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LOCAL WATER COMPANIES AND THE URBAN POOR

BY

GORDON MCGRANAHAN

AND

DAVID LLOYD OWEN
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International Institute for Environment and Development (IIED)
3 Endsleigh Street,
London WC1H 0DD,
United Kingdom

Tel: +44 (0)20 7388 2117 Fax: +44 (0)20 7388 2826

Email: Humans@iied.org

Website: www.iied.org

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TABLE OF CONTENTS

Summary	1
1. Introduction.....	2
2. Comparing local companies, multinationals and informal providers	5
3. The diverse character of local water and sanitation companies.....	7
4. Local companies operating water and sewerage utilities.....	8
5. Local companies operating independent water (and sewerage) networks	9
6. Local companies extending utility water and sewerage networks	13
7. Water tankers and suction trucks	14
8. Indirect water and sanitation providers.....	16
9. The growing role of local water and sanitation companies	18
10. Local water and sanitation companies and the urban poor	22
References	26

LIST OF TABLES

Table 1: Comparing differently scaled private providers of water and sanitation	6
Table 2: Parallel types of water and sanitation providers	8
Table 3: Average water prices for utilities and independent networks and trucks in seven Latin American cities.....	11
Table 4: Cumulative PSP contract awards over five-yearly periods	19
Table 5: Number of people served by contract type in each country, 2004 (million people).....	20
Table 6: Number of people served by water contract awards per period (million people).....	20
Table 7: Number of people served by wastewater contract awards per period (million people).....	20
Table 8: Water contract awards grouped by number of people served.....	21
Table 9: Wastewater contract awards grouped by number of people served.....	21
Table 10: Contract awards by city size.....	21

LIST OF BOXES

Box 1: Management contracts for small-town water supplies in Uganda	9
Box 2: The aguateros of Paraguay.....	11
Box 3: Tanker trucks and water in Teshie, Accra.....	15
Box 4: The UN-HABITAT Vacutug	16
Box 5: Selling improved latrine slabs – the SanPlat system.....	17

Summary

Local companies have played a major role in providing urban water and sanitation services historically. Moreover, while multinational water companies have attracted most of the attention in recent years, there are indications of a resurgence of smaller companies, particularly in Asia. This paper examines some of the evidence on private local water and sanitation companies, the possibility that these companies can be encouraged to provide better services to urban poor groups. While it is hard to define this category of water and sanitation companies precisely, they are generally larger than the micro enterprises that often supply water and sanitation services informally in the urban areas of many low-income countries, and smaller than the multinationals that have attracted so much controversy in recent years.

Superficially, medium-sized local companies would seem to have many of the advantages that advocates of private-sector participation desire, without many of the disadvantages opponents criticize. Given sufficient experience, there is in principle no reason why local companies should not be able to compete with multinationals for the large contracts, but also for smaller contracts that might not be of interest to the multinationals. These local companies could help to create the market competition that many economists advocate, without creating the power imbalances that many opponents of privatization fear.

Local companies also have a number of potential advantages over the very small informal providers. They are more likely to be able to invest in water pipes and sewers, and to take advantage of the large returns to scale often associated with water and sanitation networks. On the other hand, they are in a good position to gain and retain local knowledge, to develop special services tailored to low-income residents, and to work with the informal providers when appropriate.

Moreover, for many local governments, the very small informal-sector vendors are too small, diverse and dispersed to regulate effectively, while the multinationals are too large and powerful to regulate. At least potentially, local companies are more manageable partners for local authorities attempting to extend water and sanitation to low-income areas.

There is comparatively little evidence on the operation of these medium-sized local companies, and the evidence that does exist suggests a very diverse range of enterprises. In the right circumstances, they clearly can play an important role, and constructive engagement on the part of government can help improve and extend their service delivery. On the other hand, local companies do pose a regulatory challenge, and are no alternative to effective water governance.

There is evidence, on the other hand, that local companies are increasing in importance, in Asia in particular, and are gaining a rapidly increasing share of the market for government contracts. They deserve more attention, both with a view towards improving regulation, and assessing their financial implications.

1. Introduction

Local companies – in a market dominated by bigger and smaller players

A handful of multinational companies dominate the international market for the private operation and management of urban water and sanitation utilities.¹ A very large number (millions) of micro- and informal enterprises are engaged in supplying water and sanitation services to low-income households who are not served by water and sanitation utilities and do not have their own facilities. Between these two extremes are local private water and sanitation providers, that sell water and sanitation services, and range from small enterprises with a staff of one to a few dozen to large enterprises with hundreds if not thousands of employees. They may operate water networks or sewerage systems that are independent of the water and sanitation utilities, or have a contract to operate a utility in a small or, less often, large urban centre. They are extremely varied in their operations and organization, at least in part because they have had to adapt to a great variety of different settings.

Local companies – once the dominant form in industrial cities

Much of the recent emphasis on private-sector participation in water and sanitation, both for and against, has focused on large multinational companies and contracts for concessions in mega cities. But it was local companies that dominated the sector prior to the rise of public utilities and the period of nationalization. In the United States, where a mix of private and public utilities persisted right through the 20th century, the private companies tended to be located in towns rather than the big cities, operating small water networks. The large cities went public far earlier (Melosi, 2000; Tarr, 1996). While the multinationals, with their global reach, were better placed to pursue contracts in the newly liberalizing water sector of the 1990s, smaller companies could well assert themselves as important providers in the years to come.

Is the role of local water and sanitation companies growing?

While local water and sanitation companies also have their disadvantages, they deserve more attention than they have received, either internationally or locally. As described in Section 9 below, there is evidence that local companies are already expanding their share of the market, particularly in Asia. While this may in part reflect the recent, and quite possibly temporary, drop in interest on the part of multinational companies, it is quite possible that this share will continue to grow.

Do local companies face unfair competition?

Local companies are initially at an inherent disadvantage in countries where the public sector has had the monopoly over all the major water and sewerage networks. It is hardly surprising that companies from other countries with a longer history of private provisioning have a competitive edge when the sector is being liberalized. These multinational companies have operational expertise and experience in managing large water and sanitation utilities. But this advantage would be expected to decline over time. Of more concern, the manner in which the water and sanitation services markets are being opened up could provide a long-term advantage

¹ Veolia Environnement, Suez Ondeo and Bouygues's SAUR from France, RWE Thames Water from Germany, United Utilities from the UK and Aguas de Barcelona from Spain. A further ten or so companies have more limited international operations.

to multinationals. (Alternatively, there are cases where the advantage may be given to local companies.) This remains an important but unanswered question.

Do local and multinational companies have common interests in privatization?

Local and multinational companies will often have different vested interests in the types of water and sanitation markets that are opened up, and the types of contracts that are put out for tender. The importance and performance of local companies will depend on the water and sanitation strategies that governments adopt. Recent privatization initiatives have been oriented towards international operators, often on the grounds that local competition is lacking. Comparatively little attention has been given to the longer-term prospects for local companies. And whether or not a growth in the importance of local companies is a good thing, from the point of view of meeting global water and sanitation targets, it presents a different set of challenges, and one which raises issues of international trade regimes.

What private enterprises do not fit the classification?

There are many ways in which the private water and sanitation providers can be classified, and not all providers fit neatly into the three classes adopted here (micro-/informal enterprises, local companies, and multinationals). The difference between formal and informal providers is often unclear. Some micro-enterprises with features one associates with the informal sector, such as the donkey-cart carriers of Khartoum, pay taxes and are at least loosely regulated. Some of the piped-water-network operators serving hundreds or even thousands of consumers are not regulated. Alternatively, size and scale of operations do not have to go together: there is no inherent reason why local companies have to be smaller than multinationals. Moreover, ownership patterns can be complex, and even the distinction between local and multinational companies can be difficult to maintain – as with the “expatriate” companies described in Section 9.

