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**Urban poor pay for water:
evidence and implications
for going to scale**

by

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Abstract

Much of the debate on cost-recovery in water and sanitation has centred on whether the poor should or should not pay for these services - indeed the title of the paper is derived from some lessons learned in the sector. This debate has recently moved from the realm of economics to human rights and the interactions between the two. Useful as these debates are in laying down certain principles, ultimately the practical aspects of implementation and resource constraints will determine what is workable in a country-specific setting for achieving the basic need of safe drinking water and sanitation.

The paper questions why the many experiences and 'models' which show that the poor are willing to pay for water have not gone to scale. It suggests that the replication should be of the principles of cost recovery rather than of the models themselves. Some of the principles that work are community collection of tariffs and community responsibility in the management of the facilities. In this regard the lessons from microcredit of peer pressure and women as managers of water committee are useful for going to scale.

In arriving at some measure of agreement on the appropriate tariffs and subsidies, the paper argues that their design must meet the considerations of value for money, equity and partnerships. Success in going to scale is critically dependent on the institutional structure, including community-driven mechanisms, within which tariffs and subsidies are designed.

RÉSUMÉ

Le plus souvent, le débat sur la récupération des coûts entraînés par les travaux d'adduction d'eau et d'assainissement a porté sur la question de savoir si les pauvres devaient ou ne devaient pas payer ces services — et, de fait, le titre du document a été choisi d'après certains enseignements dégagés dans le secteur. Le débat s'est récemment élargi, passant de l'économie aux droits de l'homme, et aux liens entre celle-là et ceux-ci. Pour utile que soit ce débat pour poser certains principes, en fin de compte, les aspects pratiques de l'application et les contraintes pesant sur les ressources détermineront ce qui, dans un pays donné, est réalisable dès lors qu'on veut satisfaire le besoin essentiel d'eau potable et d'assainissement.

Les auteurs du document se demandent pourquoi les nombreuses expériences et les "modèles" qui montrent que les pauvres sont disposés à payer l'eau qu'ils consomment ne sont pas appliqués en vraie grandeur. L'étude montre que ce qu'il faut propager, ce sont les principes de la récupération des coûts et non pas les modèles eux-mêmes. Certains principes fonctionnent effectivement : la perception communautaire des taxes et la responsabilité collective de la gestion des équipements. À ce sujet, les leçons du microcrédit, qui mettent en évidence l'intérêt de la pression collective et montrent que les femmes peuvent diriger fort bien un comité de l'eau, sont utiles pour le passage aux opérations en vraie grandeur.

Si l'on tente de se mettre d'accord sur ce que seraient des tarifs et des subventions appropriés, l'étude montre que leur calcul doit obéir à un souci de rentabilité, d'équité et de coopération. Le succès, dans le passage aux opérations en vraie grandeur, dépend de façon critique de la structure institutionnelle, et notamment des mécanismes communautaires, dans le cadre desquels les taxes et subventions sont calculés.

Resumen

Gran parte del debate sobre la recuperación de los gastos realizados en agua y saneamiento se ha centrado en si los pobres deben o no deben pagar estos servicios —el título mismo del documento se basa en la experiencia obtenida en el sector. Este debate se ha trasladado recientemente del ámbito de la economía al de los derechos humanos y las interacciones entre ambos. Aun siendo útiles estos debates para establecer determinados principios, en última instancia los aspectos prácticos de la aplicación y las limitaciones de recursos determinarán lo que es viable en el marco de un país concreto para satisfacer la necesidad básica de agua potable y saneamiento.

El documento pone en cuestión por qué no han prosperado las muchas experiencias y “modelos” que muestran que los pobres están dispuestos a pagar por el agua. Se sugiere que lo que se debe reproducir son los principios de la recuperación de los gastos más que los modelos mismos. Algunos de los principios que funcionan son la recaudación de tarifas por la comunidad y la responsabilidad de la comunidad en la gestión de las instalaciones. A este respecto, las experiencias del microcrédito de la presión de los pares y de las mujeres como gestoras de los comités sobre el agua son útiles y pueden aplicarse a gran escala.

En lo relativo a alcanzar cierta medida de acuerdo sobre las tarifas y los subsidios adecuados, el documento argumenta que deben planearse de manera que respondan a las consideraciones de rentabilidad, equidad y asociaciones. El éxito de la aplicación a gran escala depende de manera crucial de la estructura institucional, incluidos los mecanismos de la comunidad, en el ámbito de los cuales se aplican las tarifas y los subsidios.

I Introduction.

Water is a basic human need. Water is also regarded as a fundamental human right under a number of international treaties and conventions. The implication of these statements for financing of safe water, in particular, the obligation of governments and cost-recovery is, however, unclear. The recognition of water as a basic need and a human right places it in similar status from a public policy standpoint as other social services such as health and education.

