

## Chapter 2

# **Marketing water services for all consumer groups**

### **2.1 Introduction and summary**

This chapter summarizes the problems with the conventional predict and provide approaches to water service provision. It then describes a number of suitable marketing approaches and how they can be applied to the urban water sector in low and middle-income countries. This is intended to provide sufficient detail to enable governments, regulators and civil society institutions to encourage water utilities and municipalities to use or adapt these approaches to provide services for their various consumer groups, including the poor.

The marketing approaches that are advocated include the '*customer value chain*', which is the process of *knowing, targeting, selling and servicing* existing and potential customers. This provides a framework for initial pilot projects aimed at serving the poor. The key aspects are as follows:

#### ***Knowing and understanding all consumer groups***

If utilities and regulators have a thorough understanding of the experiences, perceptions and preferences for service improvements of all consumer groups, then there are much better prospects for utility initiatives to be more effective and efficient in the longer term.

The poor often miss out in the allocation of resources and market segmentation can assist with effective planning for improved services for low-income areas, as well as for other consumer groups. Market segmentation entails showing the location of the key consumer groups (by house type, income level etc) on up to date utility maps, so that all market segments are considered when the utility is planning for service improvements in the short, medium and longer term. The use of GIS which are computerized Geographical Information Systems can provide valuable information for this planning process.

There are a variety of consumer survey techniques in common use. Enumerator-completed questionnaires and focus group discussions are particularly useful and are a generally reliable means for obtaining accurate data. Governments, regulators and utilities need to ensure that sufficient data on the various water consumer groups is being collected and acted upon using good performance measurement techniques, in order to support effective decision making.

**Targeting low income consumers**

Funds for improving services in poorly served areas are often limited, so careful thought is required on where to target resources. Effective targeting or prioritizing of future investments and efforts for low income areas is best done considering:

- **The selection of priority areas** on the basis of agreed objectives, using the best available information about the needs and demands of consumers for different service and payment options, together with utility performance data against key indicators.
- **The development of feasible service, payment and management options** based on lessons learnt elsewhere and locally. Innovations should be considered such as the use of local water storage tanks where water supplies are intermittent. Option development should be guided by the principles of maximising revenues but also providing the best feasible supply to poorly served areas until the utility can provide better services (such as house connections) in those areas.
- **Assessing consumer demands** for existing and new service options using appropriate techniques such as willingness to pay surveys or PREPP (see book 3). Such studies will inform the likely future take up of different options and the scope for increasing tariffs, which is invaluable for utility financial planning.
- **Exploring opportunities for working with other stakeholders** such as CBOs, NGOs and small water enterprises is important when working in informal settlements, because utilities often do not have all the resources and skills to work in such areas.

When initial pilot programmes for working in low income areas are being developed, the targeting of which areas to work in is likely to be less rigorous. Larger programmes should include more systematic targeting.

**Selling and servicing low-income consumers**

Once a utility has targeted areas where it wants to improve services, established partnerships with other stakeholders, and assessed demand for new options, it needs to consider how it can sell and provide service options on a sustainable basis, as part of the final step in the customer value chain. One useful marketing framework for developing appropriate strategies is the marketing mix. This mix will be different from situation to situation, but will always contain elements of product, price, promotion, place, people, process and presence, or *the 7Ps of marketing*.

The 7Ps is a simple marketing framework that can easily be used in workshops and meetings as a means of capturing the ideas of concerned staff and stakeholders. More guidance on providing improved services is included in the section on strategic marketing.

**The strategic marketing framework**

To ensure that a marketing approach to serving the poor can be replicated across many low-income areas in a city with long-term sustainability ensured, a strategic marketing approach is required. What can be made to work with special effort in a few low-income areas in a city can have a different impact on a utility's operations when it has to be scaled up across the entire city, particularly when 30-60 per cent of the population may be living in informal low-income housing areas.

There are a number of reasons why, after initial piloting work, marketing plans for urban water services needs to be reasonably strategic and comprehensive, including the following:

- Utilities need to feel confident that if they offer new options and services, then they can provide them on a sustainable and reliable basis.
- Precedence and equity are also important considerations., so rational and fair targeting or prioritising of new investments is required.

