

Chapter 2

Principles and concepts

2.1 Summary - principles and concepts

Context

The growing presence of national policies that favour improved services for low-income communities requires the provision of services that extend beyond the laying of pipes. This will involve:

- new approaches for communicating with customers;
- the development of new service options;
- skilled organizational management;
- strategic business planning; and
- the development of partnerships between government, the private sector and civil society to create favourable enabling environments.

Why urban poor consumers are a top priority

One-third of all urban households in the world live in absolute poverty (UNCHS, 2001) and the human and social cost of this is immense. At any given moment almost half the developing world's people are sick from unsafe water and sanitation.

The pressure is mounting to change the status quo and utilities have a major part to play. Progressive water utilities are taking a lead and finding innovative ways to sustain services to low-income communities.

Demand

Demand is a central theme in PREPP. In this book the term 'demand' is used in relation to technical design parameters, service management preferences, willingness to pay for a service and as an expression of a human right. Demand is defined as 'an informed expression of desire for a particular service, assessed by the investments people are prepared to make, over the lifetime of the service, to receive it and sustain it' (Deverill et al. 2002).

Key marketing approaches

PREPP draws on commercial marketing concepts and practice to stimulate demand. Bringing information from the consumer together with the ideas and expertise of the service provider is known as a 'marketing mix' (Wilson and Gilligan 1998). This mix contains elements of the *7Ps of marketing*, a useful tool that helps to create a menu of service options that are based on reliable knowledge of the consumer's known preferences and an assessment of what the utility can realistically provide. In this way PREPP enables service provider's to match specific technology, management and product options with the right consumer group, or *market segment*.

2.2 The context

Governments in developing countries are increasingly adopting policies to improve water and sanitation services for communities living on low incomes in informal settlements, slums and peri-urban areas. Water utilities are faced with the challenge of translating this policy into the implementation of sustainable services for all consumers. This challenge is made greater by the need to move away from supply-led approaches. There is also a need to improve institutional financial capability and credit worthiness, while all the time coping with the demands of ever-expanding urban populations. The task of filling the service gap in urban centres is urgent if the Millennium Development Goals are to be met. This requires more than the laying of pipes and networks and involves:

- new approaches for communicating with customers;
- the development of new service options;
- skilled organizational management;
- strategic business planning; and
- the development of partnerships between government, the private sector and civil society to create favorable enabling environments.

2.3 Why urban poor consumers are a top priority

'One-third of all urban households in the world live in absolute poverty.'

(UNCHS, 2001)

The human cost

1.1 billion people are still without access to a safe water supply. Two million impoverished children die each year of diarrhoea resulting from poor sanitation and hygiene (WSSCC 2003). The Water and Sanitation Collaborative Council WASH campaign (2003) states that:

