



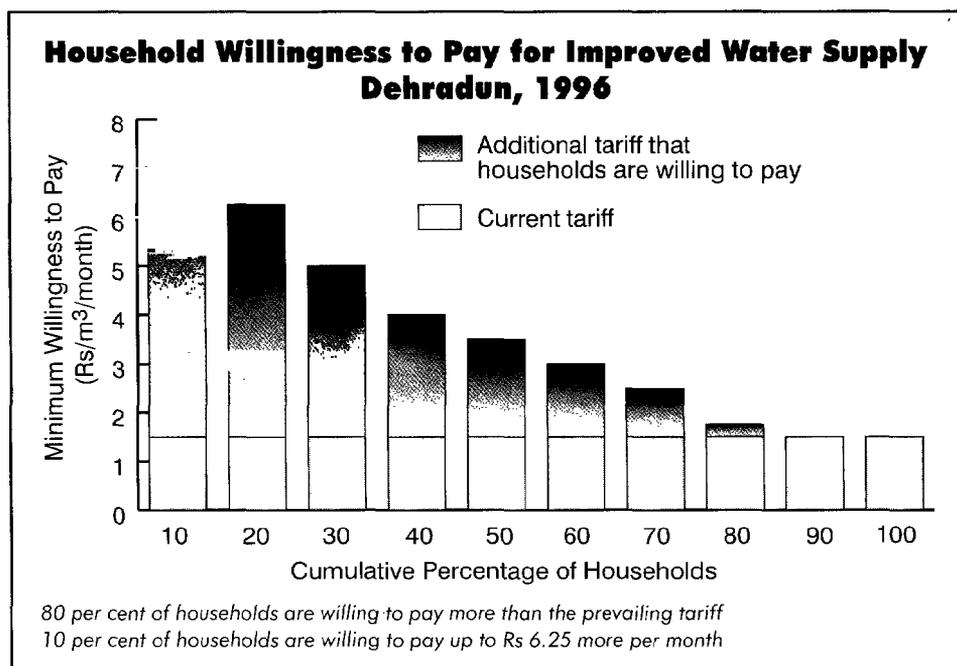
Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

Willing To Pay But Unwilling To Charge

DO 'WILLINGNESS-TO-PAY' STUDIES MAKE A DIFFERENCE?

There is growing evidence that many urban and rural communities are willing to pay more than the prevailing rates for water and sanitation, to ensure a better or more reliable service. However, governments seem unwilling to match this with a willingness to charge consumers for these services and the result is a continuing cycle of low revenues, high costs, unsatisfactory services and financial crisis. Despite evidence from a range of thorough and well designed surveys to assess willingness to pay, this resistance to increasing tariffs persists. This Field Note explores the approaches to assessing willingness to pay, examines the evidence of previous willingness-to-pay surveys carried out in India and takes a critical look at the experience of such surveys in influencing policy change. Clearly, carrying out good surveys is not enough and more efforts need to be made in building capacity for effective policy development.



[Source: Choe, Varley and Bijlani, (1996)]

Across India, a number of studies, coupled with practical experience on the ground, have shown that many urban and rural communities are willing to pay for social infrastructure such as water and sanitation. Figure 1 illustrates the results of a 1996 survey in Dehradun which clearly shows that a high percentage of households are willing to pay more than the current tariff for an improved water supply service.

But the authorities in Dehradun have not responded to the evidence of this survey by increasing the tariffs to capture the potential additional revenues it has revealed.

Policy makers frequently refrain from raising tariff rates fearing that 'the people' will not want to pay. Credible estimates of willingness to pay and other means of assessing demand could be used to demonstrate that 'the people' are already paying much more than the official tariff rate

through informal channels and coping strategies, and that they would be willing to pay the government even more to secure better services. If policy makers can establish what households are willing to pay, they should be able to:

- revise tariffs to capture this willingness to pay;
- plan future investment keeping in mind what consumers really want; and
- move towards financial sustainability and independence.