The evidence from a number of case studies around the world suggests that the urban poor do pay for safe water. Indeed, this evidence can also be cited in the case of health. Often the poor pay for these services at significant cost to the welfare of their children. Payment for water becomes yet another addition to the many other services for which they have to pay. The issue, however, is what lessons emerge from the evidence of payment by the poor for water and what are the implications for the financing of water supply? In answering these questions, we must also understand the answer to a second statement viz. the rich can but do not pay a fair share for water supply and most subsidies in water supply benefit the rich not the poor – why? Both questions are linked particularly in an urban setting.

It does not necessarily follow that because the urban poor pay proportionately more of their household expenditures for water than the rich, they will necessarily be better payers than the rich for service delivered by more formal systems such as a piped water scheme provided by a utility. Nor does it imply that improved water delivery and subsequent cost-recovery systems can be provided and operationalised on a large scale for the urban poor based on the evidence of payment by the poor for water supply through informal systems. The issue is not so much whether the urban or rural poor can or do pay for water supply but rather under what conditions do they do so and how can this lesson be taken to scale for water supply to the urban poor. This understanding is central to the design of tariffs and subsidies for water supply in many developing countries.

This paper presents some of the evidence on payment for water by the urban poor and attempts to reconcile the human right to water with resource constraints and cost-recovery in developing countries (Section II & III). It suggests that effective implementation of cost-recovery through tariffs and subsidies requires appropriate institutions based on the principle of value for money, equity and partnerships (Section IV & V). On these bases, it sets out the lessons learned and underlying conditions under which tariffs and subsidies can be expected to work in water supply for the urban poor (Section VI).

The key lesson, it will be argued, is not the willingness of the poor to pay or how to design tariffs and subsidies but rather providing value for money, ensuring equity in service provision and tariffs structure and partnership involving the users. Transplanting the experiences of payments by users for water supplied by the informal sector (such as tankers and water carriers) to piped water supply by utilities is fraught with complications. Providing water supply by public utilities raises

a whole gamut of public policy issues ranging from the human right to water, water as a public good, government's obligations, institutional structures, and management capacity, including leadership, accountability and transparency. It also provides the opportunity for water to be treated as a political good, a process in which the voiceless poor are often losers.

II The evidence on payment by the urban poor

There is now seemingly an ample body of evidence to show that the poor do pay for water. In a 1993 study of five cities in Morocco Mcphail found that poor households were willing to pay more than 5 per cent of their household expenditure – at one time an unofficial norm for the sector - for individual water services. In some peri-urban areas it was found that the poor are paying 20-30 per cent of their income for water from water vendors, such as in the poor and arid regions of Sudan. The poor in urban areas who are not served with a safe source often pay high costs with vendors typically charging US\$2 to US\$3 per cubic meter of water, which is 10 times more than the price which the served pay for water from a tap at home (Briscoe and Garn, 1995). Briscoe and Garn also argue that subsidies benefit mainly the rich and better off.

In peri-urban areas of Nouakchott, Mauritania, it was found that the poor pay as much as 14 to 20 per cent of their household budget for water. A cubic meter of water which is sold by the national water society at US\$ 0.37, is sold at the end of the distribution chain by carters at \$3.71 a 900 per cent increase, which can rise to 4,600 per cent or U.S.\$17.32 in periods of water shortages (UNICEF, 1999).

The El Mezquital squatter slum of Guatemala City has 9,400 families. UNICEF has worked with the community, NGOs and local government to provide improved water supplies. The initial step was to provide 13 community water taps and health care to the residents. Through a dialogue and partnership with the local government and the municipal water enterprise a single source water tank was constructed in the slum with piped water connections to each family. Each family paid for their own connection. The local community association receives one large bill from the water company and then collects fees from the residents according to usage measured by individual meters. The cost of water is far less than what the residents were paying to private tanker supply firms earlier. In another similar scheme 2000 families were connected, at a cost that is 25-60 per cent lower than that from other sources. (Espinosa and Lopez, 1994).

The average water availability in Port-au-Prince in Haiti is 55 litres per inhabitant per day but half the inhabitants receive no water service at all. Only 10-12% of the families are connected to the public water supply in homes. Those connected receive water for only a few hours each week. Private operators meet the water demands of the underprivileged who are paying \$3-\$5 per cubic metre, compared to \$0.5 for water from the public network. Various private sellers offer different types of services. Private tubewell water is sold to truck operators at a price of \$0.1 per cubic metre who resell to owners of private water tanks at a price \$0.8-\$1.5 per cubic metre who on-sell to private individuals. Private water tank owners sell water to water carriers at \$2-\$3 who resell door-to-door at a price of \$3-\$5. Capitalising on this willingness to pay, the urban public water company

designed a network of water points in the neighbourhoods linked to the main urban network. Water is collected in reservoirs to overcome the intermittent supply and sold to individuals at an average cost of \$1 per cubic metre. The community water management committee collects money and payment is made to the water utility at a rate of \$0.3 per cubic metre. The gross profit margin is used to pay the employees of the community who are managing the tap and the expenses of the committee. Collection experience is good with no instances of default to the water company (Colligon 1998).

