

# Chapter 1

## **Introduction and overview**

### **1.1 Introduction**

The purpose of this document is to demonstrate how water utilities can meet the needs of the unserved urban poor for water and sanitation by developing an understanding of the needs and wants of *all* consumers and by adopting a marketing approach.

Many governments in developing countries have adopted policies for providing better services to the poor, including water supply, often with limited success. How can urban water utilities provide better services for more of their expanding populations, including low-income communities, while improving the financial viability and credit-worthiness of the utility?

The people without adequate water supply and sanitation services live in the unplanned, informal, and often illegal slums and shanties, the low-income settlements of the metropolitan and secondary cities. The task of filling this service gap is further compounded by the rapid growth of population in the urban areas of low-income countries.

The Water Supply and Sanitation Collaborative Council estimates that there is a need to provide an improved water supply for an extra one billion urban dwellers by the year 2015, 1.9 billion by the year 2025. The challenge is even greater with sanitation services, where 1.1 billion and 2.1 billion extra urban dwellers need to gain access to urban sanitation services by the years 2015 and 2025 respectively (WHO/UNICEF, 2000).

The title of this document, *Serving All Urban Consumers*, is intended to be a challenge to network utilities. Much of the urban population in Africa and Asia has to use alternative service providers, other than the recognized utilities or municipalities, in order to obtain their daily supply. People living in informal settlements often pay high prices to water vendors or incur high coping costs in terms of time spent on collecting water or providing their own borewells.

Network utilities are well placed to provide cheaper and more convenient piped water supplies, compared with alternative providers such as vendors. The difficulties arise in planning, justifying and implementing service expansion in a sustainable manner. If the utilities, with their potential economies of scale, were able to capture a larger share of the 'water markets' in their cities and towns, at a fair price for each group of customers, they

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should be able to reduce the price presently paid by the poor to vendors, dramatically improving services, whilst ensuring the utilities' long-term financial viability.

The present situation is that utilities tend to price their water below cost, a subsidy which is then absorbed by the middle and higher income groups who already have household water connections. The poor then have to pay more for a limited supply of poorer quality of water often delivered less conveniently by the vendors. However, capturing a larger share of the water market cannot be achieved by perpetuating the conventional 'one size fits all' approach. Reputedly it was Henry Ford who decreed of his customers that they could have any colour of car they liked as long as it was black. Water suppliers appear to have taken a similar approach over household connections. Traditionally utilities have offered consumers a conventional, full-pressure, buried-pipe household connection only if they live in 'legal' areas and pay a large connection fee. This is an approach which automatically excludes half the population in many cities.

Water services providers and the governments who support and potentially regulate them generally have two key objectives:

- To improve water services and increase service coverage, so that all consumers, including the poor, have adequate provision
- To ensure utilities are financially sustainable and therefore creditworthy to enable additional investment to improve further.

To meet the needs of the poor, whilst remaining financially viable, water utilities have to learn to differentiate their technology and price of service provision. Only by this approach can they hope to meet the needs of their present and potential customers *where they are*, not where the utility would like them to be. This approach means adopting and adapting the techniques which the consumer goods and service industries have long had to use to ensure their commercial survival in a competitive market. The automobile market has developed a long way since Henry Ford and have learned to adapt the design of their vehicles to meet the various interests of customers. The water industry, being a monopoly supplier in its conventional role, has assumed that a supply-driven 'predict and provide' approach to meeting the needs of consumers is sufficient. Such an assumption is no longer acceptable as it fails to meet the needs of the poorest who can benefit most from clean water and sanitation, from a public health as well as a direct poverty alleviation viewpoint.

An illustration of the value of the marketing approach in public health, pricing and service differentiation for the poor has also been demonstrated in the new public-private partnerships, for example in the case of hand-washing in Ghana.

*'The health experts are bowled over by the marketing prowess that the companies are bringing to the project. Together they have, for instance, understood that Ghanaians prefer liquid to solid soap for hand-washing and are more likely to wash their hands before eating if the soap does not smell too strong. They have learnt when and how often to show advertisements to have maximum impact. And they have realized that small families may want to buy soap in very small quantities - perhaps like a sweet wrapped in paper - because some dislike sharing toilet soap and others cannot afford to buy big bars'* (Economist, 2002).

A similar, consumer-sensitive approach to water and sanitation, going beyond the recognized ideals of social marketing, can bring similar benefits.

This researched-based document is intended for both public and private water utilities. It is about the adaptation of marketing techniques which any service provider, public or private, must use. However, we do recognize the value of partnerships, and that particularly where utilities cannot provide services directly to certain areas for whatever reason, there is the potential to form partnerships as part of shared management arrangements with either small water enterprises such as vendors or with community-based organizations. In addition, in unserved areas that are far from pipe networks, a utility can provide information to potential customers about how to seek alternative water supply options such as borewells and rainwater harvesting, until the utility is able to serve those areas. The utility could also provide useful information to potential partners on the nature of the consumer base and likelihood of success for partner schemes. By such means the utility is improving its reputation as a consumer-focused organization and developing trust amongst existing and potential customers.

There is evidence that utilities can do far more directly to serve the unplanned, perhaps illegal, low-income areas that have traditionally been ignored. In recent years there have been a number of utilities that have demonstrated that it is possible to differentiate service and prices to meet the needs of the poor. As part of the research that forms the basis for this book, and through complementary research, we have investigated those suppliers, public and private, which have apparently been most successful at differentiating their services and prices to serve low-income customers, wherever they live. The examples described come from public utilities in South Africa and India as well as from private operators in Argentina, Bolivia and the Philippines.

However, the research also demonstrates that service to low-income customers cannot be sustainable unless they are considered in the context of a long-term and city-wide strategy. It is not possible to give every customer exactly what they want at the price they want to pay. There has to be a balancing of services and prices so that overall the utility earns sufficient revenue to pay the costs of delivery to all consumers. Returning to the automobile industry example, car manufacturers find that if they try to produce too many different vehicles in too many different colours, to try and match too exactly the different groups of customer demands, the resulting inefficiencies lead to vehicles that are too expensive to make profitably. In our desire to serve low-income consumers in the best possible way at the lowest price we also have to be aware of the overall impact on utility efficiency and sustainability.

Therefore we have also included in this document an introduction to the strategic marketing approach that is necessary to ensure overall viability of service to all consumers, the necessity for which is included in the title. Serving the lowest income consumers also demands an efficient utility selling water to higher income customers at a cost-reflective price. Strategic marketing enables 'serving the poor' to be integrated into city-wide planning and provision. Our international research partners have tested this methodology in six urban areas with varying degrees of detail: Kampala, Uganda (S. Kayaga); Mombasa, Kenya (C. Njiru); Lesotho (A. Kamalie); Guntur, India (A. Narender and V.S. Chary); Agra, India SK Gupta; and various small towns in Nepal (G Bhattarai). The results suggest that in most situations it is possible to create a financially viable marketing plan that would enable a city to serve the needs of *all* consumers.

## **1.2 Who is this document for?**

These guidelines are intended for use by water sector managers in low and middle-income countries. They are also designed to be of value to government staff, to policymakers and to regulators who have responsibility for the sector, as well as to donors.

The authors developed detailed research-based strategic marketing plans to prove the concepts, these guidelines are designed as a simplified version that will give sufficient accuracy to be implemented immediately. The goal is for 'good enough' marketing and business plans that encourage early achievement of the universal service obligation. Part II of this document focuses on the development of pilot programmes in a few specific low-income areas using the value chain concept of *know, target, sell and service* as a framework. Part III then discusses the use of strategic marketing in more depth - to move towards providing financially sustainable services for *all* consumers.

We hope that these guidelines will also assist civil society organizations, whether water consumer organizations or CBOs and NGOs, acting on behalf of the unserved poor, by detailing what can reasonably be expected as good practice from utilities in the sector. We trust that civil society will use them to challenge the networked utilities to raise their performance.