A Survey Of Recent Experience

Willingness to pay is not matched by willingness to charge...

The Water and Sanitation Program – South Asia recently commissioned a study to evaluate the range of experience of willingness-to-pay research in India and to explore and determine the impact of willingness-to-pay studies on water and sanitation policy in both rural and urban India. The study looked at 17 major willingness-to-pay exercises carried out in India, of which eight were in the water supply and sanitation sector. Overall, the study found that experience in the use of willingness to pay techniques was limited, with only seven India-based researchers cited as having the experience required to carry out contingent valuation surveys to an international standard. However, experience can be built and the comparatively small base of expertise available in the country today would not be a major impediment to a more widespread use of these techniques if their value were widely recognised. Much more worrying is the lack of impact that these studies have had on policy in their respective locations.

To explore the linkage between the studies and policy, consultants carried out field visits to locations where four studies had been conducted – in rural Kerala (1988), rural Punjab (1996), the city of Baroda (1995) and the city of Dehradun (1996).

All four studies revealed that households were willing to pay significantly higher amounts than the current tariffs for improved service. Yet, there was little relationship between these studies and policy reform.

Baroda City

The study conducted in Baroda in 1995 was commissioned by the Human Settlements Management Institute (HSMI) of the Housing and Urban Development Corporation (HUDCO). The purpose of the study was to evaluate a tariff revision proposed by the Baroda Municipal Corporation (BMC). This revision in tariff was intended to raise finances to pay off a HUDCO loan of Rs 470 million, part of its Rs 660 million water supply augmentation programme.

The study, which was of a high technical standard, found that households were generally willing to pay up to 3.4 times more than the tariff rates proposed by the BMC and that they were currently paying even more than this amount in coping costs. However, although the BMC raised its rates in February 1996, this increase was much below that recommended by the study. The increase appeared to have been prompted more by the election of a new Board in the BMC, after some years of President's Rule, during which time tariffs had not been increased. Raising the tariff was in any case a condition for the loan to the BMC from HUDCO. In fact, the study findings were never presented to the Standing Committee and the board of the BMC, who pass all resolutions relating to tariff. This study could have been used to

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How To Assess Household Willingness To Pay (WTP)

A range of techniques are available to measure what households are willing to pay for services such as drinking water and sanitation. Two commonly used techniques are the 'revealed preference method' and the 'contingent valuation method'.

Revealed Preference surveys show what households are *currently paying* for these services. In the case of water supply, this expenditure consists of payment of the official tariff as well as investments made to improve the quality and quantity of supply, including storage tanks and additional pipes, booster pumps, water filters and purifiers.

Contingent Valuation surveys reveal what households are *willing to pay* for improvements in service. It uses a set of carefully designed future scenarios, usually drawn from actual augmentation plans, to show people what benefits they can get from each type of system, and then asks them how much they would pay for these benefits.

The consequences of unreliability (in terms of lost productivity, and negative health impacts) can also give an indirect measure of the demand for water from households and presents an alternative to willingness-to-pay studies.

The Contingent Valuation Method

The contingent valuation method (CVM) is the most comprehensive technique developed so far for measuring willingness to pay, and is preferred by economists because of its more rigorous theoretical basis. Economists believe that contingent valuation studies have the following advantages over other techniques:

- Being based on actual face-to-face surveys, they provide *proof* for political and administrative decision makers *that consumers, including the poor, are willing to pay for better services.*
- The method can measure the amount households are willing to pay in a range of alternative scenarios, enabling policy makers to assess, for example, whether people are more willing to pay for increased reliability, better quality or more hours of supply. The details of household demand thus revealed *can be incorporated into technical and financial plans for future augmentation*
- Since the technique uses hypothetical scenarios, it can provide estimates of household willingness to pay *even for systems which do not currently exist.*
- Since household willingness to pay is based on the perceived benefits from alternative scenarios cumulative willingness to pay may be much higher than the total costs of providing the actual system. This disparity if it is subsequently exploited, can generate additional revenue to fund cross-subsidies or further service improvements.

