Charging to enter the water shop?

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Poor town dwellers are discouraged from obtaining a piped water supply by unaffordable connection charges. This is in spite of the savings in time and money they may make once connected. This article compares actual costs incurred in obtaining a connection, and suggests ways to make these charges affordable to the poor.

It is now accepted wisdom that the urban and peri-urban poor pay substantially more for non-piped, clean water than higher-income groups pay for piped household connections. Water sold in small bags, by jerry can (plastic container) or by the tanker load is always more expensive than a subsidized public supply, particularly when water is purchased from (private) intermediaries, who typically charge the full cost of supply, and do not benefit from the economies of scale inherent in piped networks. The cost to the poor also exceeds any cash value, and includes time lost queuing for water, as well as health impacts from obtaining water from uncertain urban sources (e.g. intermittent stand-posts or potentially polluted springs, wells and surface water).

Water services provision in urban areas should benefit from an increasingly customer-oriented clientele (as opposed to 'community orientation' in more rural areas); available engineering expertise; and the potential for cross-subsidies. Universal piped services should be possible. However, for a range of reasons, or perhaps excuses (e.g. clients living in 'illegal areas', apparently non-commercial consumers, lack of funding to expand, 'scarce' water resources, maintaining staff 'benefits' of illegal on-selling), public utilities have failed to serve the very customers for whom they were established. They fail to ensure that the poor receive the public health benefits of clean water. They often maintain this failure by 'charging to enter the water shop'. That is, utilities often require new customers to pay – often in advance – for the full cost of a new connection.

The cost of a connection

A household water connection often costs several hundred dollars. For households that, for example, rent their daily newspaper for half an hour or buy items singly (a cigarette being a less healthy example), this cost is incompatible with reality. It is illogical for development purposes, and unreasonable as part of a pro-poor water strategy, for utilities to charge such exorbitant entry costs. There may be more creative ways for utilities to recover the capital costs of the network while allowing those on very low daily-earned incomes to access the health and convenience benefits of household (or proximity to) piped-water supply. One such way could be to charge small payments over time, or to model the capital-intensive network suppliers of cable television and mobile phones, which have achieved success in urban and peri-urban slums.

The benefits of a household water connection (over and above a stand-post serving several hundred people) are higher than TV and a phone and have been clearly demonstrated. There is reduced disease, as shown by the reported 24 per cent reduction in child mortality in the poorest municipalities as a result of increased household connections in Argentina.[1] There is improved quality of life and economic development as explained by focus groups in Jakarta and Manila (see Box 1).

To help our understanding of the challenge facing potential low-income customers wanting to connect and obtain these benefits, UK's Department for International Development (DFID) funded a study to investigate the actual costs of obtaining a household water connection. The research was carried out in four countries (Ghana, India, Philippines and Uganda, along with a global postal and e-survey). The international research partners questioned 20 householders in both a metropolitan and secondary city to find out what they actually paid to obtain a water connection. Necessarily interviewing lower middle-income customers who were recently connected, we asked about the application costs and fees (including transport costs to utility offices, the costs of proving land title and any opportunity cost of the time involved); the connection costs and fees (including any additional payments for components, e.g. ferrules, pipes and meters, as well as 'road-cutting' charges); and the extent of any additional costs that were required (including 'speed money', 'thank-you money', transport and snacks for workers and inspectors or borrowing costs).

The research focused on obtaining verifiable data on what households actually pay for connections, in order to help utilities understand the scale of the challenge if they are to fulfil their public mandate to supply clean water to urban residents, including the poorest (see Table 1). Based on our findings, the mean cost from the four countries' metropolitan and secondary cities totalled US$295 for a functioning piped-water connection. Compared to average Gross National Income per capita, the research results indicate that

Box 1. The benefits of piped water – views of focus groups

'After our new connection, I opened a small kiosk in my home to sell ice cubes'
'More time is available, which we can now use for other household chores, and even for leisure such as going to the malls'
'There is no more stress from queuing, where arguments used to occur when others jumped the queue; there is no more waking up at 3a.m. to queue'
'Now we have more money for other household needs, and can take a shower'
Views from the Philippines[2]