What types of local water and sanitation companies are omitted from this paper?

Some types of local companies that are involved in water and sanitation provision are not considered in this paper, or are dealt with only in passing. The local companies which are primarily involved through consortia with multinational companies are not given much consideration: their regular business is as likely to be construction as it is water or sanitation provision, and the consortia are in effect multinational (even if having local partners can make a significant difference). Similarly, little attention is paid to local companies that obtain construction or other contracts, for building an extension to the network for example, but are not directly involved in the provision of water and sanitation. Companies that sell bottled water are not included, since although they are of growing significance in many countries, they sell to the top end of the market, and hold out little promise of providing basic water services for the urban poor.

How do civil-society organizations fit into these categories?

Especially for small enterprises, it can be difficult to distinguish clearly between private provision and provision by community-based or other civil-society organizations. The distinction between a private company and a civil-society organization is itself somewhat of an oversimplification, given the range of institutional forms that exist. Also, civil-society organizations often help to set up small water and sanitation operations, and these operations may need to charge fees to cover their costs. In some cases, a community-based organization

operating a public toilet in a low-income area may charge an elevated rate, to earn revenues for other operations (e.g. street cleaning). In some, the enterprise will be handed over to a private operator, who runs it as a business, sharing the profits with the community-based organization. Alternatively, civil-society organizations may take on a role similar to that of a public-sector regulator, negotiating with and holding to account private operators, whom they may have helped to set up. Or utilities can be organized as cooperatives, with a view towards tempering the profit motive with user interests.

Some of the more successful NGOs involved in service provision have been taken as examples of how the private sector can improve services to the urban poor. The success of Sulabh International Social Service Organization, for example, has been taken as evidence that “public private partnerships in service delivery for the poor can be more effective compared to direct provision of services by the public agency” (Chary et al., 2003). While Sulabh may indeed highlight weaknesses in public agencies, presenting it as a private provider is potentially misleading. Sulabh was founded in 1970 as a non-governmental agency, with a mandate to improve sanitation facilities particularly in low-income areas. It has been involved in the construction of about a million toilets in slum areas and some 3,000 pay-and-use community complexes. Like many other NGOs it does not shy away from charging prices for its services, or establishing contractual relations. In effect, Sulabh does have characteristics in common with a private company. On the other hand, it is a non-profit social service organization, and relies heavily on volunteers. It did not emerge in response to market pressures. Thus, measures to stimulate private-sector service provision will not necessarily lead to the emergence of more such organizations, and inappropriate attempts to support private-sector involvement could actually undermine them.

This paper is concerned with private enterprises that are not directly controlled by civil-society organizations, although they may be influenced by them. It is also primarily concerned with enterprises larger than those a community-based organization would be likely to operate. Nevertheless, especially where household connections and facilities are the exception rather than the rule, relations between small private providers and civil-society organizations can be of equal or more importance than their relations to the public sector. Moreover, whatever the scale of the private enterprises involved, better relations between private, civil-society and government organizations can be central to the success of efforts to improve water or sanitation in deprived urban areas (Caplan et al., 2001).

The dangers of emphasizing water over sanitation

A potentially misleading aspect of this paper, and of the examples and generalizations it employs, is that more emphasis is placed on water than on sanitation. To some degree, this reflects the relative simplicity of water distribution, and the fact that it provides a better basis for telling examples and meaningful generalizations. More important, it reflects the interest of the international private sector, and the concerns of those who advocate public provisioning. Unfortunately, it does not necessarily reflect the relative importance of the role that local companies can or should play with respect to these two rather different services.

Water is a more saleable commodity than sanitation. Governments do not need to encourage the private sector to enter the urban water market: private enterprises will supply the market as long as they are permitted to do so and if the public sector is not selling water below the market price. Indeed, there are monopoly profits to be made, if the supplier can position itself well. The market for sanitary services, on the other hand, is to some degree a public creation. If a public agency or community-based organization does not contract out sanitary improvements, or

require residents to use certain systems, the challenge will not be to prevent aggressive companies from dominating the market, but to convince them to enter the market at all. The claim that private companies are trying to gain control over the world's scarce water resources may not be altogether convincing, but it is far less likely that they are trying to gain control over the world's supply of human waste.

Sanitary improvement can be more important than water-supply improvement however, and in some ways is better suited to private participation. In low-income communities without piped water or sanitation, water is typically the priority of local residents, but there are many urban areas where water supplies have been improved, yet sanitation lags behind. Moreover, from a public-health perspective, sanitary improvements have been found to have a greater impact than water supply or quality improvements (Bateman et al., 1993; Esrey et al., 1990; Esrey and Habicht, 1986). If sanitation is to be improved, a demand must be created, with the finance to back it up. There are already numerous ways in which local companies have become involved in sanitation services – whether by constructing sanitary platforms, emptying latrines and septic tanks, selling ecological sanitation systems, constructing sewers, or building wastewater-disposal systems. The markets for these sanitation services have at least the potential to be competitive. If the goal is to improve the well-being of people without adequate water and sanitation, rather than to open up the most lucrative markets for private companies, then potential for getting private operators to improve sanitation provision would seem to be at least as critical as activities focused on water supply.

The overemphasis on water provision precedes the recent literature on private-sector participation in water and sanitation provision. It is clearly not simply the result of the preferences of private enterprises themselves. But this makes it all the more important that sanitation gets the attention, and more especially the support, that it deserves.

2. Comparing local companies, multinationals and informal providers

Table 1 summarizes, in very broad terms, the differences between private water and sanitation providers of three different types: multinational water and sanitation companies, local/national companies and micro-/informal enterprises. There are numerous ways of distinguishing different private water and sanitation providers. This tripartite classification implicitly refers to three dimensions: size (micro, small, medium or large enterprises), recognition by the state (formal or informal), and scale of operations (multinational or local). By and large these three aspects move together.

The smallest “micro” operators, such as itinerant water vendors or nightsoil collectors, are more likely to be part of the informal sector, and to operate very locally: the informal sector itself has recently been described as the “unregulated micro-entrepreneurial sector” (Maloney, 2004). The largest companies, including the big water companies, work through very formal agreements, using comparatively well-defined standards, and have operations in many different countries. The water and sanitation providers that are the topic of this paper tend to be small to medium in size, with a scale of operation that is not multinational (and is often restricted to part of a single municipality), but is usually too large to escape the notice of government regulators altogether.

Table 1: Comparing differently scaled private providers of water and sanitation

	Formal/larger ←	→	Informal/smaller
	Multinational companies	Local companies and enterprises	Micro-/informal providers
Typical market speciality	<ul style="list-style-type: none"> • Large networked systems / bulk provision & treatment • Major cities • High technical standards 	<ul style="list-style-type: none"> • Medium-scale networks or transport systems • Secondary cities or towns • Working in consortia 	<ul style="list-style-type: none"> • Filling gaps in service supply • Niche markets • Markets with low entry/investment costs
Relative competencies	<ul style="list-style-type: none"> • Access to latest international technology • Access to international finance • Corporate management skills 	<ul style="list-style-type: none"> • Local procurement • Access to national finance • Knowledge of local conditions 	<ul style="list-style-type: none"> • Local knowledge • Innovation with local resources • Responsive to demands of poor
Potential disadvantages	<ul style="list-style-type: none"> • Foreign control of water is politically sensitive • Relative lack of international competition • Need profits in global currencies 	<ul style="list-style-type: none"> • Local companies may be embroiled in local politics • Lack of local competition • May target high-income consumers 	<ul style="list-style-type: none"> • Quality controls are difficult for informal enterprises • Lack of scope for investment • Difficulty achieving returns to scale
Potential advantages for urban poor	<ul style="list-style-type: none"> • Have capacity to guarantee high coverage • Large networks provide good basis for cross-subsidies • Failing to fulfil obligations in low-income areas can be bad for international reputation 	<ul style="list-style-type: none"> • Towns where local companies are most competitive are often poor and underserved • Ability to adapt to niche markets • Ideally, combine advantages of multinationals and informal providers 	<ul style="list-style-type: none"> • Can provide services where others won't go • Small individual payments • Tailored services responding to the specific physical and social characteristics of the neighbourhood

Source: Based loosely on Plummer, J. (2002) *Focusing Partnerships: a Sourcebook for Municipal Capacity Building in Public-Private Partnerships*. Earthscan, London.