However, all willingness-to-pay studies take time and cost money and contingent valuation surveys are notoriously expensive and difficult to conduct. The UK's Department for International Development (DFID), for example, has estimated that a contingent valuation method study will cost anything from Rs 3 to Rs 10 million. It would seem risky therefore to carry out such studies without adequate supervision and without an explicit planned linkage to future policy developments and investment decisions. Surprisingly, however, this is exactly what seems to have happened in a number of cases.

promote a considered tariff increase, or as a public relations tool to improve the acceptability of the increases actually implemented, but it was not, and now serves only to justify ex-poste an increase which seems to have been inevitable.

Dehradun City

The results of this study, which was commissioned by the United States Agency for International Development (USAID), were presented at a workshop in the city, which was attended by top executives of



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the Dehradun Water Works Department and the Garhwal Jal Sansthan (Garhwal Regional Water Management Agency). While the study sent a clear message that there was willingness amongst domestic consumers to pay more for improved services, no tariff policy changes resulted. This may have been for at least three reasons.

Firstly, tariff rates had been increased before the study, in December 1994, but with no change in the quality of supply. While urban residential consumers reluctantly paid up, hoteliers from the nearby resort towns of Nainital and Mussoorie protested, claiming that the seasonal tourist demand was insufficient to pay increased tariffs for the entire year. The policy was reversed, and the government directed that the 'excess' tariff collected under the new rates be refunded.

Secondly, Dehradun falls within the proposed new state of Uttaranchal, and it seems likely that the government of Uttar Pradesh was reluctant to make large fresh investments there at the time.

Finally, despite the worsening financial situation, the Jal Sansthan has been able to augment water supply to the city of Dehradun. While additional funds are required to pay outstanding administration and operational costs, given the previous experience with tariff increases, the Jal Sansthan is relying more on cross-subsidisation from other funding sources.

Ultimately, the Dehradun study appears to have been commissioned in something of a vacuum, with little ownership by key decision makers and little reference to the prevailing atmosphere of frustration with a previous tariff increase which had not led to improved services. It therefore failed as a tool for tariff revision.

Rural Punjab

A willingness-to-pay study was carried out in 1996 in villages of two districts in Punjab, commissioned by the Public Health Engineering Department (PHED) of the Government of Punjab. The study findings were intended to contribute to the design of a tariff policy for a World Bank-funded scheme to augment rural water supplies. Once again the study indicated a

How Much Are Consumers Willing To Pay?

Studies have shown that:

- In Dehradun, in 1996, consumers were willing to pay more than twice the prevailing tariff (average households were willing to pay up to Rs 4.50 per cubic metre for a continuous water supply as compared to the prevailing rate of Rs 2.00 per cubic metre for the existing intermittent supply). What is more, the study revealed that, on average, households were already paying up to Rs 10 per cubic metre in 'coping costs' arising from the irregularity and unreliability of the supply.
- In Baroda, in 1995, households with incomes below Rs 1,500 per month were willing to pay up to Rs 275 per annum for a reliable service (as against prevailing payments of about Rs 43) while wealthier families with monthly incomes between Rs 4,500 to 6,000 were willing to pay up to Rs 440 (as against prevailing payments of around Rs 200).
- In rural Kerala in 1988, consumers who were already paying Rs 5 per month for the existing service were willing to increase this to Rs 20 without any requirement for service improvements, and were willing to pay a further Rs 5 per month for improved services.
- In Delhi, in 1998, households could pay anything up to Rs 2,000 per year in direct and indirect costs to cope with the irregularity and unreliability of existing supplies. This potential source of revenue is not captured by the formal providers, but paid directly to unregulated small scale private sector interests.

wide-spread interest in improved service levels, accompanied by a willingness to pay more.

However, towards the close of the study the Government of Punjab declared a populist policy of free water and consequently no policy revision for the proposed project could take place. The World Bank subsequently suspended its offer to fund the project as cost recovery formed a major plank of the proposed reform package attached to the project. Once again, government policy decisions had failed to respond to the findings of a study which clearly indicated peoples' willingness to pay for water.