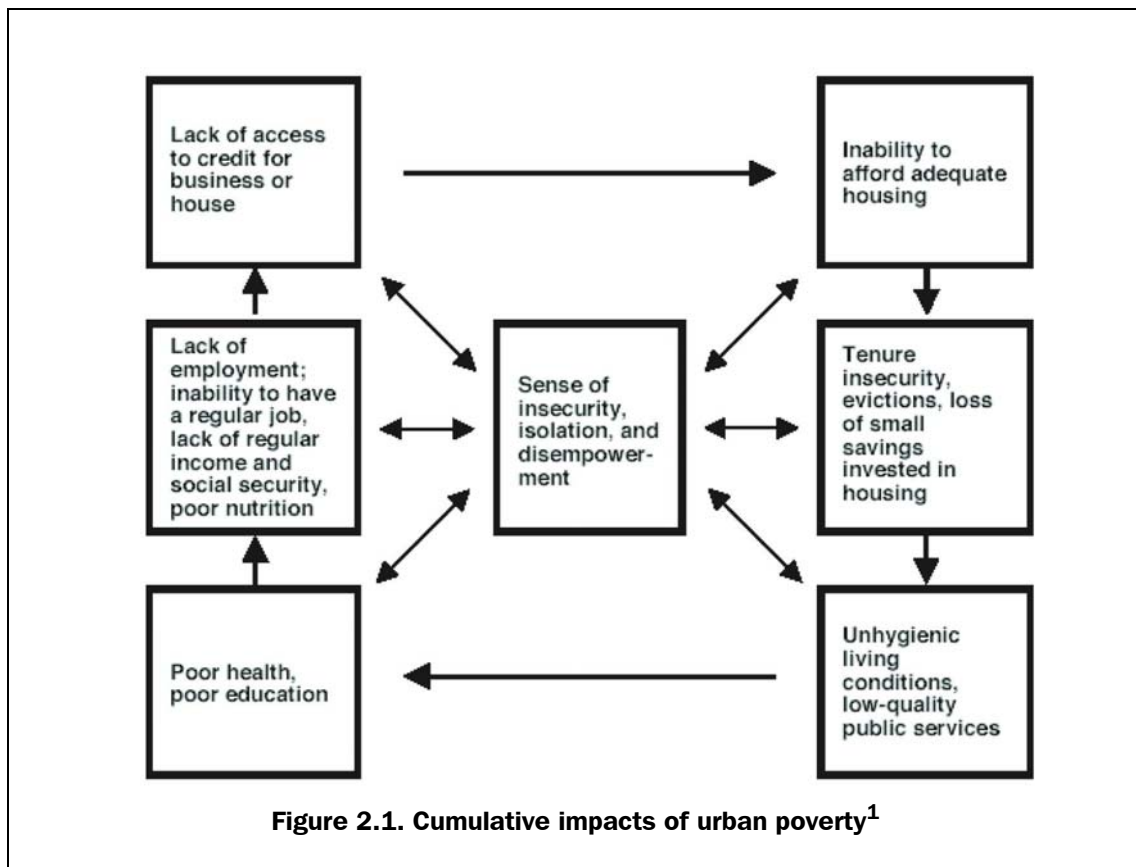
- At any given moment almost half the developing world's people are sick from unsafe water and sanitation.
- Lack of water supply and sanitation robs millions of dignity, energy, and time.
- Frequent disease is the main cause of poor growth and early death.
- For a third of the world the real environmental crisis is squalor, smells and disease on the doorstep.
- Victims of unsafe water and poor sanitation occupy half of the developing world's hospital beds.
- Economies suffer as hygiene-related illness costs developing countries five billion working days a year.
- Sustainable development starts with people's health and dignity.

The social and economic cost

'Water has an economic value in all its competing uses and should be seen as an economic good. However, it is recognized that within this principle, it is vital to recognize the basic right of all human beings to have access to clean water and sanitation at an affordable price.'

The 4th Dublin Principle

Poverty and social exclusion are one result of development policies and practices that fail to take account of and involve people. Therefore it is a fundamental concern of government and their partners how people, especially the poor, can be involved in the development processes that affect their lives (Deverill et al. 2002). Socially inclusive societies are most effectively built upon principles of participation and gender-responsive decision-making based on good information. Failure to embrace such principles results in continued poor living conditions and unsustainable livelihoods, particularly those of women and children (Figure 2.1).



1. Source: Baharoglu, D. and Kessides, C. (2000)

The need for action

'Serving the urban poor with water and sanitation requires the ability to deliver an inflexible, expensive, asset based service to a rapidly growing urban population of whom up to half will be living at or below the poverty line, often in informal, 'illegal' housing areas.'

Franceys and Bos (eds.) 2002

The challenges of providing services for the poor are all too clear to utility managers. Rapid urbanization, growing poverty, informal settlements and deteriorating public and environmental health issues compete for attention with institutional reform and decentralization. Too few links are made between these factors to challenge the real problem of ever-declining service levels (see Table 2.1). Pressure is mounting for utility managers and stakeholders in the sector to change the status quo.

