Globalization Monitor

Who Controls the World's Water?

Volume IV, Issue 2, May 2007

FROM THE EXECUTIVE DIRECTOR'S DESK

March and April marked two significant months environmentally: March 22 was World Water Day and April 22 was Earth Day. The environment has garnered increased attention recently with the releases of films and documents such as the Intergovernmental Panel on Climate Change's (IPCC) report *Climate Change 2007: Impacts, Adaptation and Vulnerability*. The report states that in Africa, "By 2020, between 75 and 250 million people are projected to be exposed to an increase of water stress due to climate change. If coupled with increased demand, this will adversely affect livelihoods and exacerbate water-related problems." (www.ipcc.ch/SPM6avr07.pdf) This raises serious questions on the future availability and control of the world's water resources.

Water is life: therefore it is a fundamental right. But in recent years, corporations with the support of policies of the International Monetary Fund (IMF) and World Bank, have seen water as another commodity. Through loan conditionalities the international financial institutions have stressed to poor countries worldwide that they cut spending on social services such as education, utilities etc. and allow the private sector to acquire control of these services. This has led to efforts to privatize the water supplies in various countries.

Ghanaian activist Rudolf N. Amenga-Etego makes special emphasis on this point: "The almost hysterical pace at which the Minister for Works and Housing is pursuing the water privatization process is not only flowing from the Government's own neo-liberal ideology, but is also a direct result of the World Bank lending policy. The World Bank has made access to its loans dependent upon compliance with different types of policy conditionalities. Currently there are several types of policy conditionalities that are being used by the World Bank to push Ghana toward water privatization. One such conditionality is the privatization of public utilities. ..." (*TransAfrica Forum Globalization Monitor*, Fall 2004)

In the Fall 2004 issue of *TransAfrica Forum Globalization Monitor* we focused on water. This issue we provide an update featuring an article on efforts to privatize the Washington, DC water supply, an excerpt from the *United Nations Development Programme Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis* and an abstract of the book *Thirst: Fighting the Corporate Theft of our Water* by Alan Sanitow, Deborah Kaufman and Michael Fox.

The ***Globalization Monitor*** is a TransAfrica Forum publication that focuses on how the African World is affected by the phenomenon of "globalization." **We would like your feedback. Please contact us at info@transafricaforum.org or 202.223.1960 ext. 137 or 1629 K Street, NW, Suite 1100, Washington, DC 20006.**

Nicole Lee
Executive Director, TransAfrica Forum

NO! SAYS THE CITY OF WASHINGTON, DC TO WATER PRIVATIZATION

By Wenonah Hauter, Executive Director Food & Water Watch, Washington DC

The city of Washington DC, home of the International Monetary Fund and the World Bank, rejected water privatization in 1999. But, policies flowing from the capital city of the United States still push water privatization around the world.

When the District of Columbia's Water and Sewage Authority (WASA), a semi-autonomous public entity,

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

was formed in 1996, it took on US$303 million of debt and the challenge of raising the millions of dollars needed to upgrade and expand the aging infrastructure. Shortly thereafter the local government commissioned a feasibility study to analyze how to best manage the challenges. The study explored the possibility of privatizing the water supply—a policy that is often proscribed by Washington-based institutions such as the World Bank.

The 1999 study found that "retention of the Blue Plains [the main wastewater treatment plant in the area] in public hands is more desirable than various forms of privatization."[1] In addition to the complications of privatizing a utility that served multiple jurisdictions and the federal government, selling the water utility completely to a private company would involve a "number of serious negative considerations."[2] The main concern was that user prices would greatly increase because the private company would incur higher costs and still be responsible for refinancing the debt. The study concluded that a private company would have to increase rates by about 33% in order to recover investments. Contracting out services to private operators was also considered, but the best option turned out to be "continuous improvements under public ownership and control."

It is an interesting irony that in Washington DC, headquarters of the World Bank and the International Monetary Fund, independent studies concluded that the public water company would do much better, than a private water company. In fact countries receiving debt financing from the World Bank are often pressured to privatize water. Despite a horrifying track record of private companies, particularly in Africa, ailing water utilities are usually not given the opportunity to restructure and rehabilitate. In Washington DC the utility [WASA] did just that. The local government gave the public water utility a chance to meet or surpass the proposed benefits of the private sector.

Food & Water Watch is working for increased transparency of WASA and seeks to get more direct participation in utility matters. During the mayoral elections in 2006, the soon to be mayor, Adrian Fenty, promised more participation as part of his election platform. It is now time to hold him to his promise.