This document is complemented by the shorter Book 1 which provides guidance for government's enabling role in using marketing approaches and moving towards serving all consumers. Book 3 gives a detailed explanation of the PREPP methodology to facilitate utility consultation with low-income communities.

## **1.3 Water and sanitation services for the urban poor**

### ***Typical service coverage***

In low and middle-income countries many water utilities and municipalities fail to serve as many as 50 to 80 per cent of the people living in their urban areas. Many existing customers also rely on other water sources for part of their water supply. Such alternative non-utility water sources may be supplied through water vendors or neighbours to whom poor consumers usually pay high prices. In addition other water sources such as wells, springs, and rivers, though often contaminated, may also have to be used. The situation is exacerbated by high urban population growth rates of up to seven per cent per year. Where sustained this rate of population growth means a doubling of the urban population in just ten years. Many, often the majority, of these new urban dwellers live in the informal, unplanned areas - often termed 'illegal' by government planning officials - creating an even greater challenge.

This challenge of improving urban water and sanitation services in developing countries therefore has two main aspects:

- improvement of current service levels for all consumer groups; and
- providing for the rapid increase in the urban population.

In terms of current service levels, data compiled by the Water Supply and Sanitation Collaborative Council in 2000 revealed a large service gap in low-income countries. In Africa, for example, a continent with an estimated population of 784 million people in the

year 2002, only 62 per cent had access to 'improved' water supply, while 60 per cent were served by 'improved' sanitation (WHO/UNICEF 2000 'Improved' water supply was described as one of the following service options: household connections, public standpipes, bore-holes, protected dug wells, protected springs, or rainwater collection.

Typical service levels in African cities are set out in Table 1.1, which shows that only 17 to 31 per cent of households in many Africa cities have in-home connections.

**Table 1.1. Service levels of watsan utilities in selected African cities<sup>1</sup>**

Common service levels	Kampala (Uganda)	Dar Es Salaam (Tanzania)	Conakry (Guinea)	Nouakchott (Mauritania)	Continuo (Benin)	Ouagadougou (Burkina Faso)	Bamako (Mali)
Source of water for household use (percentage of households)							
• In-home connection	36	31	29	19	27	23	17
• Standpipe water fetched by household	5	0	3	30	0	49	19
• Independent providers/traditional sources	59	69	68	51	73	28	64
Means of disposal of household septic waste (percentage of households)							
• In-home connection to piped sewerage	6	3	10	4	1	0	2
• Family labour or independent providers	94	97	90	96	99	100	98
• Near network: connection feasible	(9)	(6)	(17)	(4)	(1)	(0)	(2)

1. Source: Collignon and Vezina (2000).

Invariably it is the less well-off urban dwellers who have to spend time and energy obtaining water from standpipes, independent providers or traditional sources. Small private operators play an important part in the provision of water services in Africa, serving over 75 per cent of the urban poor in Sub-Saharan Africa (Collignon & Vezina, 2000).

It is estimated that an additional 210 million urban dwellers in Africa will need to be served to meet the 2015 goals (WHO/UNICEF 2000). The larger African cities generally have reasonable piped water supplies ranging from 10 to 24 hours a day (from a sample of 17 utilities) (WUP Africa, 2001). However, the proportion of people with in-house

connections is low. Many who do not have piped connections are poorer members of the community with limited ability to pay the high charges and costs of new connections. Utilities have limited funds to invest in new infrastructure too, a restriction that suggests innovative alternative approaches need to be explored.

The urban water service levels in India, for example, (as well as other countries in Asia), are characterized by declining hours of piped supply (typically half an hour to six hours each day or every other day), with a proportion of the population having to rely on alternative water sources such as their own borewell. Box 1.1 shows estimated services levels for urban water and sanitation services in India.

**Box 1.1. Estimated urban water and sanitation service levels in India<sup>1</sup>**

**Urban water supply**

- Access to safe drinking water - 82 per cent
- Access to tapped water - 65 per cent
- Access to tapped water within premises - 42 per cent
- Unreliable and inadequate services with an unknown quality of water

**Sanitation**

- Access to toilets - 63 per cent
- Access to toilets within premises - 33 per cent
- Connections to sewerage - 28 per cent
- Only 70 out of 289 Class I cities have sewerage treatment facilities.

1. Source: ASCI, CMF background note, 2000.

A similar scenario is reported to be common in other cities in South Asia (see Table 1.2).

**Table 1.2. Percentage of households with pipe connections in Asian cities<sup>1</sup>**

Asian city	Approximate percentage of households with their own piped connection
1. Delhi, India	53%
2. Ho Chi Min, Vietnam	59%
3. Jakarta, Indonesia	30%
4. Phnom Penn	70%

1. Source: Lyonnaise des Eaux (now Suez), 1998.

Clearly the challenge of meeting both current and future demand for services is huge. Addressing this challenge requires governments to enable water utilities to manage effectively, working with the private sector (both formal and informal) and collaborate with community groups and NGOs, exploiting the comparative advantage of each stakeholder.

***The effects of inadequate utility services on poor communities***

Most developing country utilities have inadequate funds to invest in the required expansion of water supply infrastructure, usually because they have failed to charge reasonable tariffs over a long period. As there is both insufficient piped water and infrastructure, the rich and powerful tend to be favoured in the allocation of limited resources and the poor often miss out. Politicians may promise cheap water for *all*, but it is mainly the high and middle-income earners, the powerful, who benefit in the end.

The consequence of these poor water services is that many people have to invest time and money in accessing, collecting and storing water from alternative sources, which can be termed 'coping costs'. Added to these coping costs are the indirect costs of both the loss of productive time due to water-related diseases and the costs of medicine to treat them. Higher income consumers may similarly incur additional expenditure when they invest in their own well, borehole, pumps (from water mains or groundwater) and storage tanks.

During water shortages, the rationing of water affects the poor most adversely as their storage facilities are usually very limited. They are also commonly dependent on daily wages through informal sector work (the average percentage of employment in the informal sector in 10 African cities is 56 per cent (UNDP, 1999, cited in Collignon and Vezina, 2000)), which means that any time spent collecting water cuts into their earnings (WSP and PPIAF, 2002).

Why are so many urban water supply organizations slow or reluctant to provide improved water services to unserved areas or informal settlements? One often-cited reason is the political and legal issues associated with land tenure, but there are many instances of these problems being overcome where there is a willingness to communicate and collaborate. There are reports of water supply staff benefiting personally from illegally selling water to vendors, which is as a disincentive to new approaches. In addition there appears to be a mental block amongst many engineers, who traditionally act as managers in the sector, which means they simply do not see the challenge of serving the poor amidst all their other tasks. However, a minority of water suppliers have begun to investigate ways of serving the poor. We describe a selection of these experiences in the next sections.

***Pricing and service differentiation to serve the poor***

The accepted mode of household water supply in many countries has developed by a variety of routes into metered, full pressure, 24-hour-a-day, buried pipe connections directly into the consumer's house, for distribution internally to a variety of sanitary devices. But the accepted mode is not the only mode.

There are variations on this approach, even within the high-income countries of Europe. For example, only 21 per cent of households in England and Wales (Ofwat, 2002) have meters (up from just 2 per cent in 1989). If metering adds about 25 per cent to the average water bill, and in the English and Welsh setting it only reduces average household water use by 11 per cent, there is an argument as to whether metering is always the appropriate solution to billing for water. Similarly, there has long been the practice in UK to install high-level water storage in the dwelling, though with an off-take on the rising main for drinking water. In other parts of Europe such storage is deemed unacceptable as well as unnecessary.