Rural Kerala

In 1988 a World Bank team conducted a rigorous willingness-to-pay study in rural north Kerala. The study indicated a widespread willingness to pay increased tariffs for water supply. Since then, there have been three changes in tariff rates. In 1991, the prevailing system of differential rates was replaced with a uniform minimum tariff of Rs 1.00 per 1,000 litres. In 1993, this was raised to Rs 1.50. With this announcement, the Government of Kerala also agreed to an annual increase of 15 per cent in the minimum uniform tariff. However, after the next increase in 1994 (to Rs 1.70), there have been no changes in the tariff rate. With four successive tariff hikes postponed by the government, the pending increase is now 60 per cent of the 1994 tariff.

Clearly, the government subsequently developed a reluctance to raise tariffs. Regrettably, it has not been possible to build an ongoing policy discussion around the findings of the 1988 study, which could still be used to predict acceptable levels of tariff increase. This lack of vision in influencing the policy debate over a prolonged period appears to be a feature of all the cases looked at.

...but policy changes are possible

By contrast to the cases cited above there are a number of instances in the country where significant policy reforms have been delivered without the intervention of willingness-to-pay studies.

Hyderabad City

The Hyderabad Municipal Water Supply and Sewerage Board (HMWSSB) has successfully implemented water tariff reviews and has substantially improved its financial performance today. The major reasons for this outstanding performance seem to be:

- *establishment of an effective debate* between political leaders and administrators – the Chief Minister is the chairman of the HMWSSB (although he is the sole political representative);
- *an acute water scarcity problem* which forced political leaders to recognize and listen to the Board's concerns;
- *pressure from the World Bank* on the state government to streamline its financial and executive arms, in return for financial assistance to overcome the crisis; and
- *the capacity of the institution to respond* to these challenges and use the opportunities created.

In this case financial and technical imperatives drove the Board and the political decision-makers to recognise the need for tariff revisions based on an assessment of the costs of service delivery, without the need to refer to willingness-to-pay studies. Consumers' willingness to pay higher rates to maintain the same level of service which had been provided over the years had to be assumed, as the cost of providing the service was rising with little prospect of alternative sources of financing apart from cost-recovery. Had the Board misjudged the willingness of its consumers

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this would have become evident very rapidly, but in fact there is little evidence of dissatisfaction with the tariff and level of service provided.

Rural Maharashtra

In three districts in Maharashtra – Nasik, Jalgaon and Dhule – a new water supply scheme covering 80 villages is drawing a lot of attention. Supported by the UK government's Department for International Development (DFID), the scheme is

managed jointly by Village Water Persons (VWPs) with support from Water Management Units at the district level. The Zilla Parishad (District Administration) has taken over the scheme in Jalgaon from the contractors who built and ran it for the first three months.

Villagers now manage the elements of schemes lying within individual villages through their VWPs, while the district manages

overall operations of the scheme. Between them, the villages and the district pay half the operating costs, with a subsidy

from the state making up the shortfall. Households pay an annual fee of Rs 70 for a standpost connection and Rs 360 for a private connection. Ultimately, the idea is for the subsidy element to be phased out and for the scheme to be financed entirely at the local level.

Again, significant increases in tariff and collection rates for this project have been achieved without the need for willingness-to-pay studies (although some studies are being planned for the other districts). The major reason why people are willing to pay the increased tariff (with collection rates

hovering around 80 to 90 per cent) seems to be that the scheme is delivering a more reliable and convenient service. Bottom-up planning with participation from consumers seems to have ensured that the consumers recognise the value of the service provided and are confident that they are being charged a realistic price for it.

Conclusions

There is plenty of evidence, both direct and indirect, to show that rural and urban India is prepared to pay more for reliable, safe and adequate water supply and sanitation services. There is also evidence that if suppliers can set tariffs at reasonable levels based on real costs, consumers will respond positively to tariff increases to secure the required levels of service.