Wenonah Hauter

Executive Director, Food & Water Watch

[1] Gutierrez, Eric. "Washington DC's "Continuous Internal Improvement" Alternative - An initial inquiry on PSP in water and sanitation in the United States." Water Aid, May 2002, p. 8

[2] Gutierrez, Eric. "Washington DC's "Continuous Internal Improvement" Alternative – An initial inquiry on PSP in water and sanitation in the United States." Water Aid, May 2002, p. 8

WHY THE POOR PAY MORE—AND GET LESS WATER

From Chapter Two "Human Water for Human Consumption" of ***Human Development Report 2006—Beyond Scarcity: Power, Poverty and the Global Water Crisis*** *by United Nations Development Programme (UNDP)*
Reprinted with permission by the UNDP

There are some obvious parallels between water insecurity and food insecurity for households. Hunger

Why are some 1.1 billion people denied access to sufficient clean water to meet their basic needs? And why are so many people forced to turn to water sources that jeopardize their health and sometimes their lives? National water scarcity metrics are an unhelpful starting point for addressing these questions. For households national per capita availability indicators are largely meaningless. Across the developing world the daily struggle to access water is a constant drain on the human, financial and physical assets of poor households, regardless of whether the country—or locality—in which they live is water scarce. As chapter 1 showed, people in the slums of Jakarta, Mumbai and Nairobi face shortages of clean water, while their neighbors in high-income suburbs have enough water not only to meet household needs but to keep their lawns green and their swimming pools topped up.

continues to afflict a large share of the world's population. Yet it is seldom an absence of food in local

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

markets that causes famine or the more widespread problem of malnutrition. Some of the worst famines in human history have taken place without any marked change in food supply. And some of the world's highest levels of malnutrition occur today in countries that are well endowed with food: one in five people in food "self-sufficient" India is undernourished, for example (see indicator table 7). People go malnourished amidst abundant food for the same reasons that they go without access to clean water when there is more than enough to go round: unequal distribution and poverty.[2]

The concept of entitlements can help unlock the apparent paradox of scarcity amid abundance. Developed by Amartya Sen to explain the apparent paradox of hunger in the midst of plenty, entitlements can be thought of as "the set of alternative commodity bundles that can be acquired through the use of various legal channels".[3] They refer not to rights or moral claims in a normative sense but to the ability of people to secure a good or service through purchase (an exchange entitlement) or through a legally recognized and enforceable claim on a provider (a service entitlement).

The entitlements approach offers useful insights on water insecurity because it draws attention to the market structures, institutional rules and patterns of service provision that exclude the poor. It also highlights the underlying market structures that result in poor people paying far more for their water than the wealthy. People get access to water through exchange in the form of payments (to utilities, informal providers or water associations), legal claims on providers and their own labor (collecting and carrying water from streams and rivers or digging wells, for example). Whether households can meet their basic need for clean water depends partly on their own resources and partly on how public policy shapes access to infrastructure and water through investment decisions, pricing policies and legislation governing providers.

"Improved" and "Unimproved" Water—An Illusory Border Between Clean and Dirty

In most rich countries the phrase "access to water" has a simple and widely understood meaning. Almost everybody has access to a tap in their house that is connected to a network maintained by a utility. Utilities are charged with maintaining the network and meeting water quality standards—and they are authorized to charge a stipulated price for the service that they provide. In the world's poorest countries "access to water" means something very different.

The language of international data gathering can sometimes obscure the way poor households access water. International statistics draw a distinction between "improved" and "unimproved" access. Improved encompasses three dimensions of water security: quality, proximity and quantity. For international reporting purposes people are classified as enjoying access to water if they have available at least 20 liters a day of clean water from a source less than 1 kilometer from their home. Technology broadly defines whether the source meets the criteria of being improved. In-house connections, standpipes, pumps and protected wells are all defined as improved. Water acquired from vendors and water trucks, along with water drawn from streams or unprotected wells, is not.

The distinction between improved and unimproved is clear-cut and convenient for international reporting purposes. It is also a deeply misleading guide to reality on the ground. In the real world of water-insecure households the simple border between improved and unimproved water is illusory. For millions of poor households, daily water use patterns combine recourse to improved and unimproved water. Women living in slums in the Indian city of Pune report using water from public taps (an improved source) for drinking but going to a canal for washing. Research in Cebu, Philippines, found five patterns of water use among households not connected to the main water network (table 2.1). In urban slums and rural villages poor households might draw water from a protected well or standpipe for part of the year but then be forced to draw water from rivers or streams during the dry season. The configuration of water used in any one day will depend on factors ranging from price to availability to perceptions of quality.

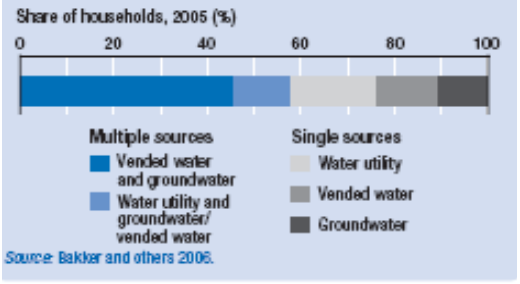
First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

Table 2.1 Cebu, Philippines: patterns of water use among households not connected to the main water network

Main source of water	Share of population (%)	Main use	Comments
Type 1 Vendors	4	All purposes (drinking, cooking, washing)	Most of these users live in isolated areas and have no other choice available
Type 2 Public well	34	All purposes	—
Type 3 Well	15	About half use it for all purposes	About half use it for nonpotable purposes only and get drinking water from a neighbour connected to the water system
Type 4 Public standpipe	8	Two-thirds use it for all purposes	One-third reserve it for drinking, using water from a public well for washing and laundry. A few occasionally buy water from a neighbour connected to the water system.
Type 5 Neighbour connected to water system	38	About half use it for all purposes	About half use it only for drinking and cooking, relying on a public well for other purposes.

Source: Verdeil 2003a.

Figure 2.1 Most households in Jakarta get their water from multiple sources



Source: Bakker and others 2006.