These variations are described to emphasize the idea that there is no right way to deliver water (notwithstanding the apparent 'inviolability' of national technical standards). It is therefore quite normal to differentiate water and sanitation services, particularly when it achieves the goal of delivering public health benefits. The examples given below illustrates part of the spectrum of possible differentiation of water supply and sanitation.

### **1.4 Examples of innovative approaches to serve the poor**

There are many cases of innovative marketing approaches being used for water and sanitation services in low and middle-income countries where both services and prices have been differentiated. Some examples are summarized below from Durban in South Africa, Manila in the Philippines, Guntur and Rajmundry in India, Buenos Aires in Argentina, El Alto in Bolivia.

#### ***Approaches at Durban Metro Water***

Durban Metro Water, the public water utility in Durban, South Africa, differentiated its water supply to unplanned peri-urban areas by offering:

- water kiosks where people fetch and pay per 20-litre container;
- water kiosks with storage, where people fetch and pay per 20-litre container;
- individual connections with a 200-litre ground tank in the yard, with trickle feed;
- individual house connections with limited pressure through roof tank; and
- individual house connections with full pressure (conventional 24-hour supply).

Three of these five options promoted by Durban Metro Water are depicted in Figure 1.1.

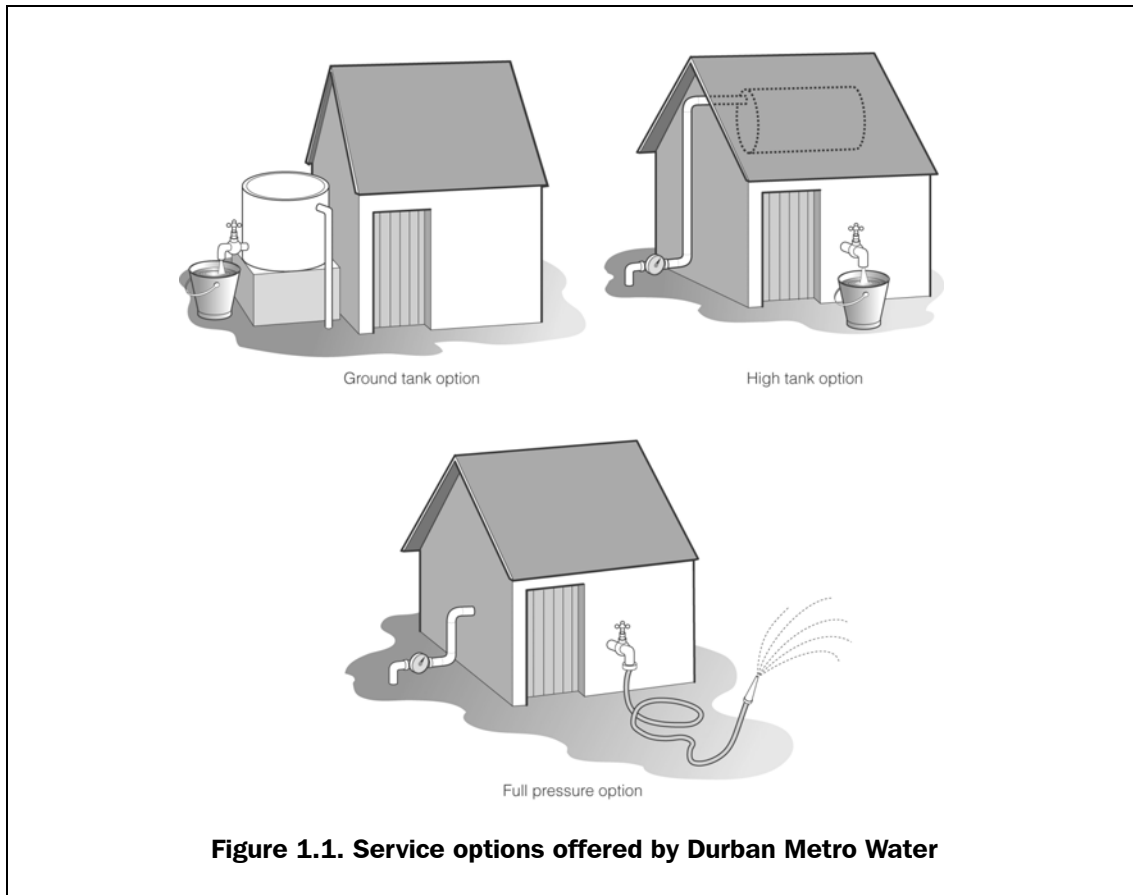
Durban Metro Water have systematically developed these various options, with the price of water to consumers also adjusted to suit the costs, and then promoted their use amongst poorer communities in newer areas.

The ground tank concept, perhaps the most unusual of the options, was first piloted in 1993. The utility supplies the ground tank (a plastic barrel) once the householder is committed to the approach. The tank is often mounted on an old car tyre, to lift it a little above the ground. The tank is covered to prevent contamination and has a float valve to prevent over-filling and wastage. The tank is connected to the water supply main at a manifold or valve cluster that is situated where it is convenient and cost-effective for the utility to install and access.

In the original concept, the ground tank water system is operated and maintained by a water bailiff, who is selected by the community in the informal settlement and trained by Durban Metro Water. After training by Durban Metro Water the bailiff looked after about 150 ground tank connections and a water kiosk. Where the consumer had paid their water bill in advance, the water bailiff would open the particular valve once a day until the 200-litre ground tank was filled.

Costs, and therefore prices, were significantly reduced (hence made affordable) because householders could pay significantly lower connection charges, there did not need to be a full pressure distribution system locally, and there was no requirement for road-cutting charges or negotiations over access routes. Bill collection costs were also reduced as there





was no need for metering, meter reading or bill delivery. Householders did not need to have a formal address, another benefit in an unplanned area. Site inspections reveal extensive use of the various options within specific communities.

More recently the South African policy of free water for the first 6m<sup>3</sup> of a house-hold's monthly water has removed the need for bill collection. But the original concept provides a potential example for adaptation elsewhere.

### ***Approaches in Manila***

In Manila, the Philippines, water supply in the city has been made the responsibility of two private operators who manage water services under a concession type of contract, supervised by a government regulator. The demands of the contract for increases in service coverage have encouraged the private operators to differentiate service and price to previously unserved low-income consumers using innovative technologies and approaches - with generally successful results. Examples of these approaches are briefly described below.

**Group taps or yard connections for two to five households** that follow the concept of the electricity company in providing electricity in low-income areas. In this type of water service, users form groups, register connections and share the cost for usage. Households either form the groupings by themselves or with the assistance of local government officials or area associations. The group is given one mother meter and while it is encouraged to install sub-meters to avoid problems with the sharing of cost, some household groups - usually composed of relatives or close friends - opted not to install

sub-meters to avoid incurring further costs. The leader collects payments from each member and pays the official bill to Manila Water.

**Bulk water supplies to a community group for on-selling** was successfully developed in some settlements where access was difficult. The utility supported the community organization in helping households to fill out and sign the application forms, etc. The majority of the households in one community paid both the connection fees and the additional costs of installing the mother meters. To minimize project cost, the community coordinated and organized their efforts and contributed their labour (men, women, and children alike) by digging, filling, and laying pipes, and concreting the surface to both avoid illegal tapings and protect the pipes. This project initially provided water to about 250 families.

With this approach, installation costs as well as non-revenue water for the utility are minimized. The mother meter is located outside the community area, usually along main roads, where it can easily be seen and monitored for illegal tapping. In this type of service, the non-revenue water is reduced because all water that is lost or consumed legally or illegally after the mother meter is paid for by the community. Billing and collection costs are also minimized, with only one bill for an entire community. Within the community association there maybe some 'community' pressure for the household members to pay bills on time or else the entire community suffers (in the case of a disconnection for nonpayment). So, there is an incentive for the community to urge the late payers to pay, although the community association has to be prepared to continue to manage the cost recovery from people who are connected.