Table 2.1. Utility service levels in selected African cities¹

Type of supply	Kampala (Uganda)	Dar Es Salaam (Tanzania)	Conakry (Guinea)	Nouakchott (Mauritania)	continuo (Benin)	Ouagadougou (Burkina Faso)	Bamako (Mali)
In-home	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

1. Source: Adapted from Collignon & Vezina (2000) cited Kayaga S (2001)

The inequities that exist in service provision in urban centres are well documented (see WSP-SA, 2001). So too is the growing recognition that governments must act on this imperative. It is often said that together policy, partnership and technical innovation provide the required enabling environment to bring about change. These opportunities exist and yet they remain illusive. What is still not clear is whether utilities have sufficient incentives to serve the poor outside a general sense of public duty (Franceys and Bos (eds), 2002). However, progressive water utilities are taking a lead and learning from the lessons of well-targeted urban poverty programmes.

Durban Metro Water South Africa provides a good example of a utility striving to offer low- income consumers a choice of water technology and management option (see Box 2.2). These efforts are made possible by the existence of a supportive enabling environment where clear goals can be defined and partnerships can be formed. Utilities are also beginning to network more effectively, for example through the Water Utilities Partnership (WUP) in Africa. Together utility managers are realizing the potential, sharing what works and finding solutions to problems (Coates et al. 2001).

2.4 Demand

Customer demand is a central theme in PREPP. In this book the term 'demand' is used in relation to technical design parameters, service management preferences, willingness to pay for a service and as an expression of a human right.

This understanding of the term reflects the different perceptions of demand held by people participating in PREPP. The engineer who perceives demand as a quantitative matter related to the supply of water, the economist for whom demand needs to be expressed

Box 2.1. Marketing of water service options in Durban, South Africa¹

Durban Metro Water (DMW) has developed a menu of service options for unplanned areas:

- Water kiosks where people fetch and pay per 20-litre container
- Water kiosk 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 connection with limited pressure through roof tank
- Individual house connection with full pressure (conventional 24hr supply)

In informal settlements the 200-litre Durban Ground Tank has been successfully promoted to meet the typical water needs of a household. The tank enables households to be connected in areas lacking in urban infrastructure. During piloting this technology option was sustained by the use of community-selected bailiffs trained by DMW. The bailiff also looked after water kiosks, an alternative for those residents unable to afford the ground tank.

1. Durban Metro Water web-site: <http://www.durban.gov.za/water/index.htm>

through willingness to pay, and the sociologist, civil society representative or community member for whom demand may be about rights and a moral obligation (Parry-Jones 1999). Demand in the context of PREPP means:

An informed expression of desire for a particular service, assessed by the investments people are prepared to make, over the lifetime of the service, to receive it and sustain it.

(Deverill et al., 2002)

One problem in understanding demand is that people talk of it in very general ways - 'we want safe and affordable water'. This generalization does not say anything about the service, management or payment option that people prefer or expect. A utility wishing to respond effectively to demand must understand this point and know how to deal with the situation. They must know how to communicate with people and negotiate the best option.

2.5 Marketing and demand

Marketing is a management process for identifying, anticipating, and satisfying customer demand and requirements in a cost efficient manner according to the Chartered Institute of Marketing, UK.² Being 'demand responsive' means finding out what the consumer wants, and is willing and able to pay, before presenting what can be provided to best meet these requirements. Talking to consumers about their current practices, needs and preferences is the best way to be demand responsive. Using the information gained the provider can build a relationship with the consumer, gain trust and then negotiate the best service option. To do this marketing professionals develop a marketing mix to suit a particular situation. This mix is based on determining the best combination of **p**roduct, **p**rice, **p**romotion, **p**lace, **p**eople, **p**rocess and **p**resence (the 7Ps of marketing).

2. Based on the definition supplied by the Chartered Institute of Marketing UK

Box 2.2. Expressions of demand - some key issues

- Who is expressing demand matters: The poor, the socially excluded and women are often given little opportunity to enter this type of negotiation even though they too are users of water supply. The result is often inappropriate technology options and unsustainable services.
- Some people do not seem to express demand: it is likely that demand exists but it is hidden, or latent. These people may only begin to express demand as they become aware of the benefits to them
- People may also express demand without understanding what they have committed themselves to, or the consequences for them in the longer term. For example there may be an agreement at a household level to have a new utility-supplied storage tank installed to overcome an irregular supply of water. However, it may not be apparent at the time of purchase, or upon entering an agreement with the supplier, that the maintenance of the tank is the responsibility of the householder. Alternatively a community may resist accepting a water kiosk if they think this will hamper their desire for household connections.
- People express demand in different ways: e.g. passive attendance at a community meeting, or a request through a third party (councillor, traditional leader).