One of the obvious disadvantages of local companies providing water and sanitation services is that in many countries companies with the necessary operational experience are thin on the

ground. Putting this aside, local companies would seem to have a number of potential advantages, as well as some disadvantages, particularly when it comes to finding ways of getting them to improve services to the urban poor.

Compared to multinationals, one might expect local companies to have more local knowledge but reduced access to the latest technologies, good positioning for local procurement but less experience in utility management, familiarity with working in local low-income settlements but less familiarity with international contracting. One might expect them to be less influenced by foreign interests but more influenced by local politicians, and to have less access to finance but also to be less dependent on earning foreign exchange.

Compared to local enterprises in the micro-/informal sector, the relative strengths and weaknesses of local companies are to some degree reversed. Here, it is the informal-sector enterprise that might be expected to be especially aware of local conditions in low-income settlements, but to lack access to external finance and technology.

But the local companies involved in providing water and sanitation services do not exist as averages and abstractions. They include an enormously diverse set of organizations, with variety that belies any attempt to list a single set of advantages and disadvantages. Ultimately the strengths of different companies need to be compared in concrete circumstances, in relation to specific economic and social criteria. To initiate such comparisons, it is also useful to consider some of the different types of local companies.

3. The diverse character of local water and sanitation companies

It is possible to draw certain parallels between categories of sanitation and water service providers, as indicated in Table 2. The itinerant water vendors that go door-to-door selling buckets of water have their parallel in the (far less common) itinerant nightsoil collectors that go door-to-door collecting the waste from bucket toilets. The pay-per-bucket water kiosks that exist to varying degrees in most low-income cities have their parallel in the pay-per-use toilets. The water network operators have their parallel in the sewerage network operators (who are often one and the same), and in both cases it is useful to distinguish between those that are connected to a larger network (to obtain water or release sewerage) and those that are not. Even the water tankers that fill water containers at a price have at least a distant parallel in the suction trucks that empty cesspools.

Table 2: Parallel types of water and sanitation providers		
Small → larger enterprise	Water	Sanitation
	a. Piped water network operators: operating the water (and sewerage) utility operating “independent” water networks operating extensions to the water network	Sewerage network operators: operating the (water and) sewerage utility operating “independent” sewerage networks operating extensions to the sewerage network
	b. Water tankers	Suction trucks
	c. Pay-per-bucket water-kiosk operators	Pay-per-use toilet operators
	d. Itinerant water vendors	Itinerant nightsoil collectors
	Indirect water providers: well-diggers/drillers, hand-pump or electric-pump sellers and repairers, etc.	Indirect sanitation providers: latrine builders, latrine slab or septic tank sellers and repairers, etc.

Note: Enterprises restricted to the types of providers described in rows c and d are generally informal micro-enterprises, and are not considered in this paper.

These parallels should not be overdrawn, however. Physically and organizationally, the challenge of getting water to people without contaminating it is very different from that of removing waste without allowing it to become a contaminant. Even within the “piped” systems, there is a major difference between obtaining water from an independent source (e.g. a borehole), and disposing of sewage at an “independent” location (e.g. a river). There is also an enormous variety of low-cost sanitation options, and much of the variation is at the toilet site itself (Pickford, 1995; Mara, 1996). There is no real equivalent for water.

4. Local companies operating water and sewerage utilities

It is still comparatively rare for local private companies to operate the ex-public urban water and sewerage utilities that until recently monopolized the water and sewerage networks in most low- and middle-income countries. There are cases in Latin America, Africa and Asia where local companies have been given contracts to operate town and even city utilities. This form of operation may put them into direct competition with multinational companies (and their consortia), however, and the extent to which local companies can win contracts on their own depends not only on their capacities but also on public-sector policies, which are themselves influenced by international pressures.

In Argentina, the Latin American country that embraced (international) private-sector participation most actively in the 1990s, local companies found it hard to compete on their own, and while they did secure contracts in a few locations, such as Salta, Santiago del Estero and Corrientes (Clarke et al., 2004), the majority of contracts went to international consortia. This was the general pattern throughout the 1990s.

In a number of ways, however, the scope for local companies is increasing. The multinationals are no longer so aggressive in their pursuit of new contracts, and in many countries the focus is shifting to smaller cities and towns, where local firms may find that they have a comparative advantage. As described in Box 1, local companies in Uganda have been awarded management contracts for operating water supplies in small towns. Moreover, as described in Section 9, local companies have also been awarded a significant share of contracts for water and wastewater services in Asia, and in China and Malaysia in particular.

A greater involvement of local companies in operating water and sanitation utilities does not necessarily mean that services to the urban poor will improve. Much depends on the nature of the contracts, and the quality of water governance. The involvement of local companies may provide opportunities for improving services in low-income areas, and it is important that these opportunities are seized as they become available. Most of the measures that can give the urban poor better access to water and sanitation are independent of the relative importance of local companies in water and sanitation utilities. To the extent that local companies are playing a greater role, however, it is clearly worth exploring the specific measures that can give these companies a greater incentive to provide improved services to poorly served urban residents.

Box 1: Management contracts for small-town water supplies in Uganda

In 2001, contracts were awarded to local companies in Uganda for the management of water supplies in nine small towns where the World Bank (IDA) had recently invested in infrastructure improvements. By 2003, private-sector operators had been contracted to manage water supplies in 24 small towns, and the target is to have contracted-out water-supply operations in all small towns by some time in 2005. The basis for this private-sector engagement goes back to legal and institutional reforms undertaken in the 1990s, and management contracts were initiated in 1997 as part of the Kampala Revenue Improvement Project.

There are indications that these management contracts have secured at least some of their objectives. Since a large share of the urban poor who lack adequate water and sanitation services live in small towns, and since most private-sector contracts to date have, in financial terms, been dominated by contracts for services in large cities, this example can be taken to illustrate the potential for local companies to reach unserved, low-income urban households. However, management contracts do not require investment in extending service delivery, and in these examples little attempt has been made to give the private operators an incentive to improve services to the urban poor. Moreover, the poorest households will usually pay the highest rates per unit of water consumed.

Source: Based on Tumusiime, C. and Njiru, C. (2004) *Performance of Management Contracts in Small Towns Water Services (Presented at the 30th WEDC International Conference, Vientiane, Lao PDR, 2004)*. WEDC, Loughborough, p. 6.

5. Local companies operating independent water (and sewerage) networks

In many parts of the world, but especially Latin America, there is evidence of small companies operating a diverse array of independent water networks (Collignon and Vezina, 2000; Solo, 2003; Conan, 2003). Independent sewerage network operators are far less common, and are more likely to involve non-governmental organizations than private companies. (The best example of a pro-poor sewerage “operator” is probably still the Orangi Pilot Project, with an approach to community organization, if not to sewers, which could hardly be more different from that of the typical private company (Hasan, 2001).) The difference presumably stems from the strong consumer demand for water, and the need for governments or civil-society groups to help articulate real, but less consumer-centred, demands for better sanitary conditions.