**The 'Bayan Tubig' ('water for the community') programme**, provides individual household connections in low-income areas. This programme waives the land title requirement and allows households to pay their connection fees by instalment over a period of six to 12 months (in some cases this has been stretched to 24 months). These instalments are combined with the regular monthly water bills so that payment begins only upon receipt of the first bill and not before the installation. To help keep costs as low as possible, in some areas residents who were further away from the entrance of the neighbourhood helped the utility to construct the water pipes for their area.

Technically, this approach involves constructing a conventional underground water main until the narrowness or condition of the access route makes this impractical. From this point in the narrow lanes, the rest of the network is built either above ground or on the ground, partially covered or attached to a wall. This distribution pipe delivers water to a battery or cluster of water meters from where each homeowner makes their own plastic connection. This scheme can be modified depending on the characteristics of the area.

The positive response to the Bayan Tubig shows that, given the opportunity, residents of unplanned areas prefer individual water connections to public standposts. The individual connections resulted in substantially cheaper water than before the connection, when water cost more and quantity was severely limited.

As a result of these initial programmes the researchers observed that the once mostly dilapidated houses have been slowly replaced by structures made of more permanent materials. With more time on their hands and water to use, the women are able to clean their surroundings. This effect of the Bayan Tubig has addressed important health

concerns, such as dengue fever, which arises from the storage of water which provided a breeding ground for dengue-carrying mosquitoes. Sanitation in the areas covered has improved as households now have their own toilets and bathrooms within their homes.

(The source of this section is an edited version of Inocencio, 2002.), in Weitz A. and Franceys R., *Beyond Boundaries: extending services to the urban poor*, ADB, 2002.

### **Approaches in Guntur and Rajhamundry**

The poor in Guntur and Rajhamundry in Andhra Pradesh, India depend for their potable water mainly on free public standposts and tankers provided by the respective Municipal Corporations (Narender and Chary, 2002). The water supplied through public standposts is quite inadequate to cover the needs of the majority of the households.

A significant proportion of the poor wanted individual connections and were prepared to pay the required monthly charges. However, they were discouraged by the policy of the Municipal Corporations that charged a one-time connection fee in the range of Rs.5000-7000 (US\$100-\$130) to provide a household water supply connection. As a result, many poor households were excluded from the system, in effect they were not allowed to enter the 'shop' (water supply system). This has resulted in a proliferation of illegal connections.

However, during sustained discussions with the Corporations, as part of strategic marketing research, their leaders came to appreciate the need to increase the coverage of water services to the poor through innovative approaches. (Studies have highlighted the fact that the poor are willing to pay the user fees for water but not the high connection charges.)

In 2002 the Municipal Corporations leaders made significant efforts to remove the entry barrier. They have not only lowered the connection charges as prescribed in government norms, but also allowed the poor to pay these one\_time charges in two or three installments. They have also reduced or waived the associated supervision charges for executing the work. The Mayors and Commissioners have visited several slums, conducted public meetings and issued on the spot connection notices to the willing households. As a result of these sustained efforts, the number of poor households with individual connections has gone up significantly in these cities in the past year. In another variation poor households were encouraged to form groups of six to eight households to access a single connection to reduce the burden of connection and tariff charges.

The Municipal Corporations have also experimented with marketing ideas such as promoting (advertising) new connections in 'Saturday connection camps' and offering the poorest household in a group of ten a special 'bargain' low\_cost connection. The experiences of Guntur and Rajhamundry from India demonstrate that city governments are becoming aware of and willing to adopt marketing approaches to increase water services, particularly to the poor.

### **Approaches in Buenos Aires**

A private operator, Aguas Argentinas, was awarded a concession in 1993 to manage water and sanitation in Buenos Aires, the capital of Argentina. The concessionaire had a contractual target of achieving full service coverage by the end of the 30-year contract. They began to develop programmes to serve the poor through differentiating services and in particular connection charges.

The company explained that the key to the pilot projects was to change the approach from a top-down supply-driven pattern to one of partnerships, recognizing that each partner had their own objectives:

- The objectives of the householders in the low-income neighbourhoods were for a normal service with fair costs and social integration.
- The objectives of the government were to create infrastructure and to demonstrate their capacity.
- The objectives of the company were to service all areas whilst controlling investment costs.

In a range of projects the utility found that they had to differentiate their projects to serve the low-income communities - there was no 'one size fits all' approach.

**'The Participative Water Service' Projects** are described as being based on 'direct links' between the residents of the area (via an association or 'leader' or NGO) and Aguas Argentinas. The company found that this 'barter' operating method, with the community providing the construction labour to reduce costs, is only conceivable for areas where the idea of community work is already accepted.

The utility generally designs the projects and supervises implementation, while the municipality funds materials and the residents construct the system. To promote subsequent payment, a single invoice is given to the community for a year, to see if they are really willing to pay. Meters are installed for the community bill to limit wastage of water. Typically, one person signs on behalf of the neighbourhood, often designated by minuted community committee meetings. Aguas Argentinas has found that there are leaders in poor neighbourhoods who can help resolve people's problems for them. After the trial year is successfully completed, individual billing is introduced, based on an assumption of minimum water usage.

In one Barrio Aguas Argentinas became much more involved with the project design and supervision and altered network standards. Labour for the construction was hired (paid for by government subsidy) and the project was adapted to suit. In another area, reduced cost water supply had been installed, with unmetered (though valved) connections with shallow pipes in each alley and just one meter for the entire area. In this barrio, each family was paying their own bill (unmeasured, using average consumption), and there was no connection fee. To reduce costs and promote participation, all the bills for the neighbourhood were given to one community representative for distribution.

### ***Sanitation in Buenos Aires***

A system of shallow sewers was designed because of the high groundwater table, using 'individual or collective septic tanks with liquid effluent transported by small diameter PVC network (75mm instead of 200mm in traditional Aguas Argentinas secondary networks) with shallow gradients'.

'Since the plots were too small ( $\ll 100\text{m}^2$ ) to take both a septic tank and a soakaway, the removal of liquid effluent was essential. The cost of the secondary network (the largest item in the sanitation network) was reduced by more than half by the small diameter

network and the low gradients (less excavation is required in areas where the water table is less than one metre below the surface).'

'The effluent collected is at present discharged directly into a nearby river: as a result Aguas Argentinas does not charge for the service. When the company network is extended into this area, the collector will simply need to be connected to the mains: the service will then be charged for.' (Lyonnaise des Eaux, 1998).

*This section is based upon Lyonnaise des Eaux (now Ondeo, Suez) (1999) -and site investigations by one author (Franceys) as part of the Business Partners in Development Study Visit in 1999.*

### **Approaches in El Alto**

Aguas del Illimani, the private operator in La Paz, El Alto, Bolivia, has specific performance targets (clearly spelled out in the concession contract) that increase annually until the end of the contract in 2026. To achieve these targets the utility sought to use a marketing approach to target services to the needs of the poor.

Aguas del Illimani has embarked on a series of promotional programmes aimed at raising the company's profile among its users. The 'School Programme' increases awareness about the water and sewerage system by taking children to visit the treatment plants, while the 'Neighbourhoods Programme' advises and explains the procedures necessary to obtain a water and sewerage connection in selected neighbourhoods. The utility also developed the 'IPAS' programme (Peri-urban Initiative for Water and Sanitation). The project objective was to test innovative approaches for sustained provision of water and sanitation services in the low-income areas of La Paz and El Alto. The project promoted the use of appropriate technologies, sound social intervention methodology and access to micro-credit mechanisms for construction costs.