Using the marketing mix and 7Ps in the urban water supply context

In the context of water supply the development of a marketing mix involves creating a menu of service options that are based on reliable knowledge of the consumer's known preferences and an assessment of what the utility can realistically provide. Getting the marketing mix right involves the utility in a range of responsibility and activity.

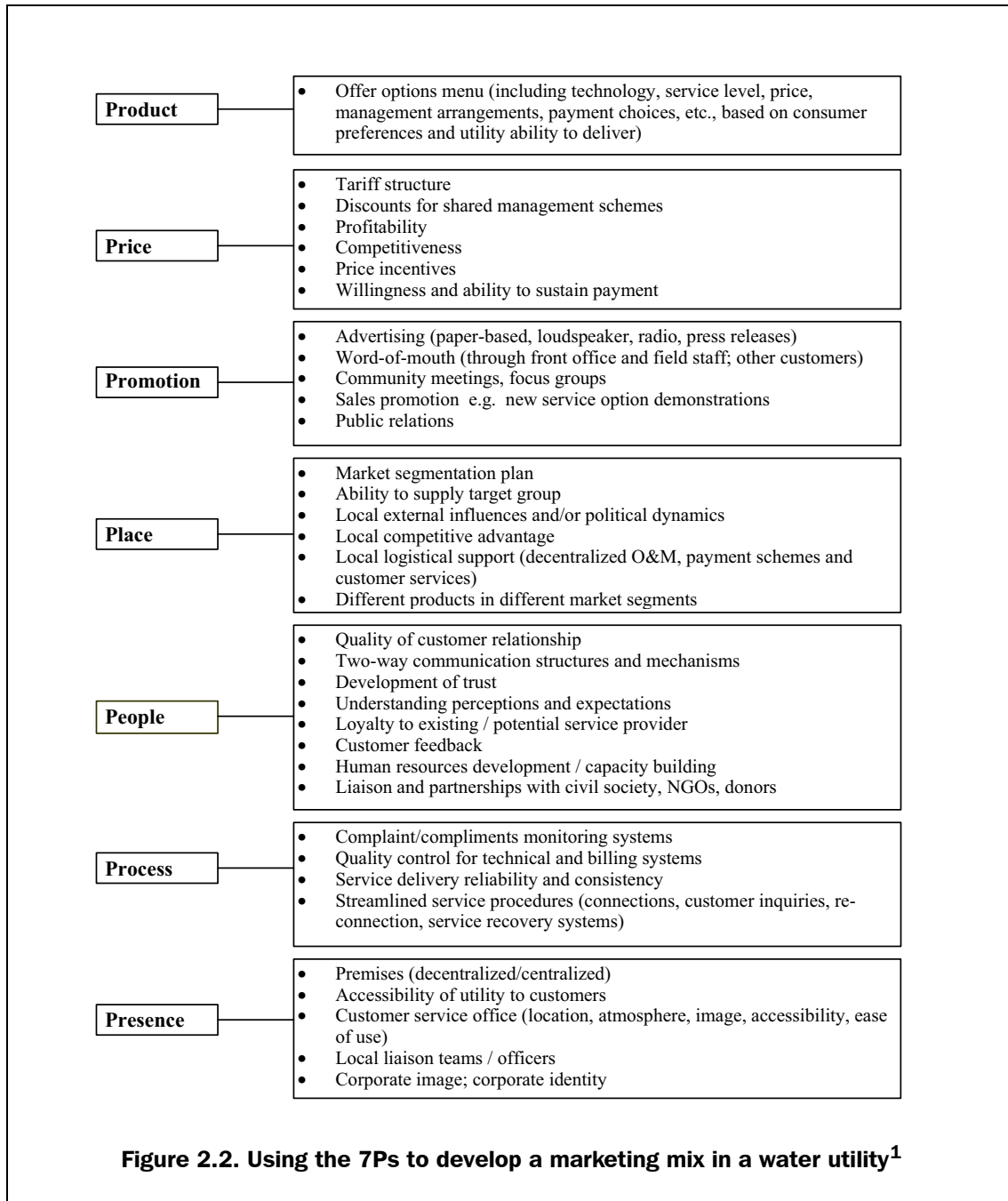
The 'mix' in marketing is crucial - the introduction of communal standposts with shared management (product) will not work without good communication (people). Decentralizing customer services to zone offices will not be effective without letting local customers know about the move (promotion). The emphasis on process is also important. Identifying what consumers currently want should not ignore what they may require in the future. A utility has to be able to effectively predict future demands and growth in its potential customer base.