In Chinsapo, a peri-urban poor locality of Lilongwe, Malawi, UNICEF initiated a pilot project similar to that in Port-au-Prince. The municipal water utility provided a standpost connection to the community from the urban water supply system. The community formed a local water committee responsible for managing the standpost and collecting water charges on the basis of the amount taken by each resident from the community stand post. The water committee is responsible for paying the money over to the water utility. The collection experience has been very good and the model has been replicated in a few other locations. Communities with appropriate training in book keeping, tap repair/maintenance are able to manage the community water system.

However, there are some problems also amongst the positive experiences of Chinsapo. The composition of the peri-urban population is dynamic – new comers are not always appreciative of the management structure and may disrupt prevailing systems for collecting funds for settling water bills. Large families living on daily incomes cannot afford the quantity of water that they need, their willingness and capacity to pay for small quantities of water is not sufficient to pay for the basic minimum amount of water that is needed for the family. The communal tap is not attractive to the water boards, which often complain that the capital costs and their long recovery period does not justify the expenditure. The central or local government is often asked to pay for the capital investment. Environmental sanitation has not been as amenable to solution because the onsite pit latrines pose threat to groundwater contamination for those still relying on shallow dug-wells (K. Banda, UNICEF, Malawi, internal communication, 1999).

Sulabh in India has also shown that the poor are willing to pay for public sanitation services. It has built over 1 million individual toilets and 4,000 public toilet-cum-bath complexes being used by about 10 million people all over India every day (Pathak, 1999). Sulabh has developed a low-cost technology for middle and low-income urban areas in an environment where the resource constraint makes it difficult to adopt a large scale sewage system .

Orangi is home to about 1 million working-class people – skilled labourers, clerks, and shopkeepers – with family incomes averaging about 1000 rupees (\$30) per month. The Orangi Pilot Project was set up to help them develop a sanitation system themselves after repeated requests to the municipal authorities were getting them nowhere. However, the government made a major shift in policy by accepting that these settlements were here to stay. Seventeen years later, virtually every home in Orangi had a pour flush connected to an underground sewage line. The families paid for the system. The key Orangi lessons are that adequate sanitation is fundamental to improving living

standards; that people are willing and able to pay for sanitation if costs can be controlled through community initiatives; that ownership of land and houses in urban areas is an essential prerequisite for private investments in sanitation; and that collective efforts of ordinary people can push aside roadblocks of bureaucrats (UNICEF, 1997).

Despite evidence of the urban poor paying for water and sanitation, the robustness of the evidence for drawing lessons to go to scale is unclear. Robustness requires an assessment of the replicability of the case studies on a large scale and an assessment of why in other instances the urban poor are not willing to pay or do not pay for improved services. If all the above examples are clearly successful, why have they not been replicated on a larger scale in the countries in which they were designed and adapted to other countries? What are the appropriate lessons from the case studies for the purposes of cost-recovery mechanisms and going to scale? What about the case studies of failures?

For example, in a peri-urban scheme in Malawi a water storage tank was provided on a hill to a squatter settlement. A number of difficulties were noted. The storage tank capacity was much below what was needed for the community of 229,000 – providing only 11 litres per capita compared to the 33 litres envisaged. Because of lack of adequate community involvement, the system has worked for only three months since it was commissioned in 1997. The users bitterly complained about the prices charged – they used to pay 3 tambala for 20 litres of water from the old system of water vendors; in the new system they paid 20 tambala in 1997 but now have to pay 50 tambala whenever it works and as much as 100 tambala to the water vendors when the system does not work. The water vendors increased their prices because the new system does not work and the old system of water kiosks was disconnected when the new system was commissioned. Therefore, the poor are paying 16-32 times more than they paid before the project and about one-third their income for water. The better-off population gets water at 2800 tambala for 8,000 litres of water per month. Therefore, the poor are paying 6-12 times more than the better off per litre of water even after getting an improved source (B. Doyle, UNICEF, internal communication).

In the Western Cape in South Africa, a piped water supply scheme has been provided to 15,000 informal homes and 75,000 people. However, it has been a challenge to overcome the perceptions of entitlements to free water. Cost recovery levels were reportedly very poor with less than 5 per cent of the people paying for water (Sunday Times, South Africa, 1998).

Although we need to build on case studies of successes, to learn lessons we also need to compare them with case studies of failures. However, the latter are difficult to find, not because there have not been failed projects.