At the project level, IPAS community selection procedures were based on the *Demand Response Approach*, where communities are consulted beforehand about their interest in participating. Aguas del Illimani first approached different communities in their expansion areas and presented the IPAS project, explaining its working characteristic and technology. After internal consultation, the community committed to the project by presenting the signatures of at least 70 per cent of its dwellers. The project was therefore implemented on a first-come, first-served basis.

The next step in the methodology was an area characterization, usually performed by an NGO previously trained by the technical assistance team, to include information about key players in the area, a socioeconomic survey, and a topographical description as an input to the preliminary network design.

The IPAS project introduced an appropriate technology that was used in Brazil, the condominium system. It comprises the introduction of the 'condominium' - or group of users - as the basic unit of service. The condominiums range in size from six to 30 households each. The relaxation of some technical standards allows the participation of the community in maintaining and operating the local network system.

At the social level, the intervention methodology is based on a participatory diagnostic assessment, where the community realizes the need for improved services and acts as an

agent - rather than an object - of its own development. The utility also adapted its approach to payment facilities. As a result of savings in installation costs and also as an incentive for participating communities, the utility offered a discounted connection fee of about 60 per cent of the original connection fee, payable in 60 monthly instalments in the water bill with no interest.

The IPAS project also organized with different local micro-credit institutions a credit line specifically designed to improve houses, water delivery, and bathing and sanitary facilities. Guarantees were flexible and interest fixed at market rates. The micro-credit mechanism also allowed families to construct their credit history and later request loans for income-generating activities.

Finally the utility undertook an educational programme to deliver improved hygiene behaviour. The social methodology used by the IPAS project was very effective in educating the newly served about the importance of sanitation practices and the impact on their health. One of the roles of hygiene promotion is to encourage people to use the optimum amount of water necessary for health. Such promotion is best done as part of a broader marketing approach.

*This section is based on an edited version of Vargas M. 'Incentives for utilities to serve the urban poor in El Alto, ed Franceys, R. for WSCC, 2002'.*

In the above cases the utilities have adopted marketing-type approaches to serve poor communities, whether this has been done consciously or otherwise. They have developed appropriate *products* or service options that they have *promoted* to selected *people* (potential customers) at viable *prices*, using appropriate *processes* in selected *places* where there is demand for service improvements. In doing so the utility has enhanced its *presence* as a consumer-orientated organization. They have therefore been addressing the 7Ps of marketing, which is also known as the 'marketing mix' and is discussed in Chapter 8. It provides a useful framework for developing, promoting and providing different options.

### **1.5 Conventional 'predict and provide' approaches**

The case studies from a variety of countries in the previous section show that it is possible to serve the poor, even in informal housing areas, using innovative marketing-type approaches. But a persistent cause of lack of action is the difficulties of making the case to key stakeholders for more investment to implement improvements, based upon an older, engineering-biased understanding of water supply.

The conventional approach to overcoming the service gap has been to invest large amounts of money in bulk water supply infrastructure to ensure that a sufficient quantity of water is available. The methodology involves predicting the likely population within a reasonable time horizon, taking the standard design criteria of litres of water used per person per day, adding on for commercial, institutional and industrial users, and providing treatment works and transmission mains sufficient to deliver that water to the city.

This approach often fails to take into account the fact that half the water delivered is lost through leakage and theft, whilst the other half is sold to consumers at a price below the operating costs of supplying that water, with thought to recovering capital costs.

Experience also shows that a fair proportion of consumers do not pay their water bills even when they are below cost. This approach also ignores the fact that those operating costs may be unacceptably high due to inefficient equipment and staffing. It also fails to address the point that there has to be investment in distribution networks to get the water to where people live and that the 'illegality' of slums is not a sufficient problem to prohibit water supply to the poor.

Similarly for sanitation, utilities have tended to look at the costs of comprehensive drainage plans and given up in despair before they even consider the concomitant costs of wastewater treatment. 'Knowing' that on-plot and on-site sanitation solutions could pollute the groundwater and also knowing that different government organizations are usually responsible for non-sewerage sanitation, utilities have tended to give up on the unserved population and focus on subsidizing sewerage services to the commercial core of the city.

Moving from the above typical scenario to a demand-responsive, customer-oriented approach therefore requires institutional development as well as a marketing approach. It will still require an element of predict and provide, as the water industry is a capital-intensive, long-term industry. But in particular it will require a new, innovative, creative and partnership-based approach to serving the urban poor. Strategic marketing, the proposed model, can assist in the achievement of these tasks as it provides a framework for organizations to make the case for investment through understanding the perceptions and preferences of different customer groups and their willingness to pay for different types of services. This leads to the development of viable business plans for targeting and promoting appropriate service, payment and management options that can be provided reliably to each of those customer groups or market segments at appropriate prices.

## **1.6 The marketing approach**

A marketing approach is of particular relevance to the water and sanitation sector in developing countries because household consumers, particularly in urban centres, often obtain water from numerous alternative providers and sources. At one level, water utilities 'compete' with alternative water obtained from untreated sources. Across a typical city private vendors, individual household on-selling, family and institutional boreholes, hand dug wells, streams, rainwater and springs complement the conventional utility water, thus illustrating the water market in action.

These 'alternative supplies' that often supplement, replace or substitute direct utility-provided water are accessed through informal human and physical networks. Although often unregulated, unreliable and costly, people use them regularly either through necessity or choice. At some level all these sources of water supply attract reasonably 'loyal' customers and represent degrees of competition to utilities that are required to operate in the same market.

So it is clear that competition exists in the domestic market and that city dwellers do not always automatically look to the utility to provide services. If utilities are to capture neglected or new markets then a customer-focused, effective strategic marketing strategy needs to be developed and implemented.

## INTRODUCTION AND OVERVIEW

Successful international companies, including those in the water sector, have found that a key to success is having a clear customer focus and striving to provide good quality services. By seeking to maximize the number of satisfied customers, a water utility can gain many benefits, the most obvious of which is that a utility should receive fewer complaints, resulting in less interference from politicians on operational aspects. Secondly a customer services focus can improve financial sustainability in two ways:

(a) customers who are satisfied with the service they are receiving are more likely to accept and pay reasonable water charges; and

(b) increased numbers of paying customers, where there are cost-reflective tariffs, generate higher revenue and sustainable returns on investment.

The increased revenues from (a) and (b) can then be invested in improving services, which in turn increases customers' satisfaction levels and so a cycle of continuing improvement can develop.

Managing water services (and sanitation) successfully is like any other business where the responsible organization seeks to: keep customers satisfied, increase market share and maximize revenues. In Box 1.2 examples of evidence of how good business performance is linked to market orientation are provided.

### **Box 1.2. Importance of marketing orientation<sup>1</sup>**

The influence of marketing on higher or sustained business performance has been the subject of a number of studies. The conclusions from two of those studies are:

- Hooley and Lynch (1985) examined 1504 British companies and concluded that the high performing organizations were characterized by a significantly greater market orientation, strategic direction and concern with product quality than the 'also rans'.
- Narver and Slater (1990) focused on the marketing orientation of the senior managers in 140 North American strategic business units (SBUs) and identified a very strong relationship between marketing orientation and profitability. They also found that the *highest degree of market orientation* was manifested by managers of the *most profitable companies*.

1. Source: Wilson and Gilligan (1997).

Marketing is about satisfying customers. Jones (1989) has defined marketing as: 'The management process responsible for identifying, anticipating and satisfying customer requirements profitably'.

The implications of this statement are that ongoing communication with existing and potential customers is required to check the effectiveness of efforts to identify, anticipate and satisfy customer requirements. Some government water supply organizations may be uncomfortable with the term 'profitably', but few would argue with the need to generate sufficient funds for future investment.



There are several ways of looking at marketing:

- as a business philosophy;
- as a management process; and
- as a set of tools used to respond to demand.