'It is now convenient', 'Treated and safe water is now available', 'There is no more queuing for water', 'We have a constant supply'
Views from Kumasi, Ghana

'The water is immediately available', 'Washing clothes is easy, and we don't have to transport water any more', 'The water is safe; and it means improved hygiene for my children', 'We are still paying for the monthly instalment for the connection fee, but we are already enjoying the convenience of having water any time we want it'.
Views from the Philippines, where customers estimated savings from their new water connection to be an average US$14.3 per month

'It is convenient and we save in terms of time and effort', 'I can now have a small vegetable garden', 'I can also grow some vegetables and orchids, plus it is comfortable and convenient'.
Views from the newly connected secondary town, the Philippines.

the total cost of acquiring a functioning household water connection is, on average, approximately 12.9 months average GNI per capita in Ghana, 5.3 months in India, 0.9 months in Philippines and 26.2 months in Uganda. These amounts, which include many of the suspected 'add-ons' over and above the official fee, are clearly unaffordable by the poor – although the situation in the Philippines is evidently better than the other countries studied.

The researchers also undertook focus group discussions to gather information about the benefits obtained from a new water connection. These were very apparent (see Box 1).

Welcoming customers to the water shop

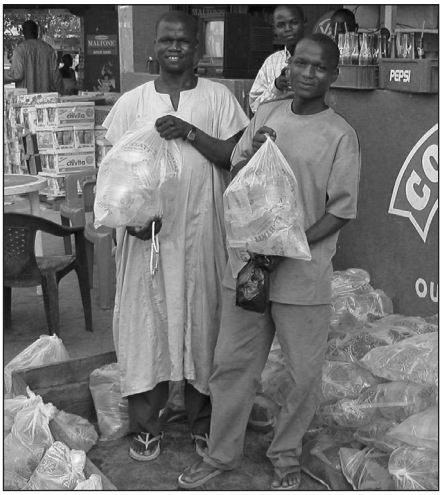
The researchers also took every opportunity to recognize ideas as to how connection charges and costs could be reduced or shared between consumers, and shared over time, in order to facilitate new connections. As an example, the National Water and Sewerage Corporation in Uganda announced, in parallel with this research, a removal of all charges (apart from the cost of the meter) to all applicants within 50 metres of an existing water main. This change was financed by an increase of 10 per cent in the volumetric charge for water to all consumers. This dramatic change should be welcomed if and where the poorer households lie within that distance. The new approach very reasonably does not deliver 'free' connections to new middle-income low-density housing areas. However in larger informal housing areas there will be a need to extend tertiary distribution lines to deliver reasonable access. This change took place in late 2004, so there has been little time to gauge reactions to it, but so far there have been no reports of existing consumers complaining that, having paid for their own connection, they are now having to pay for the connection costs of others through the volumetric charge.

Less radical responses to the connection cost challenge may be seen in cities where the costs of connection are amortized over two or three years through an addition to the water bill, as for example in Manila and Jakarta. A combined approach was used in Buenos Aires, where the approximately $500

Table 1 Mean costs to enter the water shop ($)

	Ghana: city	Ghana: secondary town	India: city	India: secondary town	Philippines: city	Philippines: secondary town	Uganda: city	Uganda: secondary town
Total application costs	3.89	32.74	0.00	0.00	4.39	1.33	24.48	7.67
Total official connection charge	97.61	111.48	140.19	121.56	87.11	2.22	32.57	43.58
Total survey and approval of application costs	3.08	6.79	8.47	0.09	0.00	0.00	24.17	2.24
Total physical connection costs	222.43	125.32	0.89	4.03	12.98	43.47	589.57	116.44
Costs of interest to finance connection	3.09	3.61	5.05	9.37	1.24	0	74.64	1.21
Cost of coping strategies for low pressure or intermittent supply	26.03	104.08	131.68	42.62	1.95	0.00	305.72	15.30
Total water acquisition costs	331.3	358.3	286.3	177.7	107.4	47.0	867.5	180.5
Information source	WSESP, KNUST, Ghana		ASCI, Hyderabad, India		PCWS-ITN, Philippines		WEDC, Loughborough, UK	

Note: Connection component means may not sum to equal Total water acquisition costs means due to unrecorded response/'non applicable' response to some component questions.