So, do policy makers in the drinking water and sanitation sectors need to resort to willingness-to-pay studies in order to guide policy decisions? Clearly, such studies provide information which could help in technical planning and link investment decisions with pricing policies. However, the evidence to date indicates that factors other than the existence of a thorough contingent valuation survey may play a more important role in pushing through policy and pricing reforms.

Ironically, the conditions which would seem to promote effective linkages between willingness-to-pay research and policy changes are probably those which ensure that investments in detailed research will not in fact be required. Thus, for example, we can see from the Punjab case study that political commitment at all levels to the idea of tariff reform is essential if study findings are to find a place in policy planning. However, once that political commitment is won, and a climate of broad consensus and consultation has been established, policy makers may be content to be guided by

Significant increases in tariff and collection rates have been achieved without the need for willingness-to-pay studies



technical and financial considerations as in the Hyderabad case, leaving the level of satisfaction of consumers to manifest itself subsequently. Similarly, if tariff increases have already been implemented without significant increases in service levels, as in the case of Dehradun, the findings of a contingent valuation survey are unlikely to convince consumers to accept further proposed increases.

Lessons for the Future

What then is the future of willingness-to-pay studies, in the present environment where policy makers are beginning to grapple with the need to improve financial performance and ensure the long-term sustainability of investments? Given their expense and the relative paucity of skills currently available to carry them out, should contingent valuation method surveys be promoted over other, simpler and less expensive ways of assessing the potential to charge more for services?

One clear use of such studies is to promote the *idea* of willingness to pay for services. The combined information provided by previous work in this area represents a compelling argument for policy makers to at least start to consider the need for tariff reforms and policy change. Clearly more could be done to disseminate the information generated from such studies. But for the future, equally compelling information could be generated from other sources. The Delhi water management survey for example, clearly shows that households in Delhi are already paying a high price to cope with poor quality service. This provides some convincing evidence that consumers may pay more for better services without the complexity of a contingent valuation method survey.

It may be true that in some circumstances a detailed assessment of willingness to pay

is required to assess future strategies. In Maharashtra, for example, the government may now be ready to consider widespread adoption of an approach whereby consumers manage and finance operation and maintenance of more and more rural water supply schemes. In order to assess the policy framework required to support such an approach, and to explore the potential to eliminate subsidies entirely, it may be useful to explore willingness to pay in a range of districts, climatic and geographical conditions, and for a range of levels of service. Unlike the Hyderabad case, this may be required because the costs are so variable, and the ability of the agency concerned to set statewide tariffs on a simple cost-recovery basis may be limited. More flexible approaches may be required for which more data would be needed. However, it is still not clear whether a complex and formal willingness-to-pay study would be the most appropriate tool to achieve this, nor even if the tool is sufficient to address willingness-to-pay within the complexities of multi-village rural water supply schemes. Whatever tool is used, until the commitment to policy reform is secured, there may be little benefit in carrying out the study.

Finally, willingness-to-pay studies can never be a complete solution; even where there is a real commitment to establishing an understanding of the potential to charge for services, studies must be linked to technically-feasible investment options and realistic approaches to introducing tariff reforms. This means that any research into consumers' willingness to pay for services should be linked to concrete proposals to change the levels of service provided, and the decision to commission such studies should be the product of an informed policy debate, not

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the trigger for such debate. Crucially, those who commission such studies must be committed to the production of a high quality product, with its attendant relatively high cost, using experienced professionals and providing a high level of supervision.

Good quality willingness-to-pay studies have been and can be done in India but their impact has been limited. There is a need to disseminate the findings of such studies more widely to inform the policy

debate. In a few special cases, it may pay to commission new studies. But this tool should be used with care, and a greater understanding of the potential and the limitations of such approaches, along with a consideration of other alternatives, is essential before any policy maker, supplier or consumer organisation embarks on the costly exercise of measuring willingness to pay with an economist's precision.

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