Water Pricing for the Urban Poor

This article is the eleventh in a series of articles by the Centre for Poverty Aflysis (CEPA) exploring various dimensions of poverty in Sri Lanka.

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In Sri Lanka, access to water for domestic purposes has reached 84.7% of the population, while in urban areas access to water is as high as 95.4% (DCS, 2008). While these statistics indicate that access itself may not be an issue in urban areas, it makes disparities in terms of the quality and equal access to services that exists among urban populations. For the urban poor, many of whom reside in Under Served Settlements (USS), water services are provided mainly through public facilities such as stand posts, common toilets and bathing areas. This provides them with a lower quality service that can limit their quality of life. From the point of view of the service provider, in this case the National Water Supply and Drainage Board (NWSDB), public water is considered "free water" that they are obligated to provide so that communities are not denied access to a basic need. The NWSDB see individual household connections as a means to provide better water services to urban poor by also allowing them to recover their costs. However, in order to reach a larger number of urban poor who are unable to connect through the regular process due to financial, legal or infrastructure limitations, an alternative strategy needs to be devised and water pricing methods are commonly used for this purpose.

Theoretical approaches for water pricing

Developing a pro poor water delivery strategy, including a suitable water pricing structure for urban poor, needs to consider what factors determines per capita water use and affordability. This includes monetary and non monetary characteristics such as household composition and living conditions, water supply and use patterns, income and expenditure status and available infrastructure that influence the decisions and actions taken. "Willingness to pay" (WTP) is a concept that can be used to understand how individuals of a population value goods or services. The concept of "willingness to pay" generally refers to the economic value of a good to a person (or a household) under given conditions (Gunetilleke et al, 2007). It theorises that if people are willing to pay for the costs of a particular service, it is an indication that the service is valued based on factors such as felt need, existing conditions, as well as on affordability. Contingency Valuation is a methodology that is used to capture WTP for goods and services that are not already on the market. It specifies a set of conditions for a good or service for which the consumers are asked to indicate their willingness to pay. This is an accepted method of gathering information to assess economic viability, set tariffs, evaluate policy alternatives, and design socially equitable subsidies (Gunetilleke et al, 2007).

Capturing willingness to pay for individual water connections

In a recent study carried out by the Centre for Poverty Analysis (CEPA) with support from Environmental Cooperation-Asia (ECO-Asia), a regional programme of the United States Agency for International Development (USAID), the concept of willingness to pay was applied to understand potential demand for individual house connections among urban poor, specifically the willingness and ability to pay for connection fees and water charges for piped water services. ECO-Asia's aim in supporting this study was to assist the NWSDB in the development of improved strategies for providing piped water supply to the underserved urban poor.

The sample for the study consisted of 248 households in 15 USS across the three municipalities of Moratuwa (MMC), Dehiwala-Mount Lavinia (DMMC) and Colombo (CMC), prioritised based on high concentrations of USS without individual connections and use of public facilities. The USS were selected to show maximum variance of characteristics such as size, users per stand posts, legal status and geographic locations. All the households interviewed were using water from public stand posts.

Living conditions and water use patterns

The households in the USS that were sampled showed considerable diversity in terms of housing conditions within the same USS and in comparison across USS in different Municipalities. About half (46%) of the households have permanent structures with brick walls, tile/asbestos roofing and cement floor while about 20% had poor quality housing with plank walls and tar or metal sheets for roofing (most of the poor quality houses were located in 3 of the sampled sites situated in 64 Sri Saddharama Mawatha and 185, Stace Road, in Colombo, and Madamgahawatta in Moratuwa)

Plot sizes tended to be less than 5 perches, with limited space being more pronounced in the CMC area where a majority of the plot sizes were less than 2.5 perches. Number of rooms in houses also varied with 1-2 being most common in the Colombo and Dehiwala-Mount Lavinia areas while in Moratuwa there tended to be 3-4 rooms. The limited space issue is reflected in the toilet facilities available; 60% of the households in Colombo and Dehiwala Mount Lavinia Municipalities used common toilets, while a similar percentage had private toilet facilities in Moratuwa Municipal Council area.

Interestingly despite not having piped water in their homes, 75% of the households in Colombo and Moratuwa had metered electricity connections. The ability to afford electricity bills indicates that could meet the cost of the monthly water bills. In contrast in Dehiwala-Mount Lavinia the percentage was lower (45%) possibly due to the temporary nature of the sites captured in this municipality, as several of the sites were along the coastal belt and were affected by the tsunami and now faced uncertainty about their living space. All households interviewed were reliant on public facilities as their primary water source for all their water needs. Use of alternative sources such as wells was not common and when used it was for bathing and washing or at times when there was no water in the public stand posts. All households have easy access to at least 1 stand posts within 10 minutes walking distance from their homes. The close proximity of the stand posts has led to a use pattern of making several trips to the stand posts, as well as choosing to go at particular times (mid morning, late at night) to avoid having to queue for water. Despite easy physical access however, all households store water, mainly for cooking and drinking, while households that stored water for bathing and washing had household members such as babies, young children, women, elderly and disabled

persons who either needed extra care or privacy.The limited storage space also indicates that these communities are curbing their water needs and therefore having individual connections could lead to higher water consumption patterns.