While the global reporting system may provide useful insights, it is something of a statistical artefact. Consider Jakarta. Global reporting systems indicate that almost 90% of urban residents in Indonesia have access to improved water. However, household surveys show that almost two in every three people in Jakarta use multiple sources of water, including shallow and deep wells (both protected and unprotected), standpipes (improved) and water vendors (unimproved). The three most frequently cited combinations were groundwater and vendors, utility and groundwater, and utility and vendors (figure 2.1).

Why this diversity of demand? Use of water sources varies temporally and seasonally, due to changes in water quality and pressure. Low pressure and irregularity of supply in the piped network mean that households in Jakarta seek a backup source—usually a shallow well. But in many urban areas groundwater cannot be used for drinking because of salination or pollution. Groundwater is used only for cleaning or washing or to reduce water costs to more affordable levels.

What emerges from research across a large group of countries is that patterns of water use are far more complex and dynamic than the static picture presented in global reporting systems. Real-life patterns constantly adjust to take into account concerns of water quality, proximity, price and reliability. In Bangalore, India, close to a third of households within the area served by the Bangalore Water Supply and Sewerage Board use public taps. Within this group 7% have no other source of water. The remainder use water from public taps and groundwater along with the water only three days a week on average. Daily supply is about seven hours during the rainy season and four hours during the dry season.[4]

Beneath the complex patterns of water use in most cities in the developing world, inequalities based on wealth and location play a central role in structuring water markets. As chapter 1 showed, there are deep divisions within countries in access to water sources categorized as improved. Being poor dramatically increases the likelihood of dependence on an unimproved water source—and the associated health risks attached to that dependence. More than 70% of people lacking access to improved water survive on less than $2 a day, and about half of this group survive on less than $1 a day. In many countries income is a strong predictor both of access to improved water and of the type of technology used to collect water.

Getting Water from Multiple Providers

In the developed world people usually get their water from a single provider. In most of the developing world people get water from a bewildering array of service providers. The primary network, usually operated by a single citywide utility, functions alongside a wide variety of providers, many of them intermediaries between the utility and the household. Any consideration of water access has to start by looking at the patchwork quilt of provision. Water utilities are authorized by governments to deliver water through the network of pumps and pipes that constitute the city's formal water system. The main

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

market for these utilities is usually household users with pipes in their homes, and businesses. But connection rates vary widely—and are heavily skewed towards high-income neighborhoods. In cities such as Dar es Salaam, Tanzania, and Ougadougou, Burkina Faso, fewer than 30% of households are connected.

For many poor households the point of contact with the utility network is not a private household tap but a standpipe. Since most standpipe users are from low-income households, this source is a water lifeline for poor urban households across the cities of the developing world. Some 30% of households report collecting water from standpipes in Nouakchott, Mauritania, and 49% in Bamako, Mali. In Dakar, Senegal, standpipes serve half the population without private piped water.[5] Similarly, in Ougadougou utility provision covers an estimated 80% of households, with standpipes accounting for two-thirds of the total.

Similar patterns emerge in other regions. When poor people in South Asia have access to piped water, it is far more likely to mean access to a public tap or standpipe than to water piped into the home. For instance, in the Indian city of Bangalore the Water Supply and Sewerage Board reaches about 80% of the population, about 73% of which have private taps. However, the poorest households use public taps on a regular basis. For the richest households that share falls to 3%.[6] In Kathmandu, Nepal, the municipal water utility reaches about three-quarters of the population, but half of the poor depend on public taps.[7]

Standpipes can be thought of as a resale outlet for utility water. These outlets can be managed by neighborhood committees or other local organizations or by individuals under contract with a municipal provider. But in almost all cases standpipes are just the tip of a resale iceberg. In many cities they do not reach all areas, with peri-urban locations, slums and more remote districts often underserved. Even in areas that are reached, supplies are sometimes insufficient and erratic, with rationing applied during dry seasons. Water vendors are an important link between poor households and the network. Some vendors operate from kiosks, reselling water acquired from truckers, who have access to piped water or utility standpipes. In the Ghanaian capital, Accra, and in Guayaquil, Ecuador, large water tanker fleets set off every morning for low-income settlements, where they sell to households and intermediaries. Other vendors deliver water from bicycles or donkey-drawn carts to areas that have no connection to the utility network. Precise figures are hard to come by, but for Sub-Saharan African cities an estimated 10%–30% of low-income households purchase water from neighbors and water kiosks.[8]

In sum, poor urban households with limited or no access to the formal network get their water from several sources. Apart from rivers and streams, these sources include a variety of vendors such as water truckers, private standpipe operators, water kiosk operators and agents delivering water. While the debate continues over public or private water provision, in the real world poor households are already operating in highly commercialized private water markets—markets that deliver (often poor quality) water at exceptionally high prices.

Climbing the Price Ladder in Urban Slums

Water resellers extend the coverage of the piped network. By bringing water to people they provide a service that produces important benefits for households—but they do so at a price. That price rises with distance from the utility, as defined by the number of intermediaries between the network and the end consumer. Having a regular supply of clean water piped into the household is the optimal type of provision for human development. Cross-country experience suggests that households with water delivered through one tap on a household plot (or within 100 meters) typically use about 50 liters of water a day, rising to 100 liters or more for households with multiple taps.[9] Household level research in urban areas of Kenya, Tanzania and Uganda found that families with piped water in the home used an average of three times as much water as families without piped water.[10] Water in the home also eliminates the need for women and young girls to collect water.