Developing a process to do this involves making and adjusting decisions within the framework of an overall strategic vision involving marketing, planning, implementation and monitoring. Further examples of using the marketing mix are included in Figure 2.2.

One service does not fit all

In many countries the notion of water being supplied 24 hours a day, seven days a week is far from being a reality. However providing a level of service to all rather than a few is a top priority for governments and partners. With finite resources the starting point for many is the realization that different groups of consumers will tolerate and accept different levels and types of service.

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1. Adapted from Brassington & Pettitt, (2000)

Achieving this is about matching specific technology, management and service options with the right consumer group, or market segment. The basis here is the presence of sufficient information for the different groups to make an informed choice. This may involve appropriate persuasion where necessary (for example through social marketing) and readily available and reliable access to the service (affordability, location, reliability and frequency).

This approach might seem to undermine political and social aspirations of achieving equitable levels of service. Looking at citywide service provision from this angle means that extending services to non-traditional areas (slums, informal settlements, peri-urban areas) can become a financially viable option for a utility. Supporters of this approach

consider it as being key to achieving social inclusion and poverty alleviation in rapidly growing cities.

Examples of practice

The following case studies are examples of innovative marketing to promote water and sanitation services in poor communities where both the services and prices have been differentiated to suit different customer groups. More detailed case studies are included in Book 2.

Here marketing concepts have been used to serve poor communities, whether intentionally or otherwise. The service providers have developed appropriate products or service options that they have *promoted* to selected *people* (potential customers) at viable *prices*, using appropriate *processes* to communicate effectively with poor communities, in selected *places* where there are demands for service improvements. In doing so the service provider has enhanced its *presence* as a consumer-orientated organization. They have therefore been addressing the 7Ps of marketing.

Box 2.1 summarized the various service options provided by Durban Metro Water (a publicly managed utility) to serve poorer communities. Private operators have also used innovative options with encouragement from regulators. Box 2.3 highlights interesting developments on concession contracts in Manila in the Philippines. The provisions in the contract for increases in service coverage have encouraged the private operators to differentiate service and price to previously non-served low-income consumers, using innovative technologies and approaches with generally successful results.

Further examples of interesting pilot programmes have occurred in Buenos Aires, where a private operator, Aguas Argentinas, was awarded a concession in 1993 to manage water and sanitation in the capital of Argentina. The concessionaire had a contractual target of achieving full service coverage by the end of their 30-year contract. They began to develop programmes to serve the poor through differentiating services and in particular connection charges. A summary of their approaches is set out in Box 2.4.

A number of community-orientated initiatives have been developed in Bolivia by Aguas del Illimani, the private operator in Le Paz, El Alto. As part of their contract they have 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. Some of their initiatives are highlighted in Box 2.5.

Examples of municipal management come from Guntur and Rajhamundry, where the Administrative Staff College of India (ASCI) has undertaken market research. Recent initiatives are briefly described in Box 2.6.

Challenging predict and provide methods

Using marketing tools and practices, challenges conventional 'predict and provide' methods to overcoming gaps in service provision. Evidence shows that a large investment in additional treatment works to ensure that a sufficient quantity of water is available rarely results in improvements for the urban poor, unless specific measures are implemented to achieve this objective.

Box 2.3. Approaches for serving poor areas in Manila ¹

In Manila, in the Philippines, water supply in the city has been made the responsibility of two private operators who manage water services under a concession form of contract, supervised by a government regulator. Examples of some of their innovative approaches to reaching the poor are briefly described below.