The more strategic approach to marketing is captured by McDonald (1989, p.8):

*'Marketing is a management process whereby the resources of the whole organization are utilized to satisfy the needs of selected consumer groups in order to achieve the objectives of both parties. Marketing, then, is first and foremost an attitude of mind rather than a series of functional activities.'*

A water utility with a marketing orientated philosophy would have its entire operations, its personnel and its technical systems, geared to providing improved customer satisfaction and to contributing to meeting its financial objectives.

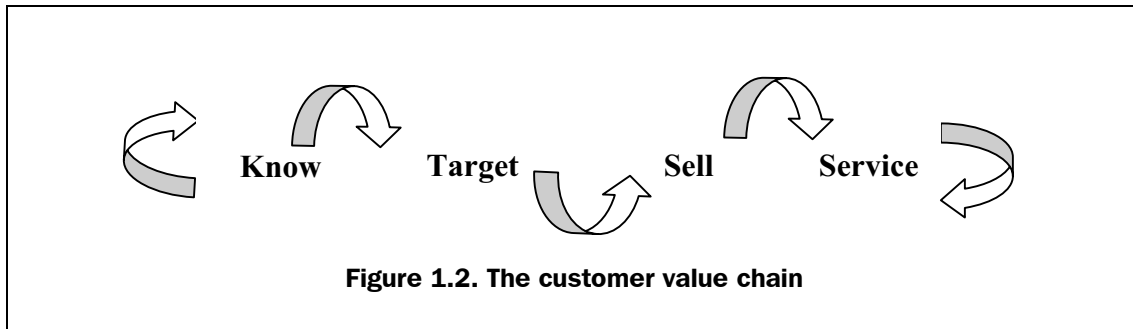
Marketing can also be viewed as a management process. Typically, it involves the following steps (adapted from Wilson and Gilligan, 1997):

- investigating customer demand for different product options;
- identifying groups of consumers whose requirements could be better satisfied;
- developing reliable products or service options to meet changing demands;
- pricing the product at a level which the market will bear and which will meet its financial objectives;
- making the product or service available through channels accessible to the consumer; and
- promoting the product or service so that a desired unit or revenue volume of demand is achieved.

This process of incorporating marketing approaches throughout an organization can be termed Strategic Marketing where it takes the all-embracing, long-term view. Based upon careful analysis of alternative opportunities, and organizational strengths and weaknesses, Strategic Marketing Plans (SMPs) can be developed for or by a utility incorporating aspects such those described in Section 1.7.

But is marketing really necessary for a monopoly supplier of a basic need? Many water utilities, in principle, now appreciate that the *'Customer is king'* and that they should therefore be treated as 'the fountain of knowledge'. For any business to survive, including enterprises that strive to deliver a 'social good', it is important to build enduring profitable relationships with current and potential customers. Only then can the direct provider be effective and efficient.

A useful concept to achieve this is the *'Customer value chain'*, which can be described as to *know, target, sell and service* knowledge' (SageR. Water Services, , 2000).



This concept is increasingly used in the commercial sector, and in the context of the water sector it involves the following:

**Know** and understand the different customer and potential customer groups, including their attitudes, practices, perceptions, preferences and their willingness to sustain payment for improved services. Water and sanitation is often perceived as a 'social good' as well as an 'economic good' and this complicates matters, so more effort is needed to understand people's perceptions. Key methods for getting to know water users include questionnaire surveys, focus group discussions, customer consultative committees and local observation.

**Target** or prioritize specific areas or consumer groups (e.g. commercial customers, and domestic consumers in low-income as well as high and medium-income areas), with appropriate service options, such as house connections, yard taps and water kiosks or standposts, at appropriate price levels. Targeting should be based on the best available information on the consumer's experiences and preferences, using demand assessment results.

**Sell** options using suitable promotion techniques and plans, which could include service options and payments options as well as different shared management arrangements together with CBOs or informal small water enterprises. This will often require careful planning and implementation, particularly when dealing with groups who use alternative water supplies or if they have unauthorized pipe connections and do not currently pay. There is a particular role for CBOs and NGOs to act as social intermediaries in the 'selling' process, particularly in informal settlements.

**Services** should be provided to a high quality standard, delivered through a balance of people, processes and technology by knowledgeable staff. To provide such a standard of service requires utilities to adopt a programme of continual organizational improvement centred around 'the customer'. In addition, effective collaboration between different departments within a utility (such as customer relations, billing, operation and maintenance, financial management, etc.) can enable the resolution of typical customer problems. Servicing the customer will mean that, for example, they are offered payment options to suit their particular needs, such as having a local payment offices rather than expecting them to visit to a distant water office.

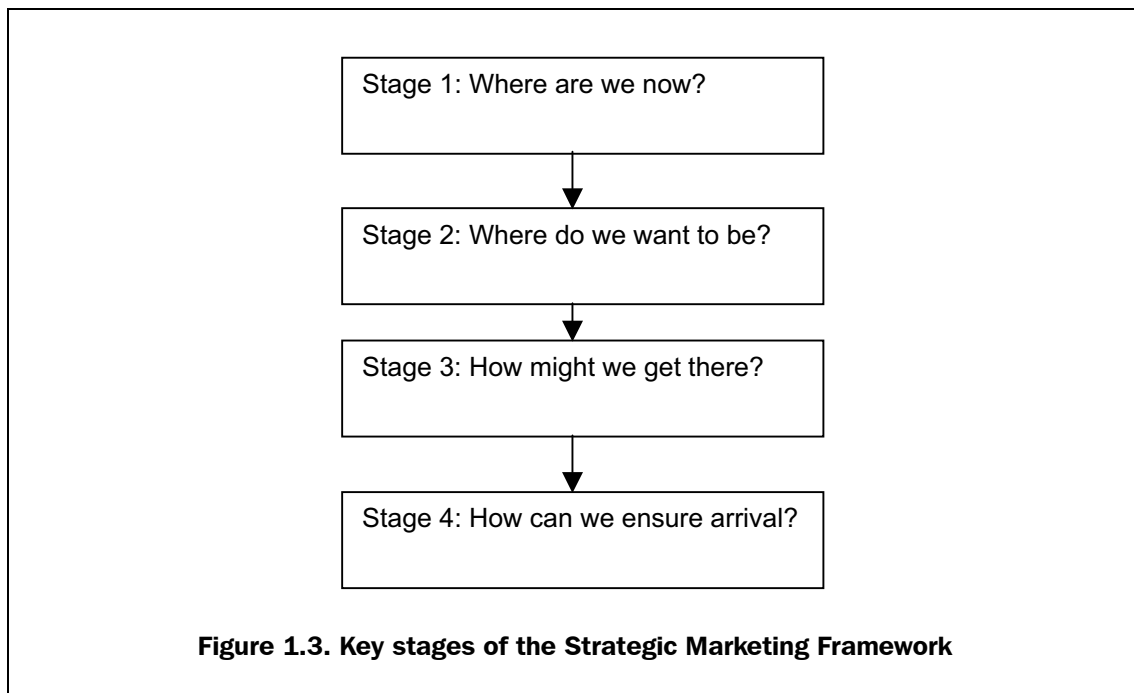
The customer value chain approach, adapted to focus on the needs of low-income consumers, is used as a framework for Part II of this document. As it is a fairly simple framework, it is useful for initial pilot projects for services to low-income areas.

## 1.7 The strategic marketing framework

Strategic marketing for urban water services is a comprehensive approach that builds on the 'customer value chain' described in Section 1.6. It seeks to incorporate good marketing practices in all relevant aspects of a utility's work, so necessarily that is in a utility that has been 're-engineered' to deliver a relatively efficient service.