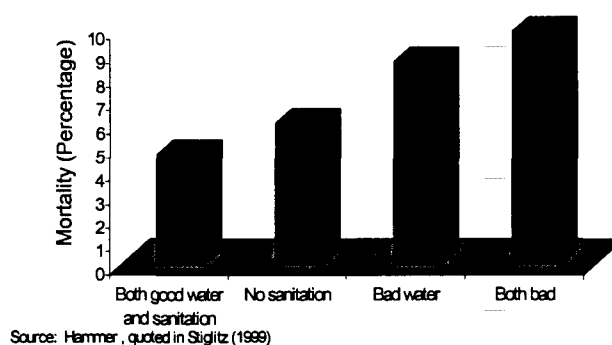
III Reconciling the human right to water with resource constraints, and cost-recovery

Protagonists for the subsidisation of water can find considerable support in calls for regarding water as a fundamental human right. The justification for treating water as a human right can be traced to

various human rights treatise and conventions, although in most cases it is an implied or derived right since it is not explicitly stated (Gleick, 1999). The Universal Declaration of Human Rights (1948) states “everyone has a right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services”. Article 24 of the Convention on the Rights of the Child has an explicit mention of clean water under the right of the child to the enjoyment of the highest standard of health. It calls on State Parties to pursue the full implementation of this right through the provision of clean drinking water (Nigam and Rasheed, 1998). Water as a human right imposes obligations on the State Parties to provide support internationally and nationally (Jolly, 1999). However, it remains unclear whether this means entitlement to the minimum quantity of water for survival – of about 5 litres per capita per day (lpcd) for drinking needs - or some larger norm. It is also unclear whether any technology or distance from the home is implied by such norms. Gleick suggests a norm of 50 lpcd as a basic water requirement for meeting four domestic basic needs – drinking water, sanitation, bathing and food preparation.

The difficulty surrounding the interpretation of the meaning of water as a human right is no doubt a major reason for the difficulty in getting consensus around this notion. There is a cost to the provision of water supply and the cost increases the more improved the source. These costs do not necessarily have to be borne by the government. From the standpoint of public policy, water can arguably be regarded a public good because of the significant externalities on health. World Bank estimates suggest that good water and sanitation is strongly correlated with mortality reduction (Figure 1). Apart from the public good argument, there is considerable congruity between treating water as a human right and achieving economic efficiency. The market can reach a higher level of efficiency with greater equity if the basic need for water is met, thereby compensating to some extent for the inequity in the initial distribution of income, endowments, and capabilities, which are a major cause of poverty.¹

Figure 1: Improving Water Access and Sanitation May Best Improve Health



¹ Nigam and Rasheed (1998) argue that a rights-based approach is consistent with economic efficiency.

One interpretation that we can derive from the recognition of water as a human right is that it confers an obligation on State Parties to ensure that actions are taken and adequate resources mobilised to provide the nationally set norms for water – whether it is 5 or 50 lpcd². It does not necessarily imply provision by the state. (However, we will argue that even in an environment of limited resources and even if water is an ‘economic good’ a ‘non-government’ financing option has considerable limitations in this sector, at least for the initial capital investment that is needed). The human rights approach also does not imply that water above a certain minimum quantity should be provided free.

Cost-recovery for water supply above a minimum norm must be considered for sustainable provision of water services since the demand for water beyond that required for essential drinking needs is elastic i.e. consumption decreases as the price increases. However, the nationally agreed minimum water requirement can be provided at low-cost. The cost of this subsidy can be recovered by steep increases in tariffs for water usage above this norm³. This would treat the minimum water needs similar to the provision of universal free primary education; while at the same time make inefficient use or waste of water more costly, thereby promoting conservation of water resources.

However, those expected to pay for water services are also entitled to value for money - economy, efficiency, and effectiveness – in the services provided. Failure to achieve value for money often results in poor recovery rates and in-efficient utilities. In light of the resource constraint and considerable inefficiencies that prevail in this sector in many developing countries, a vicious downward spiral is created in which it is ultimately left to the community to design solutions to meet their needs: increased investment in ‘quality’ (technology + management) urban systems drains significant resources from rural and peri-urban provision; without quality systems and institutions, cost recovery in urban systems is low; without good cost-recovery in urban systems, the rich are subsidised at the expense of the poor; without adequate resources, the urban-poor who do not carry the same political clout are unable to obtain improved services unless they are willing to pay a significant proportion of the full cost; to provide the urban-poor with improved services, therefore, requires trade-offs and the search for appropriate low-cost solutions often with community participation.

IV Appropriate institutions

For the implementation of a system of tariffs and subsidies in low-income urban areas, it is essential that there is the appropriate technology for measuring the quantity of water consumed by the

² Although such norms have been set in the past, it is difficult to monitor. For example, one handpump is supposed to serve 250 persons with 20 lpcd. However, in many instances this is not what happens in practice.

