Owing to the eclectic nature of water issues worldwide, many different arrangements and terms of contracts can be appropriate. Successful partnerships need to be applicable to local conditions; this implies the necessity of uniquely suitable contracts. Nevertheless, there are features common to all successful privatization agreements.

In order for poor areas to be served successfully, differential pricing with free quotas for basic requirements can enable better acceptability and cost recovery since a relative deprivation in the exchange entitlements of lesser-off households will be avoided. Differential pricing would also address the inherent problem of public sector utilities that prevented them from serving the poor. Specific profit margins for private groups and committal returns on water infrastructure for local governments should be clearly outlined within contracts. Furthermore, contracts must provide contingencies for a number of risks that should be carefully identified ahead of time. Once an agreeable and fair arrangement has been decided upon, both government and firm must participate to protect their interests and overcome unforeseen obstacles effectively.

As in the case of Manila, the largely unseen nature of underground assets and the state they are in should allow for constant renegotiation of contractual arrangements. Successful partnerships exhibit continued involvement of both parties in the contract. At the end of the day, the outcome of a successful agreement results in equitable gains by all parties — the government, the private operator and the citizens — both rich and poor. These equitable gains must emerge from substantial technical improvements related to the efficiency of provision and the ubiquitous metering of consumption. Any agreement that fails to improve a region's water quality and efficiency of distribution, reward concessionaires appropriately, and provide affordable service to the public represents, will inevitably be an unsuccessful contract. Focus must remain on driving mechanisms of agreement, and government and private groups must work closely to achieve each other's ends. This is especially true for developing nations where the pressure from population growth and the increasing scarcity of water have to be reconciled so as to meet public health and environmental goals.



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