Household connections to a utility also offer financial benefits. In unit price terms, utility water is by far the lowest cost option. Because of economies of scale once the network is in place, the marginal cost of delivering each additional unit of water falls sharply. Subsidies are another important price-reducing mechanism: utilities are usually the gatekeeper for a wide range of direct and indirect subsidies that keep the price of water well below cost.

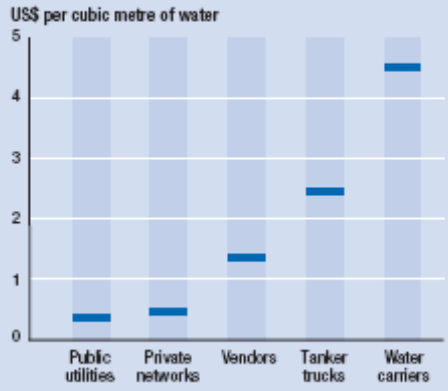
Every step removed from the household tap option adds a twist to the price spiral (figure 2.2). Water vendors often act as a link between unconnected households and the utility. In some cases water is purchased from the

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

utility and sold on to households. Private standpipe operators are an example. In other cases water is purchased from the utility and sold to intermediaries, who in turn sell to households. In Accra, for example, private water tanker companies purchase utility water and sell it on to a wide range of intermediaries who deliver water to slum neighborhoods.

As water passes through the marketing chain, prices ratchet up. Water delivered through vendors and carters is often 10–20 times more costly than water provided through a utility (table 2.2). In Barranquilla, Colombia, the average price of water is $0.55 per cubic meter from the utility and $5.50 from truckers. Similarly, in the slums of Accra and Nairobi people buying water from vendors typically spend 8 times as much per liter as households with piped water supplied by utilities.

Figure 2.2 Public utilities provide the cheapest water



Note: Based on a literature review of data from 47 countries and 93 locations.
Source: Kariuki and Schwartz 2005.

Table 2.2 Independent water providers: important but expensive actors in Latin American cities

City	Households served by independent providers (%)	Average price (US$ per cubic metre)		Type of provider
		Independent providers	Utility	
Cordoba, Argentina	15–20	1.25–2.50	0.54	Network
Asuncion, Paraguay	30	0.30–0.40	0.40	Small network
Barranquilla, Colombia	20–25	5.50–6.40	0.55	Truckers
Guatemala City	>32	2.70–4.50	0.42	Truckers
Lima, Peru	26–30	2.4	0.28	Truckers

Source: Solo 2003.

Large price differences are sometimes interpreted as evidence of profiteering, but that interpretation is flawed. In some cases largescale water trucking companies or kiosk operators might be in a position to generate excessive profits. But the underlying causes of water price inflation between the utility and poor price inflation between the utility and poor households can be traced to wider structural causes. Resale prices rise with distance, because transport costs are high for informal slums and peri-urban areas that are far from resale points or located in hard to reach places. They also rise with the number of transfers between intermediaries, as each agent adds its profit margin.

Standpipe users are not immune to the price spiral. While standpipes may be used overwhelmingly by poor households with the least ability to pay, prices are usually a multiple of those charged for water piped into households. In Dakar, one study found that users of a standpipe were paying 3.5 times the social tariff rate applied to low-income families connected to the network.[11] This is not uncommon. Evidence from other countries—including Benin, Kenya, Mali and Uganda—shows that people who buy water at standpipes typically face the same prices as those paid by high-volume consumers. These are twice those for basic domestic water use in Benin, three times in Mali and five times in Côte d'Ivoire and Mauritania.[12]

Concern over transforming water into a commodity has been a powerful reaction to privatization and, more broadly, to the commercialization of water utilities. At one level, that concern is justified. As a source of life, water should not be treated as a commodity. Nor should it be traded in markets governed by the same principles as, say, markets for luxury cars or toys. Yet the hard fact remains that millions of the world's poorest and most vulnerable people are already operating in markets that treat water as a commodity and that skew prices against them.

WHY TARIFFS MATTER

Water tariffs shape the access to water of poor households. Most governments regulate tariffs to achieve a range of equity and efficiency objectives. They are designed to provide water that is affordable to households and to generate enough revenues to cover part or all of the costs of delivery. The problem in many cases is that tariff structures intended to enhance equity have the opposite effect.

There are important variations across countries in tariff design (figure 2.3). In some cases—Dhaka, Bangladesh, is an example—a *flat rate* is applied to all users,

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

whatever volume of water they use. Such structures, which provide no incentives for water conservation, are commonly applied where utilities have little capacity to monitor use through meters. More typical is the *block tariff* system, in which prices rise on a tiered basis along with the volume of water used. Both the number of tiers and the steepness of the price increases across tariff blocks can vary.