Often, these water networks have developed to meet a strong demand for water that public utilities were intended but failed to meet. Technically, such networks may range from a few households connected to a local water tank (fed, for example, with water from a borehole), to far more sophisticated networks supplying thousands of consumers. Until recently, these networks were largely undocumented. Over the past decade, however, the Water and Sanitation Program

has made a concerted effort to document small water providers in Africa (Collignon and Vezina, 2000) and Latin America (Solo, 2003), and the Asian Development Bank undertook a similar initiative in Asia (Conan, 2003; Conan and Paniagua, 2003).

This section is concerned with networks that serve household users and provide at least the basis for a small business, and not just an informal or micro-enterprise. This implies a network of more than 50 customers, and more likely several hundred. In effect, the household with a borehole that has devised a small network of pipes to deliver water to a few neighbours is not being considered. This, however, is how some of the more extensive networks began.

How do independent water networks originate?

Independent water networks are most common, or at least best documented, in Latin America, where they initially sprang up opportunistically in response to demands unmet by failing public utilities. On the basis of the Latin American examples (Solo, 2003), it would seem that most of the smaller, privately run network systems emerged from:

- even smaller networks distributing water from a borehole among neighbours
- real estate developers who originally installed the water and sanitation systems to increase the value of their property
- providers to industrial parks, who find a private source more reliable or cheaper, particularly for high-quality water
- mobile distributors who have made the transition to networked systems
- user cooperatives, many of which have become quasi-official over the years
- successful imitation of other networks in the vicinity.

In only a limited number of cases have independent networks developed from government or donor projects. On the other hand, an actively antagonistic government can easily prevent the emergence of independent water networks, since they are very susceptible to disruption and expropriation.

Case studies from Latin America, Asia and Africa

In Paraguay, small, independent water networks became so common that they came to supply approximately 9 per cent of the country's population (Drees et al., 2004). In other Latin American countries, the coverage tends to be considerably lower, but significant enough to demonstrate the feasibility of having small companies compete with larger water network providers (Solo, 2003). In a review of small independent water providers in eight Asian cities, recently undertaken by the Asian Development Bank, piped networks operating outside the utility system were documented in at least four places: Cebu, Delhi, Dhaka and Ho Chi Minh City (McIntosh, 2003, page 48). Similarly, in documenting the presence and importance of different types of independent water providers in ten African cities, small network operators were identified in three (Collignon and Vezina, 2000).

How do the prices of water from the small networks compare to utility prices?

Unlike carters, truckers and hand carriers, who are almost inevitably expensive because of the high costs of moving the heavy containers of water, networks have the potential to provide a good water service at a reasonable cost. Indeed, as illustrated in Table 3, the independent network providers documented in Latin America charge prices that compare favourably to the utility rates. While these lower prices may in some cases reflect lower service standards, the low prices also indicate a higher potential for improving service delivery in low-income areas. For

networks, the prices depend on a mix of hydrology, technology, density, topography, competition and, last but not least, regulation. Many of the Latin American networks are only loosely regulated, but the successful network operators can generally feel confident that the government is not intending to expropriate the system or replace it with the utility's network.

Table 3: Average water prices for utilities and independent networks and trucks in seven Latin American cities

City, country	Type of independent provider (average number of connections)	Average price (US\$/m ³)	
		Independent providers	Utility
Cordoba, Argentina	Cooperatives (78–1,150)	0.42	0.54
	Networks (500)	0.23	
	Trucks	1.30–2.50	
Asunción, Paraguay	Networks (400–2,000)	0.30–0.40	0.40
Barranguilla, Colombia	Networks (< 14,000)	0.54	0.55
	Trucks	5.5–6.4	
Guatamala City, Guatamala	Networks (<15,000)	0.42	0.42
	Trucks	2.70–4.50	
Lima, Peru	Trucks	2.40	0.28
Ica, Peru	Networks (condominial)	0.21	n.a.
Santa Cruz, Bolivia	Cooperatives (1,000–100,000)	0.25–0.55	n.a.

Source: Solo, T. M. (2003), *Independent water entrepreneurs in Latin America: The other private sector in water services*, World Bank, Washington, D.C.

Box 2: The aguateros of Paraguay

The national utility of Paraguay provides piped-water connections to about one-and-a-half million urban residents, achieving an urban coverage of about 50 per cent. The agency responsible for rural water provision serves about a million rural residents – achieving a rural coverage rate of less than 40 per cent. Small private providers known as aguateros supply water to about half a million people in peri-urban areas. For over 20 years, they have built piped-water supply systems with public-sector financing, and they are largely unregulated, and often unregistered. The average aguateros network has 300 connections, with some supplying as many as 3,000 connections. The typical aguateros is a family business.

According to a 2002 survey of 1,000 households served by aguateros, about 90 per cent of respondents were satisfied with the services provided, and 75 per cent were not willing to pay more for better service. About four in five respondents had monthly bills of less than US\$ 6, and a quarter had bills of less than US\$ 3. Nearly all households were being billed on a flat-rate basis. The survey also asked questions about the *in situ* sanitation facilities used by these households, and concluded that in peri-urban areas where sewers are not necessary, aguateros represent a viable alternative for service expansion into peri-urban areas, and existing *in situ* systems are a viable alternative to sewers.

Without any government involvement, the aguateros have provided an important service to poor as well as to more affluent residents, but offer services only in urban areas where water resources are abundant and customers can be selected on the basis of their willingness to pay full cost-recovery connection fees and tariffs. As described in the final section of this paper, efforts have recently been made to tap their potential to improve services for the urban and rural poor, through the use of output-based subsidies.

Source: Based largely on Drees, F., Schwartz, J. and Bakalian, A. (2004) *Output-based Aid in Paraguay's Water Supply Sector: Early Lessons from the First Pilot Project*. Viewpoint, World Bank, Washington D.C., p. 12.

Are small networks threatened by utility expansion?

Although small networks can often compete with utilities on price, provided the utilities are not heavily subsidized, the expansion of utility networks is often a threat to the small network operators. Among the Asian case studies mentioned above, Cebu and Ho Chi Minh City have also been singled out as having governmental contexts favourable to small-scale private water providers (Conan and Paniagua, 2003, page 4). Nevertheless, both were at risk from network expansion. In Cebu, an independent network developed by an old residents association provides water to about 500 households as yet unserved by the utility, at prices somewhat higher than the utility's, but with easier connection costs and procedures (McIntosh, 2003, page 189). In Ho Chi Minh City, the owner of a garment factory started the first private drinking-water supply company in Vietnam, investing roughly US\$ 76,000 and, at the time the case study was documented, supplied about 400 household connections, at a price of about US\$ 0.22/m³. In both of these cases, if the utility chose to expand in their areas, the business would be difficult to maintain, as it depends on high coverage rates. Better coordination between the utility and the network operators could help to provide more security, and potentially benefit both sides.

Are there documented examples of small networks serving only the poorest neighbourhoods?

Few of the case studies documented in recent reviews of independent water providers involve water networks serving primarily the very-low-income neighbourhoods where a large share of the urban poor live. An exception is a brief case study in Dhaka, where an illegal operation provided limited quantities of water (about 1 cubic metre per household per month) through standpipes and connections to about 50,000 residents of a low-income settlement (McIntosh, 2003, page 193). The operator lived at the business premises, designed the system, and negotiated with the residents and the local utility officials. Water was pumped about 1.3 kilometres to a reservoir in the settlement, and there were 15 standpipes and about 100 water connections. The initial cost of installing the system was less than US\$ 1,000 – equivalent to the cost of five utility connections. To connect to this illegal system, households only had to pay about a tenth of the utility's connection charge, while the water tariff is about seven times higher. Private pipeline providers also operate in many other low-income settlements, but are not well documented, and often face problems because of poor relations with local authorities, some related to difficulties in water-quality control.