Group taps or yard connections for two to five households where users form groups, register connections and share the cost for usage. 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 groups opt not to install sub-meters to reduce costs. The group leader collects payments from each member and pays 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 complete application forms, etc. With this approach, installation costs as well as the utility's non-revenue water costs are minimized with the mother meter located outside the area, usually along main roads, where it can easily be seen and monitored for illegal tapping. The majority of the households in one community paid the costs of pipe installation from the mother meters to the respective households. To minimize project cost, the community coordinated and organized their efforts and contributed their labour (men, women, and children alike) to reduce costs. This project initially provided water to about 250 families. Within the community association there is some 'community' pressure for each household to pay their bills, otherwise the entire community suffers in case of a disconnection for nonpayment.

The 'Bayan Tubig' ('water for the community') programme, provides individual household connections in low-income areas at a reduced cost. This programme waives the land title requirement and allows payment of connection fees by installment over a period of 6 to 12 months (in some cases this has been stretched to 24 months).

Technically, this approach involves constructing a conventional underground water main until the narrowness or condition of the access route makes this infeasible. From this point 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, above ground. The programme shows that, given the opportunity, residents of unplanned areas would prefer individual water connections rather than public standposts.

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. Sanitation in the areas covered has improved as households now have their own toilets and bathrooms within their homes

1. An edited version of Inocencio, A., Manila Water and Sewerage Concessions, in Weit, A., and Franceys, R., Beyond Boundaries: extending services to the urban poor, Asian Development Bank, 2002

The conventional 'predict and provide' approach to overcoming the service gap has been to invest large amounts of money in bulk water supply infrastructure to ensure a sufficient quantity of water. The likely population within a reasonable time horizon is predicted, taking the standard design criteria of litres of water used per person per day, adding on for commercial and institutional use, and providing treatment works and transmission mains sufficient to meet these criteria.

Box 2.4. Pilot programmes in Buenos Aires ¹

In a range of projects in low-income situations the utility (Aguas Argentinas) found that they had to differentiate their services to suit demand - no single approach suited all situations. Two examples of their approaches are described below.

'The Participative Water Service' Projects

Here there are 'direct links' between the residents of the area (via an association or 'leader' or NGO) and Aguas Argentinas. The utility generally designs the projects and supervises implementation. 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 community committee meetings with minutes. After the trial year is successfully completed, individual billing is introduced, based on an assumed water usage.

In one barrio (area), shallow pipes were laid in each alley and just one meter was provided 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.

The company found that this 'barter' operating method, with the community providing the construction labour to reduce costs, is only feasible for areas where the idea of community work is accepted.

Appropriate sanitation in Buenos Aires

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

Since the plots were too small (<100m²) 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 required in areas where the water table is less than one metre below the surface).

"The effluent collected is at present evacuated 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.

1. Source: Based on Lyonnaise des Eaux (now Ondeo), 1999, and investigations by Richard Franceys as part of a BPD study visit in 1999.

This approach often fails to notice that half the water delivered is usually lost through leakage and theft, whilst the other half is sold to consumers at a price below the cost of supplying that water, with little notice taken of recovering capital costs. Experience also shows that a fair proportion of consumers do not pay their water bills even when they are below cost.

The predict and provide approach addresses bulk water supply issues in broad terms, but usually fails to satisfy the demand of many consumers in the long term. Hence the need for a marketing approach.

Box 2.5. Programmes for serving the poor in Le Paz, El Alto in Bolivia¹

Aguas del Illimani, the private operator in Le Paz, El Alto has embarked on a series of promotional programmes aimed at raising the company's profile among its users and encouraging wider use of its services, such as:

The 'School Programme' increases awareness about the water and sewerage system by taking children to visit the treatment plants.

The 'Neighbourhoods Programme' advises and explains the procedures necessary to obtain a water and sewerage connections in selected neighbourhoods.

The 'IPAS' programme (Peri-urban Initiative for Water and Sanitation)

The objective of this programme 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. The micro-credit mechanism also allowed families to develop their credit history and later request subsequent loans for income-generating activities. At the IPAS project level, community selection procedures were based on the Demand Responsive Approach, where communities are consulted beforehand about whether they are interested in participating. Aguas del Illimani first approached different communities in their expansion areas and presented the IPAS project, explaining how it worked and the technology. After internal consultation, the community committed itself to the project by presenting the signatures of at least 70 per cent of its inhabitants.