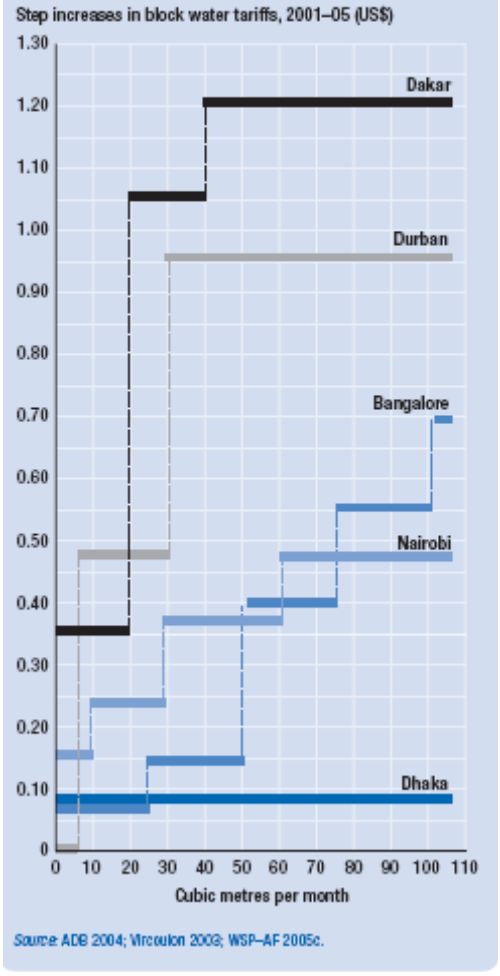
Rising block tariffs aim to achieve several public policy goals. A low or zero tariff applied to the first block can enhance affordability. For example, Durban, South Africa, provides 25 liters of water a day free of charge[13]—the lifeline or social tariff—with a steep increase above this level. This is an important part of the legislative framework for acting on the right to water discussed in chapter 1. Higher tiers aim at enabling utilities to increase efficiency, by creating disincentives for overuse, and at mobilizing revenues to cover costs. Block tariffs thus create the potential for aligning revenues with the costs of service provision, facilitating a sustainable financing model, while at the same time providing water for basic needs at below the cost of operations and maintenance.

Many countries apply a low tariff for an initial volume of water, though few countries follow South Africa's policy of free water. The size of the baseline tariff and of the increments between blocks varies across countries. Increments are particularly high in countries such as Burkina Faso and Senegal, while Bangalore, India, has limited price increases up to a high level of use.

Under the right conditions rising block tariffs can enhance water access and equity. But outcomes depend on a range of factors. In many utilities tariffs are set far below the levels needed to meet the overall costs of operation and maintenance. In effect, this delivers a subsidy to all households with private tap connections. On the other side of the balance sheet, the shortfall between revenue and cost will be reflected in transfers from government, rising debt, reduced spending on maintenance or a combination of the three.

Whether utility subsidies are progressive depends on the profile of households connected to the utilities: the lower the proportion of poor households connected, the less progressive the subsidy. Providing a subsidized social tier is an effective strategy for reaching low-income households only if they are connected. And cross-subsidies from high-consumption (and high-income) to low-consumption (low-income) households are effective only if a sufficient number of customers use the higher blocks. An obvious danger is that excessively high prices will drive users to alternative sources of provision.

Figure 2.3 **Utility water prices usually rise with volume**



Block tariffs can create structural disadvantages for the poor. This is because the private operators and intermediaries that supply households without private connections typically purchase water in bulk at the top price tiers. Standpipe operators, water vendors and truckers are thus reselling the highest cost water sold by utilities. Similarly, when poor households group together to share a metered connection, a common arrangement in many countries, their aggregate consumption level pushes them into the higher price tiers.

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

If informal water markets are so unfavorable to the poor, why not switch demand from intermediaries to formal network providers? Connection fees provide one part of the explanation. These vary widely but average about $41 in South Asia and $128 in Latin America. In Sub-Saharan African countries such as Benin, Kenya and Uganda connection fees exceed $100.[14] And the fees generally rise with distance from the network. For poor households without access to credit markets, costs on this scale present an impenetrable barrier. The average cost of connection for households in the poorest 20% of the population ranges from about three months' income in Manila to six months in Kenya and more than a year in Uganda.

Legal barriers are often added to the financial ones. Many utilities, to secure returns on their investments to expand the network, will provide water only to households with formal property titles. Yet more than a billion people live in formally unauthorized urban and peri-urban areas in developing countries. With 80%–90% of population growth expected in urban areas in developing countries, this is a service delivery constraint that will tighten over time. Abidjan, Côte d'Ivoire, the most prosperous city in West Africa, has more than 80 unauthorized residential areas. An estimated quarter of the population of Ouagadougou resides in unauthorized areas, making them ineligible to receive basic water services.[15] As urbanization draws more people from the countryside into informal settlements, failure to recognize residency rights could become an increasingly important barrier to the realization of the Millennium Development Goal for water. Indeed, this problem is already implicated in the falling urban coverage rates for some cities (see chapter 1).

Beyond the immediate barriers stand more fundamental constraints. Compared with rich countries, in many developing countries the formal water network has limited reach. Water and sewerage networks were not created to reach the poorest parts of cities or to provide universal access (box 2.1). Rather, they were designed to cater to the interests of elites.

Box 2.1 The burden of history: many networks were not designed to reach the poor

Historical legacy does not determine the state of today's water and sanitation infrastructure in developing countries—but it weighs heavily. In Europe and North America the political goal was to achieve rapid progress towards universal access. That goal drove financing and technology. Not so in much of the developing world.