Half-litre plastic bags of drinking water on sale in Kano, Nigeria. (Photo: Franceys)

water connection charge and $1000 sewerage charge were reduced to $120, payable over several years, the reduction being financed by a universal charge on all customers of $2 per household per month (note all dollar costs pre-date the peso devaluation). Significantly, connection to both water and sewerage was mandatory where the mains were laid nearby.

No-frills options

The high overall connection charges in Buenos Aires bring to light the real cost to a utility of delivering new connections. Our research included a detailed look at the capital costs to provide tertiary distribution mains in Kampala, Uganda: our findings suggested a cost per household of $119. Part of that cost is due to the use of special pipe fittings, which may be substituted with cheaper plastic pipe. The reason for those fittings may be to connect to a meter, which is one of the significant costs in any new connection.

When considering the capital costs of connection in a pro-poor context, it may be worth considering a 'no-frills' approach. For example, metering (and subsequent meter reading and associated billing costs), even in high-income countries, can represent over 25 per cent of the cost of supplying water. This is a remarkably high cost that is an even greater burden in low-income countries; it is often included as part of the connection cost. In keeping with the analogies mentioned earlier, perhaps this is like requiring the sellers of the single cigarettes, or the renters of the daily newspaper, to have electronic tills complete with bar-code readers. If meters must be used, trade-offs can probably be made. Where water supply is intermittent, perhaps supplied for only a couple of hours per day, utilities might do better to charge for daily access rather than a volumetric amount. Meter costs can also be reduced by using street or group meters, sharing the costs amongst users in a perceived fair way, or by using volumetric controllers that only discharge a fixed amount per day.

Other ways to reduce connection costs, used for example in Manila, Philippines, are to involve potential customers (as community groups or residents associations) in tertiary distribution line construction – that is, customers provide their labour free of charge to carry pipes into the slum and to lay and connect networks. Costs can be reduced again by laying pipes above ground which may be acceptable (even to engineers?) in vehicle- and frost-free locations, particularly if this removes the high costs of reinstating informal slum pathways and sullage and rainwater drainage routes.

Conclusion

This research sought to investigate the actual costs to obtain a new water connection – including both formal and informal costs. This article considers the ways in which these costs can be made more affordable for the poorest. In considering the results of this research, we can conclude that water connections are generally:

- too expensive
- too complicated
- too uncertain/haphazard
- require too many additional payments
- too distant (from accessible water mains as well as from utility offices); and
- too capital intensive.

A mean cost of US$295 to acquire a functioning piped-water connection is not affordable for 'dollar-a-day' households. Water utilities need to adjust their new connection policies, offering a more comprehensive 'single window/ one-stop shop' service approach to reduce the burden on new low-income customers. Official connection charges which attempt to recover the cost of tertiary distribution and individual connections as an 'upfront' lump sum should be removed. These costs may be recovered over two or three years of that household's consumption charges but preferably can be shared between all customers in a similar manner to the costs of other fixed assets. There may continue to be a need for a modest initial payment, but as a 'deposit' against future consumption charges and as an indicator of ability and willingness to pay. Utilities can differentiate service standards in slums to further reduce connection costs and therefore reduce ongoing tariffs to the benefit of those households.

It is the role of urban water supply companies to supply water to all, albeit at cost-reflective tariffs to ensure sustainability with targeted subsidies only as necessary. Ensuring that low-income customers can connect to access those services is the crucial first step to achieve that vision.

References

1. Galiani, S., P. Gertler and E. Schargrodsky (2002) 'Water for life: The impact of the privatization of water services on child mortality', Center for Research on Economic Development and Policy Reform, Stanford.
2. Weitz, A. and R.Franceys (2002) 'Beyond boundaries: extending services to the urban poor', Asian Development Bank, Manila.

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