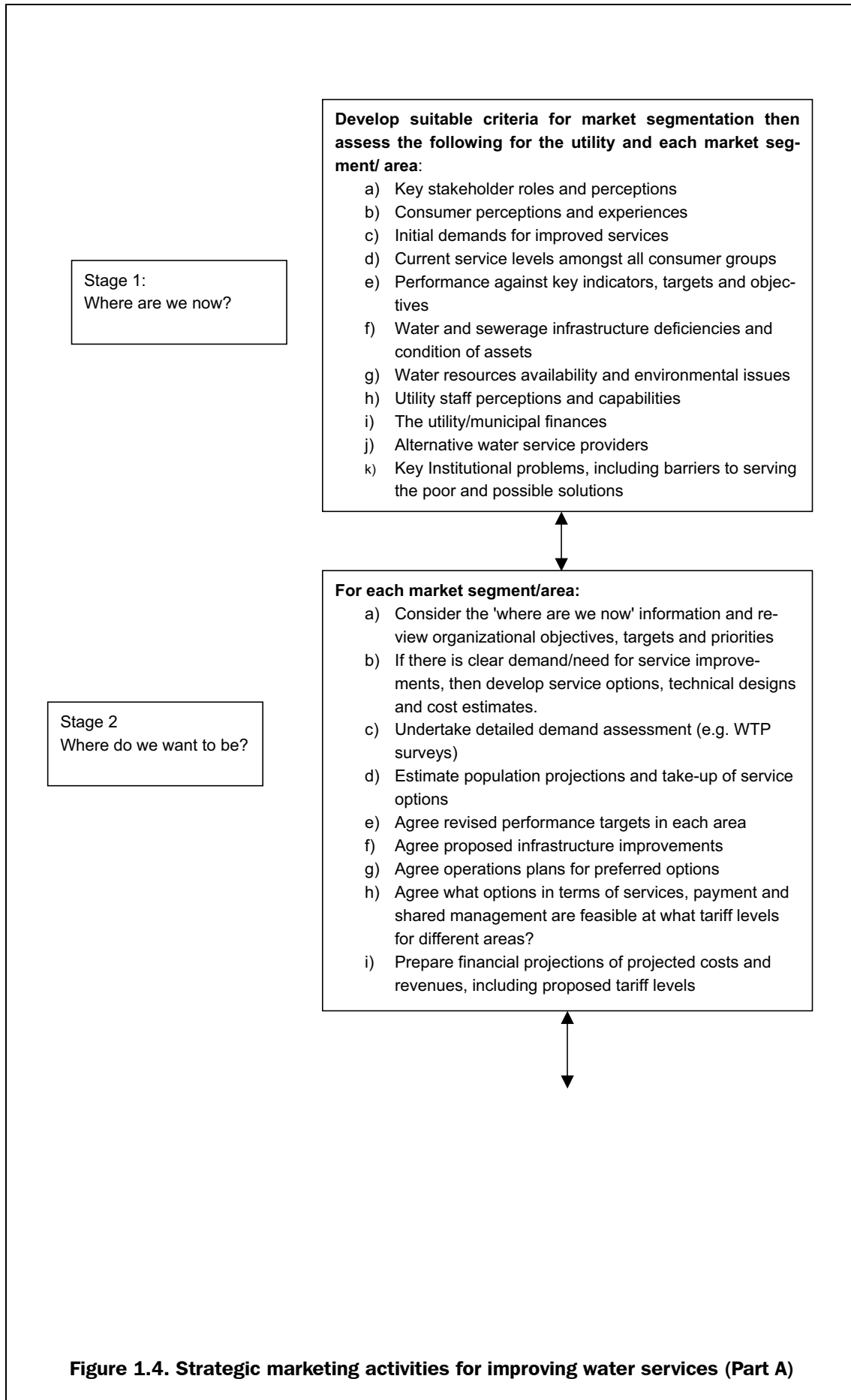
A 'Strategic Marketing' methodology, as described by Wilson and Gilligan (1997), has been used and adapted for this publication, as part of the research programme in Africa and India. During the research, Strategic Marketing Plans (SMPs) for water services have been developed to test the methodology for a number of cities and towns around the world including: Mombasa, Kampala and Lesotho in Africa and Guntur, Agra and various small towns in Nepal in South Asia. Three of these SMPs (Serving All Urban Consumers - books 4 to 6) are available on the WEDC website at: [www.lboro.ac.uk/wedc/projects/psd/](http://www.lboro.ac.uk/wedc/projects/psd/)

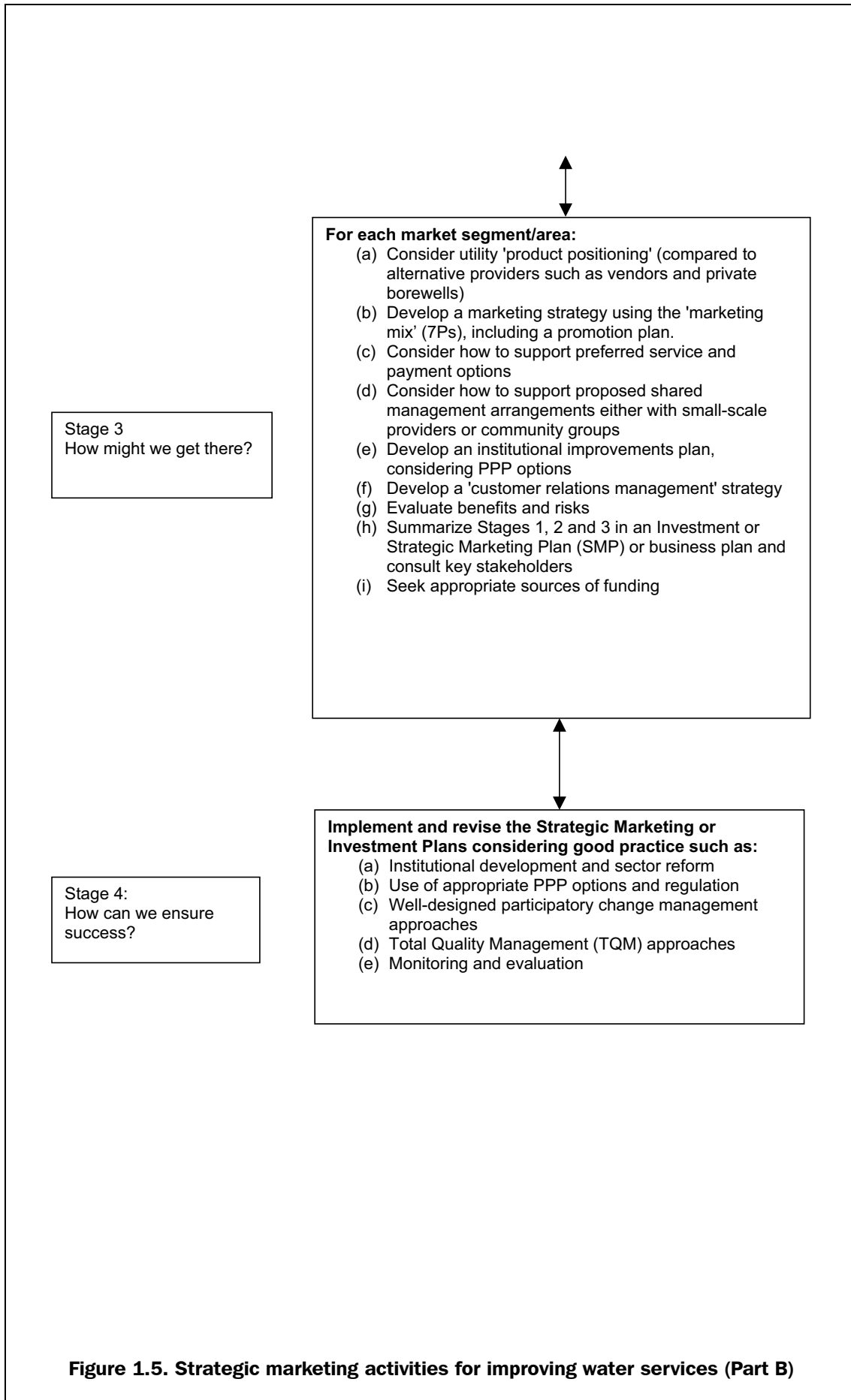
The key elements of the adapted Wilson and Gilligan framework encompass four key questions that logically follow each other and are set out in Figure 1.3.