What determines the economic status of those served by independent water networks?

Two opposing forces combine to determine the economic character of those served by independent network operators. On the one hand, the groups not served by the official utilities tend to be poor. On the other hand, the groups willing to pay the most for improved water (or sanitation) services tend to be the more affluent segment of the inadequately served. Often, private providers end up serving relatively poor households, but leave a group of chronically poor unserved. In the Dhaka example described in the previous paragraph, for example, the settlement being served is clearly a low-income settlement, but the 100 connections almost certainly go to households that are better off than most of the settlement's residents.

Are independent water providers more willing to serve informal settlements?

It is sometimes claimed that independent water providers are not concerned with land tenure, and hence are less averse to serving the informal settlements where many low-income households live. However, while private network operators may not have a principled objection

to serving squatter settlements, they are likely to have business objections. Before extending a water network to service an area where people are not officially allowed to live, a private operator will at very least want to ensure that the residents will not be forcibly removed in the foreseeable future, or that the pipes themselves will not be expropriated.

Are local water providers more capable of serving low-income settlements?

Given the right motivation and background, small local companies are clearly capable of operating piped-water networks. One of the greatest challenges for a private company supplying water to very-low-income settlements lies in managing the numerous transactions, both with customers and with the many other actors who can potentially affect business. Operators of networks that have emerged in response to water demands in these settlements will almost certainly have a large share of the most critical knowledge and skills. They may also have developed the trust of their customers. Things can still go badly wrong – local water sellers can be extremely exploitative, can ignore environmental impacts such as groundwater depletion, can develop corrupt relations with local officials, and so on. But the risk of serious failure does not distinguish local water companies from multinationals or public utilities.

6. Local companies extending utility water and sewerage networks

Private companies are often contracted to extend water and sewerage networks, but less often build and manage their own extensions to the main utility network. For sewerage, customer willingness to pay is a serious constraint, and without the support of the government (or a developer or civil-society organization willing to organize local provision) it is likely to be difficult to obtain payments to the value of the service provided. For water, there are undoubtedly commercial opportunities, many of which have not been exploited. The principal barriers lie in legal systems that do not allow private sub-networks, technical constraints that make it difficult to combine networks without undermining quality control, and, perhaps most important, utilities and government agencies that are not interested in combining formal and informal networks, or in opening up networks to competition. It is not just public utilities that are hesitant about combining networks: privately operated utilities are often given the exclusive rights to sell water in their concession area, and do not welcome competitors, particularly if the competitors do not have to abide by the same standards.

Small and often informal extensions are more common than large network extensions

As a result of the illegality or informality of most of these extensions, they tend to remain small in scale. In cities where network coverage is partial, and alternatives are expensive, it is common for people working independently of the utility to install pipes, and distribute utility water locally at a marked-up price. This can cause problems for the water network, however. Moreover, even to lay pipes to connect a few households usually requires some sort of assurance that officials are not going to come by and destroy or confiscate them. Even the low-cost hosepipes often used to carry water to one or two individual households are too expensive to replace on a regular basis. Utilities have traditionally discouraged reselling, but will often tolerate or even encourage small informal systems, when the formal network is incapable of meeting demands. In the review of African cities mentioned above (Collignon and Vezina, 2000), four of the ten cities documented had “operators of mini-network extensions of city networks”. Often, these extensions serve standpipes or kiosks where the water is resold. In Nairobi, for example, it is common for private individuals to lay a pipe for a few kilometres from the network to a kiosk in an informal settlement. A few households may also get

connections. But these operations do not really qualify as being run by local companies, in that their size is typically “micro” and their relations to government are typically “informal”.

Utility regulation and management often works against independent network operators

There are probably many undocumented extension networks, some run by private companies. In most parts of the world, however, laws and utility mandates discourage such arrangements. Public utilities may be required to extend their services. Private concession holders may have coverage targets. The utility operators are not allowed to claim credit for extensions achieved by independent network operators, even if they use utility water (or release the sewage in utility sewers).

Changing utility regulation and management could create new opportunities – and risks

There has been some questioning of the regulations that prevent utilities from encouraging or even allowing independent network operators to connect to their network (Water and Sanitation Program, 2001). In many ways this would seem to be a form of private-sector participation more directly relevant to the urban poor than that of utility operation itself. For most utilities, however, it would present a challenge as well as an opportunity. How much responsibility can the utility take for the services provided by a network operator who uses the utility as a water source? If the utility has to work to prescribed standards, does the secondary network operator have to work to these same standards? If so, doesn't this mean that networks that offer low-income residents second-class services for discounted prices will again not be allowed? If not, what justifies the dual standards? Such issues are difficult to resolve at the best of times, and particularly difficult if the utility operator is a private company working under a contract that did not consider how secondary networks would be handled.

7. Water tankers and suction trucks

Judging from first principles, trucks are more likely to be an economical way of transporting faecal material from homes than of transporting water to them. After all, the volume of water a household of five needs to meet its basic hygiene requirements is about a hundred times the volume of faecal material it will produce. Pipes will almost certainly be the most cost-effective means of getting people water (for revealing price comparisons, see Table 3, above). Sewerage pipes are not only more expensive, but in many circumstances less necessary. There are other safe ways of disposing of faecal material, even if few are as convenient as flushing it away. Thus, at least in the long run, suction trucks (including adapted technologies such as the Vacutug – see Box 4) would seem to be more relevant to the urban poor than water tankers.

Currently, neither tanker trucks nor suction trucks provide water or sanitation services to more than a fraction of a per cent of the world's urban poor. There are situations, however, where they must rely on tanker trucks to access their water, or, even more rarely, pay for suction trucks to empty their latrines.

Water tanker trucks

Private tanker trucks generally operate in middle- and high-income areas where households are able to pay the often higher water price, and where they have sufficient storage to receive larger volumes of water (Kjellen, 2000; Conan, 2003). It does however happen that they venture into lower-income areas and sell by the container. In Dar es Salaam, when this happens, tankers charge prices below that of pushcart vendors, but on the other hand, do not carry the water into

the home of the consumer. Tankers may also serve as wholesale vendors (Njiru and Albu, 2004) and deliver water to resellers for onward distribution (Box 3).

Box 3: Tanker trucks and water in Teshie, Accra

Teshie is a low-income residential area about ten kilometres from the centre of Accra. Many in Teshie make their livelihood out of indigenous fishing as well as construction work. The area is unplanned, and generally lacks piped-water infrastructure. However, those living along the main road receive intermittent supply through yard or in-house connections. Those not connected rely on water vendors, as no public standpipes remain in Accra.

Domestic resale is a long-standing practice in Teshie, and a large number of domestic consumers sell water to their neighbours. There are also handcarts as well as tanker water distributors. Since the reliability of the piped water supplied from Ghana Water Company Limited (GWCL) has declined over the years, domestic resellers have installed tanks to cope with periods of water shortage. Tanker water services have increased substantially since the construction boom in Accra began in the late 1980s, and they provide water to construction sites as well as to domestic consumers. Moreover, an additional layer of household resellers has been made possible. Now, even households without a connection to the piped network can engage in water vending. They sell water to their neighbours and have their storage tanks filled by tanker services.

In order to obtain potable water, some tankers started drawing their water illegally from fire hydrants. The use of water from fire hydrants became so widespread and damaging that, when several tanker owners approached GWCL with their concerns, the management agreed to authorize tanker operations and to establish tanker service points.

The initiative to establish an association through which a dialogue could be established with the utility was taken by a few individual tanker owners. They managed to establish a contract with the utility, which in turn made sure to further some of its own objectives. Thus, GWCL required more than one tanker association to be formed, in order to discourage the formation of a cartel.