Consider Lagos, Nigeria. At the beginning of the 20th century the European business and political elite in the city invested in an urban water and sanitation infrastructure. But this was concentrated in wealthy enclaves. Early efforts to extend the infrastructure to poorer districts were swiftly abandoned in the face of rising costs and in favour of a strategy of segregation. Similar patterns of inclusion and exclusion characterized cities from Puebla to Jakarta and Algiers. This development model failed to achieve universal access for the public good and instead generated segregation and elite havens of water security.

Financing followed a similar model. In Latin America elites financed investments in water and sanitation through taxes, with tariffs set below operating costs. As one author describes it, it was a "system running structural deficits, operat[ing] on ad hoc, piecemeal and emergency interventions, loans and subsidies from the national, state or international lending bodies. From the very beginning, the high cost of urban engineering works required high levels of (usually external) financing, while the political and economic forces demanded low water prices" (Swyngedouw, p. 37).

Source: Gandy 2006; Bakker and others 2006; Swyngedouw 2006; Chikhr Saïdi 2001.

Efforts to break out of the enclave model inherited from the colonial period have met with varying degrees of success. But there are some recurrent problems. Many utilities have been locked in a cycle of underfinancing, undermaintenance and underexpansion. With tariff revenues falling far short of the level needed to maintain the network, there is no money to finance expansion to unserved households on the scale required. Many developing countries also face an acute form of the dilemma faced by rich countries more than a century ago: how to extend access to poor households without raising tariffs to prohibitive levels. Unlike rich countries during the crucial phase of their development, most developing countries lack financial resources to resolve the dilemma through public finance, even if they have the political will to do it.

While this section has focused on the specific problems facing poor households, they are not the only constituency affected. In many developing countries households connected to utilities may have access to nominally cheap water, but they face acute problems in the regularity of supply. Shortages have pushed a growing number of middle-income households into informal water markets and self-provision. Perhaps more than in any other area, water is a sector in which the poor and the nonpoor have a shared interest in investment to expand the network and improve efficiency to ensure regular supply.

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

RURAL POOR—THE LAST IN LINE

As in urban areas, so in rural areas, safe, accessible and affordable water brings a wide range of benefits for health, education and livelihoods. Gains for gender equity tend to be even more pronounced in rural areas because women and young girls spend more time collecting water, especially during the dry season. For gains in human development, and improvements in the lives of the poor, investments in rural water have few rivals. Yet in most developing countries rural areas have far lower rates of coverage. Why has the rural-urban divide outlined in chapter 1 been so difficult to bridge?

Financial cost is not the most obvious barrier. The per capita costs of providing clean water are highest in urban areas and in sparsely populated rural areas, but on average expanding coverage costs less in rural areas than in high-density urban areas. Three distinctive features of rural water provision help to explain the low coverage:

• *Local scarcity*. At a national level water scarcity is seldom a problem, but the rural poor often live in dry areas subject to seasonal shortages. In northern Kenya, the Sahel region and drought-prone areas of Gujarat in India wells run dry for long periods. In semi-arid areas of western Nigeria water collection times increase from four to seven hours in the dry season. Time-poverty is one consequence of seasonal scarcity (box 2.2).

• *Communities and providers*. In most rural areas communities provide, maintain and expand water systems. Especially in arid or semi-arid areas, this requires high levels of community mobilization. Local government bodies, rather than large municipal providers, are often gatekeepers for boreholes and handpumps. The accountability of these bodies, and the strength of community water user associations, influence coverage.

• *Politics and poverty*. Beyond financing and technical questions, rural communities carry the twin burden of high poverty and low political influence. Highly dispersed rural populations, especially in marginal areas, have little influence over the institutional choices that shape decisions and set priorities for resource allocation.

Most poor rural households get their water from a variety of sources. Unimproved sources—lakes, streams, rivers—figure prominently. Protected village wells are the most common improved water sources. Efforts to expand coverage have focused on boreholes and pumps. More than in urban areas, success depends on the willingness and capacity of communities to contribute labor and finance for maintenance—and on the responsiveness of service providers to demands for appropriate technology.

As in urban areas, data on improved technologies can

Box 2.2 Water, gender and time-poverty

One of the greatest returns to improved access to water is in the time savings for women and girls and the expansion of their choices. Water collection is part of a gender division of labour that reinforces inequality within households, contributes to time-poverty and retards the human development prospects for a large section of the world's people.

Social and cultural norms influence the household division of labour. In developing countries looking after children, caring for the sick and elderly, preparing food and collecting water and firewood are tasks dominated by women. Norms in this case translate into unequal working hours between men and women: time surveys in Benin, Madagascar, Mauritius and South Africa point to weekly differences ranging from five to seven hours.

Fetching water is part of the gender inequality. In rural Benin girls ages 6–14 spend an average of one hour a day collecting water compared with 25 minutes for their brothers. In Malawi there are large variations in the amount of time allocated for water collection based on seasonal factors, but women consistently spend four to five times longer than men on this task.

Why does this matter for human development? Time is an important asset for the development of capabilities. Excessive time demands for essential labour lead to exhaustion, reduce the time available for rest and child care and limit choice—they reduce the substantive freedoms that women enjoy. They also pose no-win choice dilemmas. Should a woman care for a sick child or spend two hours collecting water? Should girls be kept home from school to collect water, freeing time for mothers to grow food or generate income? Or should they be sent to school to gain the skills and assets to escape poverty?