³ Such a system, however, also suffers from the difficulty in determining the size of the household in order to implement a principle of low tariffs for basic human requirements. The alternatives are to establish a standard minimum amount per household or for the community to monitor and establish the charges for each household as in the case of yard taps, although this may be a source of tension among households and the managers of the community taps.

household and effective institutions for its delivery and management. Both are major constraints in most developing countries.

Treating water as an 'economic good' implies tariffs. Tariffs work best when they separate out the different types of services offered, capital and recurrent, where the latter is based on usage.

This requires:

- ⌚ a reliable and functioning system to record usage by each paying unit – at the community but ultimately also the household level;
- ⌚ an institutional mechanism to collect charges; and
- ⌚ effective and efficient water supply systems, including reduction of water losses.

One or more of these requirements is missing in most developing countries. For example, the most effective and fair means of tariff collection is one based on usage. This requires metering.

However, in most developing countries many of the houses are not metered. In the case of the poor urban dwellers, this is even more problematic because of the difficulties in land rights over their squatter dwellings. The conferring of rights over the land in the case of Orangi provided the impetus for families to invest and act as a community. The installation of meters, particularly by a municipality can be seen to confer certain rights over the land to these, often illegal settlements. Since the government is often unwilling to take actions which may be construed to provide some legitimacy to these settlements, initiatives are left to the community and NGOs as in the case of El Mezquital and Chinsapo. In some cases, such initiatives such as in Orangi and El Mezquital prove to be effective solutions at least in the short-term. On the other hand, data on some water utilities in Asia shown in Table 1 shows the varying system of tariffs and service quality in these urban centres. A comparison between the utilities in Chennai, Beijing, and Manila shows how the issue of equity can be interpreted differently and incorporated into the tariff and subsidy structures. For example, in Chennai up to 30 cu. m. of water per month is provided free for household connections.

Beijing has a flat rate charge regardless of usage. Manila has a graduated scale which rises only gradually with little variation between low, middle and high consumption levels.

Table 1
Tariffs, subsidies and service indicators in selected urban cities in Asia
(Data for 1995)

Chennai: Pop. 4.5 million		Beijing: Pop. 5.5 million	Manila: Pop. 10.6 million	
Consumption	Rate US \$	Rate US \$	Consumption	Rate US\$
Residential		0.06/cu.m.	Residential	
Minimum/mth.	0.28		First 10 cu.m.	0.14
0-30 cu.m.	Free		Next 10 cu.m.	0.26
30-50 cu.m.	0.028		Next 20 cu.m.	0.34
Over 50 cu.m.	0.056		Next 20 cu.m.	0.40

Commercial			Next 20 cu.m.	0.42
Minimum/mth.	2.80		Next 50 cu.m.	0.45
Flat rate/ cu.m.	0.28		Over 200 cu.m.	0.47
Industrial		0.096/cu.m.	Commercial	
Minimum/mth.	5.59		First 10 cu.m.	5.08
Flat rate/ cu.m.	0.699		Next 90 cu.m.	0.51
Government			
Minimum/mth	0.28		Over 10,000 cu.m.	0.57
Flat rate/cu.m.	2.80			
Service indicators				
Connections (no.)	240,523	222,108		779,380
Coverage (%pop.)	97%	100%		67%
Availability	4 hrs/ day	24 hrs/ day		17 hrs./day
Per capita consumption	-	96 litres/day		202 lit/day
Unaccounted water	20%	8%		44%
Ground water	17%	54%		3%
Surface water	83%	46%		97%
Annual O&M cost	\$23m	\$41m		\$64m
Annual capital cost	\$17m	\$66m		\$47m
Annual collection	\$24m	\$31m		\$137m
Accounts receivable	5.8 months	0.08 months		6 months
Staff/1000 conn.	25.9	27.2		9.8
Drinking water	Boiled	Boiled		Tap

Source: "Second Water Utilities Data Book – Asian and Pacific Region", edited by Arthur McIntosh and Cesar Yniguez, Asian Development Bank, October 1997.

Other facts underlying the figures are more interesting. For example, the Chennai Metropolitan Water Supply and Sewage Board (Metrowater) covers a population of 4.5 million but water availability is only 4 hours per day. Metrowater accounts for only 40 per cent of the water consumed, the balance is from ground water (55 per cent) (Nigam et. al, 1998). In the summer months, this proportion changes to 39 per cent and 60 per cent respectively. Metrowater itself obtains 17 per cent of its supply from groundwater, raising issues of the need for freshwater management which cannot be left to market forces. Public taps and most house connections are unmetered and these users pay a fixed monthly rate of only Rs.10 (\$0.28). A system of multi-part tariffs based on usage and type of entity is in place.