To enter the market, a tanker owner requires a licence and becomes a member in one of the three existing associations that operate the tanker service points. (Independent tanker operations exist, purchasing water from an alternative source, but with growing difficulty because of the increased metering of domestic connections and progressive tariffs.) Tankers have mobile phones; their numbers are displayed on the tanker itself, and they are able to make deliveries the same day.

GWCL also insisted that agreed prices be displayed at the service points. Agreed prices appear not always to be adhered to, but the monitoring of prices is complex, and something the tanker associations plan to deal with. They also find that there is a need for more service points, as tankers may spend hours in traffic in order to get between the points of filling and delivery. However, the service points destabilize water flow to domestic consumers in the area, so the GWCL finds the establishment of more service points difficult.

The establishment of associations has enabled better recognition of vendor activities and some degree of protection under the law. The associations also carry out hygiene inspections among their members, and have acquired increased consumer confidence.

Source: Kariuki, M. and Acolor, G. (2000) *Delivery of Water Supply to Low-Income Urban Communities through the Teshie Tanker Owners Association: a Case Study of Public-Private Initiatives in Ghana*. Conference Papers for "Infrastructure for Development: Private Solutions and the Poor." PPIAF, DFID and World Bank, Washington DC.

There are also tankers that are operated by the water utilities. For example, this is the case in Delhi, India, where some 1,000 tankers (half of them also owned by the utility) supply water for free to the poor, or those without other sources. This service, however, is rated medium to bad by the users, because the tankers are not regular, often do not respond to requests made, and the water supplied by them is not sufficient for all (McIntosh, 2003, page 191).

Suction trucks

In higher- and middle-income areas where there is no sewerage network, septic tanks are constructed and municipal or private conventional suction trucks are used to empty them when they become full. In low-income urban areas, on-site sanitation is nearly always the only option and pit latrines are the most widely utilized and low-cost method. It is estimated that simple pit latrines are still the most common method of excreta disposal for over a billion people. Such latrines require periodic emptying or can alternatively be abandoned. In rural areas where space and access is not limiting, latrine construction and exhaustion is possible. In dense peri-urban settlements, access is nearly always difficult and conventional systems cannot be used. Emptying therefore becomes the only viable option.

Box 4: The UN-HABITAT Vacutug

The Vacutug is a pit-latrines-emptying technology designed² to access pit latrines in densely populated urban settlements. The technology is run as an income-generating activity. It has a 500-litre capacity, is run on petrol, and requires at least five people to operate it. Its advantage is that it is small and able to access pit latrines buried in the middle of densely populated areas, where there are no access roads and where other conventional suction trucks cannot approach. UN-HABITAT is currently testing the design, sustainability and income-generation potential of this technology in various cities in Africa and Asia. Preliminary results indicate that residents are willing to pay up to US\$4 per 500 litres and that the machine can service more than six latrines a day.

The potential applicability for this type of technology will depend on the ability of local governments, in partnership with private enterprises, to put in place appropriate regulations and provide access to wastewater disposal facilities for the safe discharge of waste. Moreover, as the UN-HABITAT experience with the Vacutug has illustrated, if private suction tankers are to improve sanitation, then a demand must be created, along with the finance to back it up.

Source: UN-HABITAT, <http://hq.unhabitat.org/cdrom/water/HTML/PDFs/vacutug.pdf>, accessed February 2, 2006

8. Indirect water and sanitation providers

While the role of private companies in providing water and sanitation services is often highly controversial, their role in producing the products needed to obtain these services is largely uncontroversial. Almost nobody claims that private companies should not make latrine platforms or water pumps. Moreover, while the poorest urban dwellers make as few purchases as possible, their ability to access adequate water and sanitation depends to a significant degree on the availability of suitable water and sanitation technologies on the local market, and the availability of spare parts and repair workers to service them. The scope for change is also influenced by local companies. All too often, for example, donors provide imported technologies, only to have them break down and remain unrepaired.

² The technology was designed by Manus Coffey Associates in collaboration with UN-HABITAT.

Even when technological innovations originate outside the private sector, they often rely on the private sector for replication. The SanPlat system, described in Box 5, was developed in response to health concerns, not market demands. Yet its success depends on its marketability, and it has been observed that the people with the skills to develop the SanPlat technology are not likely to be the same people who can market and sell it. In short, whether local companies are providing water and sanitation services directly or indirectly, they will almost certainly play a role in any initiative to improve the water and sanitation technologies available to the urban poor. Given that large numbers of the urban poor do not obtain water or sanitation services from the public or private sectors, but provide it for themselves, this role can be especially critical.

Box 5: Selling improved latrine slabs – the SanPlat system

Improving the latrine slab (or **sanitary platform**) can make a significant difference to the quality of a simple latrine. The SanPlat (see <http://www.sanplat.com/>) is a pre-cast concrete slab that can, at least in principle, be produced by local companies in any country, and can reduce sanitary health burdens, even if it is unlikely to bring conditions up to the minimal standards most municipalities, even in very low-income areas, aspire to. It can even be used to upgrade existing latrines. This simple technology was developed in Mozambique, where approximately 200,000 dome-shaped SanPlats have reportedly been constructed. SanPlats have also been constructed and sold in a number of other African countries, and manuals for the technology are now available internationally. While it is not clear how much of this production has been from private companies, there is a natural role for private producers, since the cost of the pre-cast slabs declines as the scale of production increases, and a large part of the challenge is finding the best way of marketing the technology and responding to local user needs and priorities.

9. The growing role of local water and sanitation companies³

This section examines private-sector participation (“PSP”) by nationally based rather than multinational companies, in water and wastewater service contracts in developing countries in Asia, Africa and Latin America. It is based on information about contract awards drawn from a variety of sources: corporate (annual reports, analyst presentations, press releases and company project profiles); multilateral (the World Bank /IFC and Asian Development Bank); specialist media (in particular, *Global Water Report*, *Global Water Intelligence* and *Asian Water*) and local media reports. This information has been synthesized in the 2004–05 edition of the *Masons Water Yearbook*. Contracts with multinational companies in countries where national contracts were found were also analysed in order to compare their development.

Defining private-sector participation at the national level

For the purposes of this discussion, to be considered private-sector participation, contracts had to be of at least ten years in duration and either a BOT (build-own-transfer) or concession contracts. National, private water-service companies are defined as legal entities that have signed a formal contract with the relevant municipal or state authorities for the provision of water or wastewater services. In order to distinguish between such contracts and formal or quasi-legal contracts drawn up with small local entities, these contracts also cover at least 10,000 people. Contracts for industrial water services or for developing industrial zones were excluded.

These companies can either be listed on their local stock exchanges (with a significant proportion of their equity capital being freely traded) or privately held. A number of the listed companies were originally wholly under municipal control and they continue to have significant direct or indirect equity stakes in the listed concerns.

Contract coverage was classified by the best estimate of the number of people being covered by each contract at the time of writing. This eliminates long-term plans linked to economic and population growth, which may or may not be realized. Contracts were dated either by when they were awarded to a private-sector entity or when the entity already holding the contract was partly or wholly privatized.

The earliest identified PSP contract award was in 1989 and a number of contracts were identified in 2004, up to the end of 2004 cut-off point. Data have been grouped into four periods: up to the end of 1989, 1990–1994, 1995–1999 and 2000–2004.

While five national PSP contract awards have been identified in Latin America, this is too few to allow sectoral trends to be examined. No national PSP contract awards have been identified to date in Africa and the Middle East. Consequently, this paper concentrates on contract awards in Asia.

imitations of the data

Examples of national PSP contracts in Asia were identified in PR China, Malaysia, Thailand, India Indonesia, and the Philippines. Contracts with multinational companies were also identified in Vietnam and Kazakhstan (along with South Korea, Taiwan, Singapore, HK, Macao

³ This section is based on a brief prepared by David Lloyd Owen, author of the *Masons Water Yearbook* (Masons Solicitors, London, 2004) for the International Institute for Environment and Development.

and Japan, which are not classed as developing economies), and plans for PSP are currently being actively developed in Nepal and Sri Lanka.