Time-poverty also contributes to income poverty. It reduces the time available for participation in income generation, limits the scope for women to take advantage of market opportunities and impedes their ability to expand capabilities and skills, reducing future economic returns.

Women face a heavier time burden collecting water, particularly in rural areas (minutes per day)

	Benin, 1998		Ghana, 1998/99		Guinea, 2002/03		Madagascar, 2001	
	Women	Men	Women	Men	Women	Men	Women	Men
Urban	16	6	33	31	10	3	16	10
Rural	62	16	44	34	28	6	32	8
National	45	12	41	33	23	5	27	9

Source: Wodon and Blackden 2006.

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

overstate real coverage by a considerable margin. Inadequate maintenance of infrastructure, insufficient training for repair works and inadequate financial resources for operation have eroded the rural water supply systems in many countries. A survey in Ethiopia, to take just one example, found that 29% of handpumps and 33% of mechanized boreholes in rural areas were not functioning because of maintenance problems.[16] In Rwanda an estimated one-third of the rural water infrastructure requires urgent rehabilitation. Beyond mechanical factors the main source of breakdown in rural areas has been the failure to involve rural communities—especially women—in selecting, sitting and managing improved technologies.

If safe water is often scarce in rural areas, free safe water is an even rarer commodity. The use of village water points and water committees requires contributions of labor (digging wells) and cash to cover the maintenance and capital costs of pumps and well materials. In a typical cycle a village water committee raises funds to construct a borehole and purchase a handpump. Rights to draw water require payment of an initial membership fee and a monthly fee to cover the costs of operations and maintenance.

The human and economic costs of inadequate coverage in rural areas are high, reflecting the importance of water to human development. The health benefits from improving coverage include reductions in the incidence of diarrhea and other diseases. In the Indian state of Kerala research following implementation of seven rural water projects found that the incidence of waterborne diseases fell by half in the five years after the construction of deep wells, with no change in nonproject areas.[17] The same survey also reported a decrease in household expenditure on water purchased from vendors.

About half the families covered by the program were spending on average 12% of a poverty-threshold income to purchase water from vendors. Following implementation, the average fell to 4%, releasing resources for expenditure in other areas.

Apart from direct financial gains, easier access to safe water reduces demands on women's time and opens up income-generating opportunities. In Sri Lanka rural households in one donor-supported program reported saving 30 hours a month—three days' work in a typical village.[18]

United Nations Development Programme (UNDP)
Human Development Report 2006
Chapter Two (pages 80-88)

Endnote 1 appears in an earlier section of chapter two of the *UNDP Human Development Report 2006*

[2] Sen, Amartya. "The Right Not to Be Hungry." In Guttorm Fløistad, ed., *Contemporary Philosophy: A New Survey*, Volume 2: *Philosophy of Science*. The Hague: Martinus Nijoff.

[3] Sen, Amartya. 1981. *Poverty and Famines: An Essay on Entitlements and Deprivation*. Oxford: Clarendon Press.

[4] Connors, Genevieve. 2005. "When Utilities Muddle Through: Pro-poor Governance in Bangalore's Public Water Sector." *Environment and Urbanization* 17 (1): 201–18.

[5] Collignon, Bernard, and Marc Vézina. 2000. "Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study." Water and Sanitation Program, Washington, DC.

[6] Komives, Kristin. 1999. "Designing Pro-Poor Water and Sewer Concessions: Early Lessons from Bolivia." *Policy Research Working Paper 2243*. World Bank, Washington, DC.

[7] Foster, Vivien, Subhrendu Pattanayak, and Linda Stalker Prokopy. 2003. "Do Current Water Subsidies

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

Reach the Poor?" *Water Tariffs and Subsidies in South Asia, Paper 4*. Water and Sanitation Program and Public-Private Infrastructure Advisory Facility, Washington, DC.

[8] Collignon, Bernard, and Marc Vézina. 2000. "Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study." Water and Sanitation Program, Washington, DC.

[9] Howard, Guy, and Jamie Bartram. 2003. "Domestic Water Quantity, Service Level and Health." WHO/SDE/WSH/03.02. World Health Organization, Geneva.

[10] Thompson, John, Ina T. Porras, James K. Tumwine, Mark R. Mujwahuzi, Munquit Katui-Katua, Nick Johnstone, and Libby Wood. 2002. *Drawers of Water II: 30 Years of Change in Domestic Water Use and Environmental Health in East Africa*. London: International Institute for Environment and Development. [www.iied.org/pubs/pdf/full/9049IIED.pdf]. July 2006.

[11] WUP (Water Utility Partnership for Capacity Building). 2003. "Better Water and Sanitation for the Urban Poor: Good Practice from Sub-Saharan Africa." Kenya.

[12] Collignon, Bernard, and Marc Vézina. 2000. "Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study." Water and Sanitation Program, Washington, DC.

[13] Equivalent to 7.5 cubic meters a month.

[14] Collignon, Bernard, and Marc Vézina. 2000. "Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study." Water and Sanitation Program, Washington, DC.

[15] Collignon, Bernard, and Marc Vézina. 2000. "Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study." Water and Sanitation Program, Washington, DC.

[16] WSP–AF (Water and Sanitation Program–Africa). 2004b. "Ethiopia Water Supply Sector. Resource Flows Assessment." *Sector Finance Working Paper 10*. Nairobi.