Due to the unreliability of water supply by the utility, tanker supply is common as in many other cities in India. For the urban poor this represents a choice between alternative sources of water supply. They will assess the relative opportunity costs. In many cases this may mean paying more for water by tanker but often this is in a circumstance where public provision is not available due to lack of the required capital investment, inefficiencies in the institutions, and political unwillingness

to meet the needs of the poor. Alternative sources include ground water extraction in situations where the right to this extraction is available to individuals and not curtailed by the state. This carries with it environmental and social costs of extraction of groundwater which are often not built into the calculus. These costs can be significant with the groundwater table depleting rapidly and becoming contaminated.

Community-driven mechanisms such as those seen in Port-au-Prince, El Mezquital, and Chinsapo have been effective but their widespread replication has yet to be seen. In neither of these cases were rights over the land transferred, instead providing a community water tap and making the community responsible for collection surmounted the problem of collection of tariffs. This cannot be considered the ideal equilibrium situation in the provision of sustainable services to the urban-poor. However, these experiences have established an important lesson for longer-term solutions viz. the imperative for community participation in tariff collection, operations, maintenance and management for improved cost-recovery in peri-urban water supply. In the long-term effective and sustainable institutional mechanisms which have the required capital, use it efficiently, and work in partnership with the people will be needed to go to scale. The successful models provide the elements but not necessarily the blueprint for building such institutions. These initiatives have alleviated the problem but have not resolved it in the long run.

V Value for money, equity and partnerships

Value for money People expect 'value for money' whether they are the rich or poor in urban settings. Multi-tier pricing and cross-subsidisation requires improved cost-recovery for urban services for the rich, otherwise the viability of the institutional mechanism will be untenable – the utility must recover all its operations and maintenance costs through charges. Improved cost-recovery in urban services requires 'value-for-money' for consumers – adequate quantities of quality and reliable water supply (QQR) (Nigam, 1997). This entails significant improvements in the efficiency of urban provision and increased capital investment by the government for services for the urban-poor.

Estimates of the capital requirements for universal provision of water and sanitation in developing countries put the figure at \$100 billion per year (United Nations, 1998). In comparison to the estimated current level of investment of \$25 billion the shortfall is immense. Where will the resources for such high levels of investment come from? The urban-poor are certainly not in a position to meet the capital costs, even if they can be expected to meet the recurrent cost of service delivery.

The private sector has increasingly been considered as a partner. Indeed, the private sector is heavily engaged in the

Box 1: Complementarity between services for the poor and the better off.

“where social benefits accrue only to the poor, the non-poor have less of a stake in protecting these benefits and the poor alone are often too weak to prevent political attacks on the programmes”

“universality of social benefits has been very effective at furthering goals of full coverage and equity, even if these may not have been achieved in the most efficient way.”

“where the better off are required to pay fees for services while the poor are exempted, there may be little support from the former to ensure that this system of exemptions is effective and sustained”

“if the better-off come themselves to rely upon well-run publicly provided services, it is likely that the poor will be provided for on a politically sustainable basis.”

Source: Reddy and Vandemoortele (1996).

delivery of services in virtually all developing countries. However, the domestic private sector either does not have the capital or finds it unprofitable, or is unwilling to take the risks involved in making the huge investments that are needed. Foreign private sector investments in water supply and sanitation in developing countries has risen slowly from nil in 1990 to about US\$25 billion in 1997 or about \$3 billion per year – only 12 per cent of the estimated total annual investment in the sector.

These investments are limited because of the political and exchange rate risks. For the most part, therefore, the capital outlay still comes from the government sector, given the inherent political risk, long-gestation period for returns, and the political sensitivity of privatising the sector. Models of service contracts, lease and management contracts are more likely in many developing countries rather than an concession or an outright sale of assets. The foreign private sector can and, from the limited experience, has shown that it is essentially a partner in improving the management of the utilities. With a few exceptions, the government will remain the major source for the capital investment required in most developing countries.

Equity The principle of equity incorporates both financial and gender dimensions, although here we will concentrate primarily on the former. Equity covers the following components:

- ξ Ability to pay based on per capita household income and expenditure;
- ξ Cross-subsidisation of the poor by the better-off;
- ξ Cross-subsidisation of the domestic water supply by commercial and industrial users;
- ξ Provision of the basic minimum water requirements for drinking purposes at very low or zero price;
- ξ Participation of the poor in decision-making on all aspects of the services provided to them.

Partnerships A comprehensive solution to water supply in the rich and middle-income urban and poor-urban will be long time in coming in many developing countries. It is for these reason community-initiatives for poor-urban areas are important. In an environment of absolute poverty, formal institutional mechanisms such as utilities will find it challenging to provide effective and efficient services with cost-recovery if they do not involve the community in a partnership. The lessons from the cases of success in urban water supply suggest that community management, ownership and participation has been critical to cost-recovery. Where the users through their communities are not part of the design of the tariff and subsidy schemes, recovery rates are often low. In health, cost-recovery mechanisms which allow the community to retain revenues and recycle them for the purchase of drugs have been found to be effective (Reddy & Vandemoortele, 1996).