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 at no interest.

1. An edited version of Vargas, M., Incentives for utilities to serve the urban poor El Alto, Bolivia edited by Franceys, R, for WSSCC, 2002

Market segmentation

Companies that sell goods differentiate between different groups of consumers and target the marketing of their products according to each groups' needs. Deciding how to identify the different groups is complicated. Many different factors can be 'mapped' to create a picture of each group that takes in to account age, sex, income, education, occupation, family size and even nationality and religion.

In a simplified form market segmentation can be applied to the key consumer groups in the water and sanitation sector, especially in cities where growth has resulted in poor planning and inequitable basic services (see Sansom et al., 2002b). For example, in many developing countries the urban rich live in low-density residential areas and receive water supply either via municipal household connections or private boreholes. The rich form a very different segment or part of the market for water services to that of poor residents living in high-density areas. Unlike the rich, the poor get their water from sources including tanked municipal water, private vendors, limited communal standpipes, open wells and streams.

Box 2.6. Marketing initiatives in Guntur and Rajhamundry ¹

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

Significant proportions of poor consumers have expressed their willingness to receive individual connections and are prepared to pay the required monthly charges. However, they are discouraged by the policy of the corporations that demand a one-off connection fee in the range of Rs.5000-7000 (\$100-\$130) to provide a household water supply connection. As a result, many poor households are excluded from the water system (individual coverage). In effect these consumers are not allowed to enter the 'shop'. This has resulted in a proliferation of illegal connections.

However, during the market research the municipal corporations' leaders realized that they needed to use innovative approaches to increase coverage of water services to the poor.

In 2002 the corporation leaders made significant efforts to remove the entry barrier. They have not only lowered the connection charges as prescribed by the Government of India NSDP programme, but also allowed the poor to pay these one-off 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 connections to willing households. As a result of these 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 also encouraged to form groups of six to eight households to access a single connection to reduce the burden of connection and tariff charges.

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

1. Source: V.S.Chary, ASCI, Hyderabad, 2002

Both groups of consumer are served differently, have different expectations of that service and will probably pay different amounts for it. Currently in most cities this differentiation is more the result of a lack of strategy than planned and targeted intervention. However, the principles of segmentation can be used positively to identify and raise appropriate service levels for the poor while maintaining those provided to the rich. Segmentation can provide focus, clarity and a manageable number of consumer groups for business and capital investment planning.

Table 2.2 illustrates how the type of house that people live in can be used as the basis for obtaining information about existing service levels. This information can be used as a starting point to market improved service options to the different consumer groups or market segments.

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Table 2.2. Summary of existing service levels per market segment based on where people live¹

Selected parameter	Bungalows and maisonettes	Flats	1, 2 or 3-roomed dwellings and swahili houses	Informal settlements (slums)
Electricity supply in dwelling	100%	97%	60%	6%
Do not receive water directly from NWPC	35%	17%	58%	96%
Receive continuous supply of water from NWPC	30%	31%	13%	2%
Receive water once or twice a day from NWPC	27%	40%	24%	1%
Individual house connections	94%	78%	23%	2%
Shared connections	Nil	12%	28%	4%
No piped water connection	6%	10%	49%	94%
Obtain free water from borehole or well	5%	3%	39%	41%
Obtain water from handcart vendors	18%	45%	57%	46%
Obtain water from kiosk	Nil	22%	56%	79%
Proportion with own boreholes or wells	39%	Nil	2%	Nil
Main water source	Individual house connections (59%) and own boreholes or wells (25%)	Individual house connections (71%) and shared connections (12%)	Water kiosks (44%) and shared connections (23%)	Water kiosks (70%) and boreholes or wells (18%)

1. Source: Njiru and Sansom (2004)

Note: See *Serving All Urban Consumers. A marketing approach to water services in low and middle-income countries. Book 2: Guidance notes for managers* for detailed information about the application of the marketing approach.