Establishing the demand and capturing willingness to pay

The study found that demand for individual connections, was high, especially in Colombo and Moratuwa where over 90% of those sampled expressed willingness to connect, while the demand in Dehiwala-Mount Lavinia was slightly lower (77%). The expressed value of individual connections was in terms of added convenience, time saved, more privacy, and better security. The benefits were seen as greater for women, who are usually tasked with fetching water to the house, and households with elderly, disabled and young children.

"I would not need to wake up at night to fill water if we have an individual household water connection."

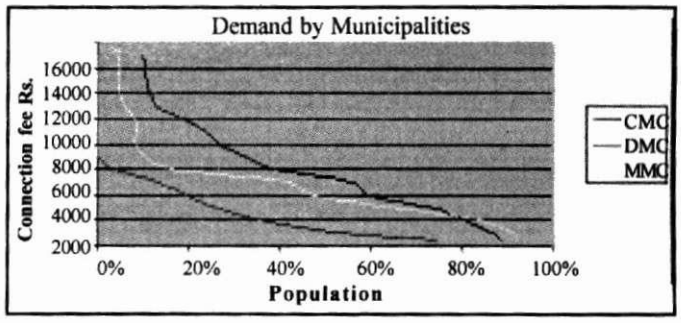
—Female, Colombo, age 48

"Everyone in the community will benefit from getting an individual connection. Even though these are slum areas, women still prefer privacy. They prefer filling buckets of water to a tank in the house to bathe inside over bathing outside in public in the common tap."

— Community Leader, Moratuwa, Male

Furthermore, the problems experienced while using common facilities, such as wastage of time, lack of privacy, and problems with neighbours were expressed as reasons for why individual connections were preferred over free public facilities.

Evidence of their felt need is also supported by the fact almost half (46%) of the sampled households had tried to get connections but have not been successful. Reasons given for failure to connect ranged from not being able to meet the upfront costs, the process of having to submit as a group not working in their favour, and lack of follow up from the NWSDB. Among those unwilling or unsure about getting an individual connection, issues of space, cost and uncertainty regarding their place of living were the main deterrents. In Colombo, lack of space to construct facilities inside the house as well as for drainage was the main limiting factor while in Dehiwala-Mount Lavinia, the temporary nature of the unconnected settlements is the main reason for their unwillingness to incur the expense at this point in time. This brings us to the crux of the matter; are households who have a high demand for individual connections willing to pay for such connections. The survey asked households to state levels of preferred amounts as what they can pay within set in intervals of Rs. 0 - Rs. 15,000/-, where Rs. 15000/- was the amount for general connection fee charged by the NWSDB.



Source : CEPA 2009 (Based on household survey results from willingness to pay study)

The results revealed sharply downward sloping demand curves with a small percentage indicating willingness to pay at the asking rate of Rs.15,000, while many congregated at lower amounts. At the range of around Rs 5,000, 54% of unconnected households in Colombo, and almost 40% of unconnected households in Moratuwa are likely to connect, while only 13% of unconnected households in Dehiwala-Mount Lavinia would connect. The Graph below illustrates the demand curves by municipality that are indicative of the general trends in these municipalities. The demand curves also showed that willingness to pay differed across municipalities, USS and households, revealing that for different locations there are different levels of preferred payment amounts. In terms of what drives their willingness to pay, the regression outputs showed that the amount reported strongly correlated with income and proxy variables of income, but were not found to be highly correlated with factors that affect demand, such as having elderly, disabled and young children in the household or problems faced when using public utilities. Therefore the willingness to pay was capturing how much people could afford to pay rather than their perceived need or value for the service, showing that many were unable to translate their demand into a market-visible amount.

Recommendations for developing pro poor strategies

The willingness to pay study is showing is that there is gap between affordability and expected utility from a household connection. Therefore strategies which are genuinely pro poor need to cater to both the affordability and the demand for better water services among the poor. In order to bridge this gap, concessions and subsidies, support services and implementation strategies must be able to reach out to households at different income brackets, and therefore affordability of individual connections.This would increase coverage and accessibility of better water services, while also allowing for cost recovery over time. In addition the varying conditions of the USS indicates that there is a need for a customised approach to deal with the various problems facing the urban poor, and that a one-size-fits-all approach may not result in maximum benefits for the communities or the service provider.

Another important factor to be considered is that the provision of individual pipe connection alone may not be adequate for households to make full use of an individual water connection. Issues of drainage, space for toilets and bathing areas, and other infrastructure needs (at household and site level) also have to be addressed in order to have an impact on the living conditions of the urban poor. Therefore a more holistic approach to water service delivery that takes into consideration other infrastructure needs of USS, and collaboration or coordinated efforts with other service providers such as the municipalities can result in increasing the benefits to the community.

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Footnote:

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