This outline framework has been adapted for the urban water sector in developing countries. The more detailed framework in Figure 1.4 and Figure 1.5 show the typical key aspects that should be considered at each stage in the strategic marketing process, which is described in detail in Part III of this document. This publication, and the urban water sector research that formed the foundation for it, focus more on the first three (planning) stages. For guidance on dealing with stage four (How to ensure success?) we recommend publications on public-private partnerships, institutional development and change management, Total Quality Management (TQM) and other conventional business manuals.

## INTRODUCTION AND OVERVIEW





## 1.8 Marketing for sanitation

The diversity of the wastewater and sanitation service options that are offered in different low and middle-income cities is illustrated in Table 1.3. The suitability of different sanitation options depends on factors such as: the water supply services that are provided, on-site feasibility of each option, stakeholder pressure for reduction of sewage pollution and the availability of funds for more expensive solutions such as conventional sewerage. A fully operating sewerage system with adequate wastewater treatment is often more expensive than the water supply system. It is for this reason that the use of other less expensive options should be thoroughly explored.

**Table 1.3. Wastewater and sanitation technologies<sup>1</sup>**

Common service levels	Kampala (Uganda) % Coverage	Dar Es Salaam (Tanzania) % Coverage
Argentina - Comodoro Rivadavia	Conventional sewers, discharge to open water without purification <b>(85)</b>	Conventional sewers, secondary treatment, liquid to agriculture <b>(10)</b>
India - Bangalore	Household and community latrines, conventional sewers, secondary treatment, liquid discharged to open water courses, sludge dried and retained <b>(67)</b>	Household and community latrines, controlled disposal to soils <b>(23)</b>
Mexico - Cancun	Conventional sewers, secondary treatment, liquid to deep sea, sludge dried and retained <b>(69)</b>	Septic tanks with uncontrolled discharge to soils <b>(16)</b>
Philippines - Manila	Septic tank with on-site disposal <b>(80)</b>	Latrines with uncontrolled disposal to soils, open water, etc. <b>(9)</b>
South Africa - Dolphin Coast	Conventional sewers, secondary treatment, liquid to open water, sludge dried and retained <b>(59)</b>	Pit latrines, uncontrolled disposal to soils <b>(34)</b>
Zambia - Lusaka	Pit latrines, uncontrolled disposal to soil <b>(57)</b>	Conventional sewers, secondary treatment and disposal to open water <b>(30)</b>

1. Source: Blokland et al. (2003).

In this marketing study, with its focus on city-wide sustainability of a utility, we tend to focus more on water supply than sanitation, particularly with regard to serving the poor. The reason for this, alluded to above, is that except in particular situations (such as the Buenos Aires and El Alto examples), sewerage with an adequate level of wastewater treatment tends to be unaffordable for the poor dwelling in low-income areas. The challenge of threading gravity flow sewer pipes at a suitable gradient through illegal, unplanned areas is significantly greater than extending water pipes. This is not to say that such areas do not need sanitation, in fact the reverse is true, as in public health terms the lowest income householders will benefit disproportionately compared to other areas. However a good means of sanitation for the poor does exist, which is on-plot and on-site sanitation.

Because of its individual, discrete characteristics, however, on-plot sanitation does not require the skills of a network utility. Traditionally it has also been co-ordinated by municipal authorities rather than water utilities. Many professionals dealing with on-plot

sanitation have realized the benefits of the marketing approaches, whether through 'social marketing' concepts of hygiene promotion, or the conventional marketing of sanitary components such as latrine slabs or pour flush toilet seals. There are good research-based publications available on marketing discrete low-cost sanitation systems for the poor such as:

- *Hands on social marketing - A step by step guide*, by Nedra Kline Weinrich. Sage Publications, London, 1999; and
- *PHAST step by step guide - A participatory approach for the control of diarrhoeal disease*, by Sara Wood, Ron Sawyer and Mayling Simpson-Hebert. WHO, Geneva, 1998.

The PHAST document in particular advises quite intensive interactions with the community. Both publications focus on generating demand for sanitation service improvements. Examples of sanitation options that are normally provided or supported by a utility - i.e. omitting on-plot sanitation and on-site disposal - are shown in Table 1.4.

**Table 1.4. Utility-managed or supported sanitation options**

Conventional utility/ municipal sewerage network	Low-cost sewerage	Local sewerage network managed by community	Bath houses and public toilets
Conventional sewage treatment	Disposal facilities for suction trucks		

In this marketing study on networked utilities we have focused more on water supply than sanitation. This is because sanitation options in part emerge from the water supply services and their impact on the local environment. However, we would like to emphasize that any strategic marketing plan that does not take into account the needs of sanitation will have failed. In particular, any plan that accepts the continued pricing of sewerage for higher income groups at just 20 per cent of the cost of water supply (when the real cost is likely to be nearer 120 per cent of the cost of water supply) will fail. The result we have seen in some counties is for the courts to become the channel of demand for adequate sanitation through the enforcement of environmental legislation and in one, perhaps extreme, example becoming the de facto manager of the wastewater treatment plant construction programme.

In areas where the use of on-plot sanitation options such as latrines or septic tanks linked to soakaways are causing clear environmental problems, then sewerage system options should be considered. This can arise in areas with high water tables or high population densities. Some of the marketing approaches outlined in this document can be useful in assessing the need for and planning an appropriate sewerage programme. For example, the customer value chain of *know, target, sell and service*. Some key issues under each of these headings are:

#### **Know and understand potential sewer users**

If residents in particular areas have invested considerable sums of money in their own septic tanks, they could be reluctant to pay sewerage charges and connect to the sewer

systems. It is important to find out in which areas there is the most demand for sewers and learn the views of potential users before making substantial investments.

### **Targeting key groups**

Which groups will the utility focus on during their initial surveys and promotion work? In Dodoma, Tanzania, where there is a high water table, public and private institutions with more financial resources were encouraged to pay substantial contributions to lay tertiary sewer pipes connecting their properties to the main sewers, so as to remove their sewage pollution. Nearby householders and small businesses then paid for their own connections to these much closer tertiary sewers. This took place between 1988 and 1991 and led to increased connection rates. Where community-managed sewers are feasible, then appropriate strategies for collaborating with such community groups need to be developed.

### **Selling sewerage connections and reasonable sewerage charges**

What combination of incentives and penalties are appropriate to encourage people to connect to sewers and to pay their sewerage charges? Incentives could be in the form of discounts for new connections to the sewer, provided they connect by a certain date. Penalties in the case of non-payment of sewerage charges could be the disconnection of the water service pipe, where water and sewerage bills are combined. Enforcement procedures could be used by local authorities in the case of persistent pollution from overflowing septic tanks. In terms of promotion of sewerage services, the marketing mix 7Ps framework of *product, price, place, promotion, people, processes and presence* (discussed in Chapter 8) can be useful in developing comprehensive plans for implementation.

### **Sustainable sewerage services**

For the provision of reliable and sustainable sewerage services it is necessary to consider the key elements of institutional development such as:

- appropriate environmental and sewerage policies;
- development of sewerage departments that can encourage and respond to the demand for services;
- streamlined systems for O&M and customer services;
- development of staff; and
- provision of sufficient resources.

Using such approaches, strategic marketing or investment plans for sewerage (where there is sufficient demand for services) can be developed following the broad framework outlined in this document for water services.