Due to differing interpretations of bulk water-resource provision, water treatment and customer delivery of water, it was not possible to differentiate between various aspects of drinking-water contracts. As a result, contract coverage has been divided between water and wastewater services for domestic customers. Problems with defining contracts (a consistent definition of the contract's legal status, the number of people served by the contract and the services provided by each contract) remain a cause for concern.

9.3. Summary of findings

For the period 1989 to 2004, 130 contract awards have been identified, 124 of which continued to be in operation at the end of 2004. All of the six contracts that had been ended were originally awarded to joint ventures with multinational companies. In two of these, the multinationals sold back their interest in the joint venture to their partners. Approximately 12 million people were covered by these six contracts.

Of the 124 contracts, 59 were identified as being awarded to either national companies (n=42) or companies owned or operated by expatriate Chinese entrepreneurs based in Malaysia or Singapore (n=17). Table 4 outlines the cumulative award of the contracts over time. The running totals are for the end of each period and contracts that were subsequently terminated are removed in the time period they ended in.

Table 4: Cumulative PSP contract awards over five-yearly periods

Period	Local	Expatriate	Multinational	Multinational exit	Total
Up to 19901	0	1	0	2	
1990–94	6	0	6	0	12
1995–99	23	3	27	(3)	50
2000–04	28	14	31	(3)	70

By the end of 1999, local and expatriate contracts accounted for 46 and 5 per cent of all active awards respectively. As of the end of 2004, the proportion of contracts in operation by local companies had increased to 47, with a further 14 operated by expatriate companies.

Table 5 outlines the total number of people served by country and type of contract for the 124 contracts that were still operational at the time of writing. These contracts cover some 116 million people, 43 per cent via local and expatriate contracts. China is the largest market in terms of people covered (70 per cent overall), both for local and expatriate companies (79 per cent) and multinationals (62 per cent). This is also reflected in the number of contracts, with 84 of the contracts identified being in China (82 per cent); Malaysia (n=13), Thailand (n=10), the Philippines (n=6), Indonesia (n=7) and India (n=4) together accounting for the other 40 contracts.

Table 5: Number of people served by contract type in each country, 2004 (million people)

Country	Local	Expatriate	Multinational	Total	
China	32.47	7.29	41.14	80.90	
India	0.70	0.00	1.60	2.30	
Indonesia	0.00	0.45	9.69	10.14	
Malaysia	8.46	0.00	6.41	14.87	
Philippines	0.03	0.00	5.77	5.80	
Thailand	0.90	0.00	1.20	2.10	
Total	42.56	7.74	65.81	116.11	116.143

Tables 6 and 7 break down the numbers of people served by these contracts in terms of contract awards for water (Table 6) or wastewater (Table 7) in each of the four time periods. Table 6 includes three contracts (all in the Philippines) that also cover some sewerage and wastewater treatment services. The same breakdown also applies in Tables 8 and 9 below.

Table 6: Number of people served by water contract awards per period (million people)

Service:	Local	Expatriate	Multinational	Total
To 1989	0.60	0.00	0.35	0.95
1990–94	4.60	0.80	4.63	10.03
1995–99	7.95	2.00	33.76	43.71
2000–04	20.99	3.55	20.92	45.46
Total	34.14	6.35	59.66	100.15

During the period up to 2000, 71 per cent of the population served by PSP water contracts were covered by contracts awarded to multinationals. By 2004, this had fallen to 60, with the multinationals accounting for 46 per cent of the population served between 2000 and 2004. While outside the scope of this review, many of the more recent multinational contracts have involved a single, local joint-venture partner taking a majority equity stake. Thus, local involvement in terms of investment and management control is also increasing within the multinational contracts.

Table 7: Number of people served by wastewater contract awards per period (million people)

Service:	Local	Expatriate	Multinational	Total
To 1989	0.00	0.00	0.00	0.00
1990–94	0.00	0.00	0.00	0.00
1995–99	0.00	0.00	1.42	1.42
2000–04	15.71	3.43	6.15	22.78
Total	15.71	3.43	7.57	24.40

The figures in Table 7 exclude the Malaysian national wastewater contract, awarded in 1993 and sold back to the state in 2000. With the exception of the Malay contract, PSP for wastewater-only projects has been a recent development and one which is being dominated by local and expatriate companies. All of the contracts reflected in Table 7 are in China. Local and expatriate companies accounted for 84 per cent of the population accessed by wastewater PSP contracts during 2000-2004, against 0 per cent in the prior period.

Table 8: Water contract awards grouped by number of people served

	Local	Expatriate	Multinational	Total
10,000–100,000	9	1	2	12
100,001–,000,000	14	9	38	61
1,000,001 +	10	2	17	29
Total	33	12	57	102

Table 9: Wastewater contract awards grouped by number of people served

	Local	Expatriate	Multinational	Total
10,000–100,000	2	0	0	2
100,001 – 1,000,000	5	2	9	16
1,000,001 +	4	1	1	6
Total	11	3	10	24

While major contracts receive the most attention, it is evident that most contracts are of a medium size (Tables 8 and 9), typically serving between 0.25 and 0.5 million people. Below 100,000 people, difficulties with attaining economies of scale apply, especially for major companies.

Table 10: Contract awards by city size

million people	Local	Expatriate	Multinational	Total
0–1	29	11	41	81
1 – 2	5	2	3	10
2 – 5	5	3	9	17
5 – 10	1	1	6	8
10+	2	0	6	8
Total	42	17	64	124

Data for city sizes was based on the 2000 urban population data presented in ‘The Challenge of Slums (2003) UN-Habitat’. Some of the contracts are for larger populations than for the cities, but for consistency, the UN definitions were retained. The most notable pattern is the prevalence of multinationals in the cities of more than 2 million people.

Service extension and affordability issues

None of the 65 national expatriate contracts identified contained specific pro-poor elements. This does not preclude pro-poor approaches, especially as most of these contracts involve a minimal degree of customer contact. The main reason for this is that 36 of the 59 contracts identified are restricted to serving municipal rather than domestic customers. In the case of the other contracts, customer service may be restricted to the water mains rather than domestic services. Concession contracts in Malaysia are developed on the basis of attaining universal access to water over the life of the concession. Here, the additional cost of providing service extension to poorer customers is implicitly covered by cross-subsidies. In addition, contracts have been identified where bulk water is supplied to the municipality at a commercial rate (cost recovery plus an agreed return on investment) with the water being delivered to domestic customers at below cost and the municipality paying for the difference.

Summary of trends

A shift in the award of PSP contracts from multinationals to local and expatriate companies has been identified. This reflects problems encountered by multinationals in Asia, especially relating to foreign-exchange risks. Local or expatriate funding obviates exchange-rate risk but plays a limited role in mobilizing new sources of funding needed to attain the Millennium Development Goals, as expatriate funding has been identified as being used only in China to date.

In China, legislation was passed in 2002 outlawing fixed returns on investment for water or wastewater projects held and operated by international entities. As a result, Berlinwasser and RWE Thames sold back their holdings in two projects to state-held entities. This legislation does not apply to projects funded and operated by domestic companies, and companies such as Beijing Capital operate contracts on the basis of a fixed rate of return.

Expatriate Chinese companies have bought water companies in England (Wessex Water plc was acquired by Malaysia's YTL Holdings in 2002, and Cambridge Water plc by Cheung Kong Infrastructure of Hong Kong in 2004), after their previous owners sought to sell them. This is arguably an unexpected capital flow.