If in the water sector, the community is charged with the responsibility for collection of the tariffs, the chances of success are greater. The underlying phenomenon that this exploits is that of 'peer pressure' much as in the case of group-based microcredit schemes. Formal water supply institutions in developing countries can take advantage of the lessons from microcredit in ensuring high levels of recovery. This can be greatly helped if women are the primary custodians and managers of the community schemes linked to the formal utility. They have a greater stake in its

proper functioning since they bear the brunt of the costs of water collection. An even better step forward would be to ultimately make the community a shareholder in the utility.

VI Lessons learned from the evidence

The evidence of the willingness of people to pay for improved levels of water services is seemingly powerful. Water is demonstrably an economic good, which simply put means it can and does command a price – it has value to users who are willing to pay a price⁴. Nevertheless, the primary finding is not that people are willing to pay for water. This should be expected, because water is a basic human need and survival depends on it. The amount that they are willing to pay will depend on their opportunity costs compared to the alternatives available to them, including use of unimproved source if the price is too high with its consequent health impact. People will pay, use an unimproved source, or migrate to regions with water, if there is an endemic water shortage. For example, at the time of the forest fires in Indonesia, people were selling all their gold for water.

The lessons, however, must be derived from the implications that willingness to pay has in regard to the overall ‘burden’ on the household budget, equity and the consequent implications for cost-recovery using more formal systems of tariffs and subsidies. These considerations constitute the ‘social’ component of the Dublin and post-Dublin principle that water is an ‘economic and social good’ (Dublin Statement, 1992). The social good character of water has tended to receive less attention than the implication of regarding it as an ‘economic good’. The social component has been interpreted as the societal objectives of poverty alleviation, food security, and environmental externalities (Rogers, et.al. 1997). If poverty alleviation is one social good component of water, then strategies in the water sector must compensate for the inequities arising from the initial distribution of income. Tariffs, subsidies and cross-subsidisation in effect provide the mechanism by which the contradictions between water as an economic and social good can be resolved in an ideal world.

However, this conclusion does not sit well with the implications that are derived from the fact that the ‘poor can and do pay for water supply’, particularly if full cost-recovery of operations and maintenance is envisaged. The evidence of payment by the poor often leads to the conclusion that the poor should be charged for water supply and should not consider it a ‘free’ good. It suggests that if the poor pay for water they could receive improved services at lower prices than what they pay. In reality, the resolution is not that easy, primarily because of the resource constraints for the capital investment required for improved levels of service for the urban poor and most importantly lack of effective institutional mechanisms.

To overcome the former often requires capital investment by the government but for success both these aspects need to ensure community management and participation in the design of the system and its operations and maintenance. Private sector participation where it leads to promising initiative must, however, be effectively regulated. Regulation must cover, inter alia, the system of

⁴ Briscoe (1996), Rogers et.al. (1997).

tariffs and subsidies, environmental considerations and an obligation on the private sector to meet the needs of the urban poor. If the urban poor are willing and able to pay for water at much higher rates than what the better off pay, then they must potentially be a good long-term bet for cost-recovery. However, most developing countries, even as they promote private sector investment, lack effective regulatory institutions, negotiating, and enforcement mechanisms to adequately safeguard the poor.

Again, a lesson can be drawn from the experiences of microcredit. Despite the experience that poor women are good borrowers, banks typically continue to deny credit to poor women borrowers on the grounds of risk. However, the group-based system has shown that it is possible to harness financial and social intermediation to achieve high recovery rates. Similarly, the institutional mechanisms in water need to be adapted to take advantage of the fact that the poor are already paying significant amounts of their household income for water. To go scale, therefore, an appropriate institutional framework is needed which provides value for money to the poor.

An important issue from a policy perspective is whether the inequity in income and wealth that prevails as a result of the initial endowment of resources and capacities, which affects the capacity of the poor to pay, should be addressed through the charges made for water or whether this should be left to other income re-distribution mechanisms. Fortunately, the basic human need characteristics of water, buttressed by the recognition that water is a fundamental human right suggests that the equity issue must be addressed in the water sector itself and not be left to other mechanisms.

Some lessons derived from the above discussion and interpretation of the 'generally accepted' principle of water as an economic and social good are suggested below.

Lesson 1 Willingness to pay does not mean that the household necessarily has the capacity to pay the full-cost of water supply i.e. there is a trade-off between water as an 'economic good' and water as a 'social good'.

Lesson 2 The high rates paid by the poor for poor quality service cannot easily be transformed into lower rates for better quality services. The case study evidence on willingness to pay is not easily replicable without the poor being provided acceptable levels of services at equitable costs to that provided to the rich within effective institutions or community initiatives.