[17] Parker, Ronald, and Tauno Skytta. 2000. "Rural Water Projects. Lessons from OED Evaluations." *OED Working Paper Series 3*. World Bank, Washington, DC.

[18] Parker, Ronald, and Tauno Skytta. 2000. "Rural Water Projects. Lessons from OED Evaluations." *OED Working Paper Series 3*. World Bank, Washington, DC.

NEW BOOK:
THIRST: FIGHTING THE CORPORATE THEFT OF OUR WATER

By Alan Sanitow, Deborah Kaufman and Michael Fox, Jossey-Bass, 2007

From the publisher: "Out of sight of most Americans, global corporations like Nestlé, Suez, and Veolia are rapidly buying up our local water sources—lakes, streams, and springs—and taking control of public water services. In their drive to privatize and commodify water, they have manipulated and bought politicians, clinched backroom deals, and subverted the democratic process by trying to deny citizens a voice in fundamental decisions about their most essential public resource.

"The authors' PBS documentary Thirst showed how communities around the world are resisting the privatization and commodification of water. *Thirst*, the book, picks up where the documentary left off, revealing the emergence of controversial new water wars in the United States and showing how communities here are fighting this battle, often against companies headquartered overseas."

www.josseybass.com/WileyCDA/WileyTitle/productCd-0787984582.html

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

Books and Articles on Water

Barlow, Maude and Tony Clarke. *Blue Gold: The Fight to Stop the Corporate Theft ofthe World's Water*. New York: The New Press, 2002.

Birdsall, Nancy and John R. Nellis, eds. *Reality Check: The Distributional Impact of Privatization in Developing Countries*. Washington, DC: Center for Global Development, 2005.

Bertschi, Walter. "Haiti: Economic Turnaround in Villages Pegged to Clean Water." *Choices: The Human Development Magazine* 12, no. 1 (March 2003): 24-25.

Deutsch, Claudia. "There's Money in Thirst." *The New York Times* (August 10, 2006). http://www.nytimes.com/2006/08/10/business/worldbusiness/10water.html?ex=1312862400&en=7859969b241ac605&ei=5088&partner=rssnyt&emc=rss

Ekomo-Ikoli, Lina. "Water Wells an Engine of Growth in Central African Republic." *Choices: The Human Development Magazine* 12, no. 1 (March 2003): 26-27.

Ford, Neil. "Water: Africa's Lifeblood." *African Business*, no. 281 (November 2002): 38-42.

Harouna, Gorel. "Clean Water at the Heart of Fight Against Poverty in Niger." *Choices: The Human Development Magazine* 12, no. 1 (March 2003): 7-9.

Mason, Barry and Chris Talbot. "What Water Privatization Means for Africa." *World Socialist Web Site* (September 7, 2002) http://www.wsws.org/articles/2002/sep2002/wate-s07.shtml

McDonald, David A. and Greg Ruiters. *The Age of Commodity: Water Privatization in South Africa.* London: Earthscan, 2005.

Monteiro, Vladimir. "For Rural Cape Verde Communities, Survival Depends on Water." *Choices: The Human Development Magazine* 13, no. 3 (September 2003): 13-14.

Mutume, Gumisai. "South Africa Sets Pace on Rural Water." *Africa Renewal* 18, no. 2 (July 2004): 21.

Owusu, Kwesi. "Ghana Water Sale Slammed." *African Business*, no. 280 (October 2002): 56-57.

Public Citizen. "Water Privatization Backgrounder: Democratic vs. Corporate Control of Water: A Fight for Survival." http://www.citizen.org/cmep/Water/activist/articles.cfm?ID=9589

Sanitow, Alan, Deborah Kaufman and Michael Fox. *Thirst: Fighting the Corporate Theft of Our Water*. San Francisco: Jossey-Bass, 2007.

Shiva, Vandana. *Water Wars: Privatization, Pollution, and Profit*. Cambridge: South End Press, 2002.

Shiva, Vanadana. "Water Privatisation and Water Wars." *ZNET Daily Commentaries* (July 12, 2005) http://www.zmag.org/Sustainers/Content/2005-07/12shiva.cfm

TransAfrica Forum. *TransAfrica Forum Globalization Monitor* 2, no. 1 (Fall 2004).

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.

United Nations Development Programme (UNDP). *Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis*. New York: Palgrave Macmillan, United Nations Development Programme, 2006.

Weissman, Robert. "Thirsty for Justice: Ghanaian Water Privatization Conflict Rises to a Boil." *Economic Justice News* 6, no. 2 (September 2003): 1, 11.

Researched and edited by: Mwiza Munthali (TransAfrica Forum Staff), Milimo Thindwa (Student Intern, Spring 2007), and Akufuna Ngonda (Volunteer).

The views expressed in this publication do not necessarily represent the views of TransAfrica Forum.

CONTACT INFORMATION

TransAfrica Forum / 1629 K Street, NW /Suite 1100/ Washington, DC 20006 / Tel: 202.223.1960 / Fax: 202.223.1966 / email: info@transafricaforum.org/ www.transafricaforum.org

First published in 2007 by TransAfrica Forum, 1629 K Street, NW, Suite 1100, Washington, DC 20006. 202-223-1960 (ph); 202-223-1966 (fax); info@transafricaforum.org; www.transafricaforum.org.