While the data above are suitable for examining overall trends, a systematic global database of PSP contracts would need to be developed to provide more detailed examination of various forms of contracts used, the services provided and changes in the balance in management and investment in multinational joint ventures.

10. Local water and sanitation companies and the urban poor

Should more consideration be given to local companies?

In most countries, little attention has been devoted to the role local companies play, and how they could be convinced to provide better services to the urban poor. If local and national governments are to encourage these companies to play a more significant and positive role, they first need to review existing laws and regulations, particularly where they inhibit local companies from providing better services to the urban poor, or prevent local companies from competing to provide better services. Community and civil-society groups may need to consider how they can engage with local companies. International development agencies may need to re-examine their own tendency to assume that more private-sector participation means engaging

with national governments and large multinational water companies, and find better ways of working with local companies.

Are local water companies becoming more important?

Reviews of independent providers indicate that these small water companies are important, and have been growing in importance since the early 1990s, as public water utilities have failed to meet water demands. As indicated in the previous section, local water companies have also been gaining importance in public contracting.

Will promoting local water and sanitation companies necessarily help the urban poor?

Increasing the role of local water and sanitation companies is probably less controversial than increasing the role of multinationals. There is no obvious reason, however, to assume that promoting local water and sanitation companies will improve water and sanitation services for the urban poor: the impact will depend on the regulatory environment and the extent to which mechanisms are put in place that give local companies the incentive to provide improved services to low-income groups. Support for local companies should always be considered in relation to alternatives. Ideally, there should not be any programmes or projects designed to support local water and sanitation companies, just initiatives to improve water and sanitation provision that decide to support local companies if that is the best decision. There may be justification, however, for removing barriers that prevent local water and sanitation companies from playing a better role.

Will the urban poor benefit from more competition?

From a market perspective, the urban poor are likely to benefit from greater competition, particularly when that competition reduces their own dependence on entrenched public bureaucracies or private monopolies. It can be difficult to distinguish between increasing competition by opening up opportunities for local companies, and restricting competition by creating new forms of (locally owned) private monopolies. As described in early sections of this paper, it can also be difficult to distinguish regulations that encourage quality improvement from those that reduce quantities. Unfortunately, such distinctions can be critical in determining whether promoting local companies is more likely to open up or close down opportunities for improving services in low-income areas.

Do different types of local companies provide different challenges?

The challenge of getting local water and sanitation companies to improve services for the urban poor depends upon the character of local water and sanitation companies. Local companies that compete or collaborate with multinational water companies for government contracts at least superficially would seem to present a very different challenge from those, more like informal providers, which remain largely unregulated. For the former, the challenge is to create a contractual and regulatory means to exploit the advantages that local companies may have in providing services to low-income areas. For the latter, the more immediate challenge will typically be to find the means to accommodate independent providers when they are improving service delivery.

What contracting issues are specific to local companies?

For local companies operating under contract to government agencies, ensuring that the urban poor benefit is likely to entail designing the bidding procedures and contracts to give the contractors the greatest incentive to service low-income areas. This is unlikely to be achieved without some direct engagement on the part of urban poor groups and their representatives. However, many of the issues are common to other pro-poor water and sanitation contracting, and do not need to be revisited here (see Water and Sanitation Program (2001) for a discussion of the legal and technical issues). The issues and options involving small local companies and small locations also raise a number of specific questions, involving local capacities and procedures (Plummer, 2002). As discussed in previous sections, local companies might be expected to be more interested in smaller contracts, and contracts in smaller locations. For a variety of reasons, however, while local companies may provide opportunities for providing better services to the urban poor, these opportunities will need to be strived for, rather than assumed.

Should local contractors have to compete politically as well as economically?

Decisions about whether local contractors or multinationals (or public utilities) can provide better water and sanitation services to the urban poor clearly should not be divorced from the local context, including for example which local companies have an interest in competing for water and sanitation contracts, and how this is likely to evolve over time. Ideally, countries would provide a framework within which the full range of possible providers, ranging from informal enterprises and local and multinational companies, to governmental and non-governmental organizations, can compete, politically as well as economically. (Many would argue that political competition should set the framework for economic competition.) Even where this ideal is far from attainable, improving the quality of political and economic competition is likely to be central.

Are output-based subsidies an effective means for governments to engage with independent providers?

Output-based subsidies have been proposed as a means of giving private operators the financial incentive to provide better services to poor groups (Brook and Smith, 2004). The basic principle is to provide financial inducements in direct proportion to some desired output, such as water sold to or sewage collected from households in low-income neighbourhoods. An output-based aid approach has, for example, been piloted with aguateros in Paraguay, as described in Box 2 above (Drees et al., 2004). On the grounds that the aguateros provided adequate services but tended to concentrate on more affluent consumers, pilot projects were designed to get the local companies to bid for extending connections. The subsidy required per connection (US\$ 150 in the first phase) was less than the implicit subsidy for public utility connections. Indications are that, while it may be difficult to find the optimal bidding and contracting procedures, output-based subsidies through aguateros can provide an important alternative to public provisioning (Drees et al., 2004). Output-based contracts could also be used to help extend other water and sanitation providers from the wealthier areas where they have emerged, to the low-income areas where profits may be insufficient to support acceptable services.

Are private contractors a threat to independent water and sanitation providers?

Ironically, private participation, based on concessions giving sole rights to water and sewerage systems to a contractor or concessionaire, can be a major threat to independent water and

sewerage providers. Indeed, the argument that there is a “natural monopoly” in water and sewerage has helped to create situations where monopolies are actually created by contract. A number of the independent water networks that have been documented are threatened by the (uncertain) expansion of the utilities. In Karachi, the fact that a major donor-funded sewerage project was planning to ignore the pre-existing sewers constructed locally became a point of contention (in this case, the sewers were not operated by a private company, but the principle is similar) (Hasan, 1999). In collaborating with independent water and sanitation providers, governments need to find a balance that avoids being so antagonistic to independent water providers that the important services they can provide are lost, without being so supportive that customers end up forgoing access to even better and less expensive services from the utility’s network.

Is government engagement with, and regulation of, independent providers always a good thing?

A recent review of different forms that small water enterprises take noted that not only are both regulated and largely unregulated private water-network operators described in the literature, but also that regulation has important implications for their operation. Experience to date suggests that regulation can bring disadvantages as well as advantages, as follows (Myers, 2003 draft).

Disadvantages

- In most countries, unregulated water and sewerage networks are at risk of prosecution or expropriation, curbing their incentive to invest.
- Without independent inspection, there is a danger that water contamination will lead to public-health problems, including epidemics.
- In the absence of regulation, and especially under the risk of expropriation, private network providers may charge prices well above costs.

Advantages

- If unregulated network providers do obtain excess profits, the attraction of increasing coverage can lead to reinvestment and rapid expansion.
- Many unregulated network providers are responding to policy failures, and an enforcement of regulations can drive them out of business.
- In the absence of regulation, there may be other, and sometimes more effective, pressures being brought to bear on the network provider.

Shouldn't the goal be better rather than less or more regulation?

National and local authorities often face serious difficulties engaging constructively with independent water and sanitation operators. In most countries, the regulatory framework is designed around large monopoly providers, without serious consideration given to small independent providers. This can lead to a wide range of regulatory failures (Solo, 2003). The regulation of monopoly providers, both public and private, has also proved to be difficult. Some would argue that regulation ill conceived and poorly implemented is worse than no regulation at all. But debates about whether there is a need for more or less regulation are similar to debates about whether there is a need for more or less private participation: they focus attention on what ought to be a secondary issue, particularly if the goal is to improve water and sanitation services to the urban poor. To achieve this goal, more regulation may be involved in some locations, and less regulation in others. But, in most locations, it is likely to require regulatory reform – and how these reforms affect local companies can be critical to their success.

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