Lesson 3 Despite evidence of significant private sector participation in water services in developing countries, these efforts are small, in relation to the capital needs. Ultimately the government will remain the major source, and carry the major responsibility, for financing the capital investment needed for improved water supply.

Lessons 4 Going from informal service delivery, through private water sellers, to more formalised systems, and to scale, through either the public sector or formal private sector, raises issues of the human right to water, public good nature of water, obligations of government, and

appropriate institutional mechanisms. These issues lie in the political domain but need to be resolved in national policies.

Lesson 5 Equity in access and tariff structures must be an important consideration in designing cost-recovery mechanisms in water, if the service is to be effective.

Lesson 6 Partnerships are critical for the development of effective system of tariffs and subsidies in water and sanitation in developing countries – partnerships between the beneficiaries, the community, NGOs, the water utility, and local and national institutions.

The successful case studies of tariffs and subsidies, and community-managed schemes are by-and-large short-term solutions – although this short-term maybe very long indeed. While alleviating the immediate demand for water in poor urban areas, more long-term solutions and taking the lessons learned to scale should be pursued with equal vigour and the required level of resources devoted to this effort. An efficient and effective system of tariffs and subsidies requires investment in the appropriate infrastructure for the urban-poor, and building of institutions based on the principles of value for money, equity and partnerships.

Calls for charging the urban-poor for improved levels of services based on their willingness to pay and community financing, where the community is an amorphous entity, as seen from case studies are reflective of the failure to mobilise the required resources and build institutional mechanisms. As such, they cannot lead to long-term solution, go to scale or be a substitute for (a) significant additional capital investment by the government or (b) building appropriate institutions in which the poor participate. The private sector is unlikely to be a major investor in the significant capital investment that is needed. Therefore, in the long run, institutions should be promoted which are a partnership between consumers, their community, local government, and the private sector. The private sector may have a major role to play in the management of such institutions but in partnership with the community.

References

- Briscoe J. (1996), "Water as an economic good: the idea and what it means in practice", Paper presented at the World Congress of the International Commission on Irrigation and Drainage, Cairo.
- Briscoe J. & H. Garn (1995), "Financing water supply and sanitation under Agenda 21", *Natural Resources Forum*, vol. 19 no. 1, pp.59-70.
- Collignon B. (1998), "Restructuring the Water Services in Port-au-Prince Shanty Town," *Waterfront no. 12*, UNICEF, August.
- Dublin Statement (1992) "The Dublin Statement and Report of the Conference," International Conference on Water and Environment: Development Issues for the 21st. Century, Dublin.
- Espinosa L. & O.A.Lopez Rivera (1994), "UNICEF's urban basic services programme in illegal settlements in Guatemala City", *Environment and Urbanisation*, vol. 6, October.
- Gleick P. (1999), "The Human Right to Water", Water Policy (forthcoming) 1999.
- Jolly R. (1998), "Water and human rights: Challenges for the 21st. Century," Address at the Conference of the Belgian Royal Academy of Overseas Sciences.
- Kent G. (1999) "The Human Right to Water", mimeo, University of Hawaii, November.
- Mcphail A.A., (1993) "The "five percent rule" for improved water service: can households afford more?" *World Development*, vol. 21, no.6 pp.963-973.
- Nigam A. (1996), "Sustainable financing of WATSAN," in Reaching the Unreached: Challenges for the 21st. Century edited by John Pickford and others, Proceedings of the 22nd. WEDC Conference, New Delhi.
- Nigam A. & S. Rasheed (1998) Financing of Freshwater for All: A Rights Based Approach, UNICEF Staff Working Papers, EPP Series, Number EPP-EVL-98-003.
- Pathak B. (1999) "Views on strategic approaches to sanitation planning in urban areas", Sulabh International.
- Reddy S. and J. Vandemoortele (1996), "User financing of basic social services: a review of theoretical arguments and empirical evidence", UNICEF Staff Working Papers, EPP Series.
- Stiglitz J. (1999) "Evaluation in a World of Complexity and Information Failures – The example of health care for the poor, address at the Conference on Evaluation and Poverty Reduction." Washington.
- Rogers P., R. Bhatia, A. Huber (1997), "Water as a social and economic good: How to put the principle into practice". Reading for the Water Resource Management Course, World Bank.
- Sunday Times, South Africa (1998), "Water for 75,000 Capetonia", 4 October 1998.
- UNICEF (1997), "Sustainable freshwater supply for Madras city, India", by AMM Murugappa Chettiar Research Centre, May.
- UNICEF (1999), "Nouakchott's peri-urban areas," *Waterfront (forthcoming no.14)* UNICEF.
- UNICEF-WWF (1998), "Freshwater for India's Children and Nature", New Delhi.
- UNICEF-WWF (forthcoming) "Privatisation of water in developing countries" preliminary draft, November.
- United Nations (1998) "Strategic approaches to freshwater management", United Nations Commission on Sustainable Development.