Strategic marketing is a comprehensive approach 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.

The main questions to be addressed in the strategic marketing process for urban water services are

- *Where are we now?*
- *Where do we want to be?*
- *How might we get there?*
- *How do we ensure success?*

These questions can form a natural structure for a strategic marketing plan or utility business plan. If Government departments and regulators can encourage utilities to utilise such marketing approaches, then there are better opportunities for accelerated service improvements. They can also utilise the information generated from such strategies, in order to fulfil their own objectives, such as ensuring value for money from investments and reviewing progress on poverty reduction.

## **2.2 Conventional predict and provide approaches**

The case studies from a variety of countries in Chapter 1 show that it is possible to serve the poor, even in informal housing areas, using innovative 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 style, 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 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 notice 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 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. This approach also ignores the fact that those operating costs may be unacceptably high because of 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 common 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 approaches to serving the urban poor.

### **2.3 The marketing approach**

A marketing approach is of particular relevance to the water sector in developing countries because household consumers in urban centres often obtain water from numerous alternative providers and sources. At one level, water utilities 'compete' with alternative water 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 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.

Successful international companies, including those in the water sector, have found that a key to success is having a clear customer focus and by striving to provide good quality services. By seeking to maximize the numbers of satisfied customers, a water utility can gain many benefits. The most obvious of which is that a utility should receive less

complaints resulting in less interference from politicians on operational aspects. In addition, a customer services focus can improve financial sustainability in two ways:

- customers who are satisfied with the service they are receiving are more likely to accept and pay reasonable water charges; and
- increased numbers of paying customers, where there are cost-reflective tariffs, generate higher revenue and sustainable returns on investment.

The increased revenues can then be invested in improving services, which in turn increases customer 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 2.1 examples of evidence of how good business performance is linked to market orientation are provided.

### **Box 2.1. 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 profitably. 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.

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 contributing to meeting its financial objectives. Marketing can also be viewed as a management process. Typically, it involves (adapted from Wilson and Gilligan, 1997):

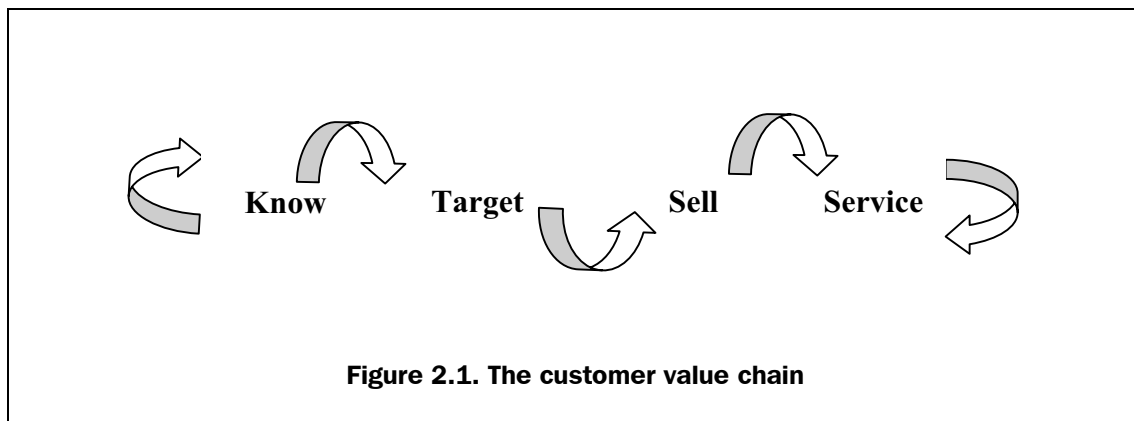
- investigating customer demand for different product options;
- identifying groups of customers whose requirements could be better satisfied;

- 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; and
- making the product or service available through channels accessible to the consumer, promoting the product or service so that a desired unit or revenue or volume of demand is achieved.

This process of incorporating marketing approaches throughout an organization can be termed Strategic Marketing where it takes an all-embracing, long-term view as discussed in Section 2.7.

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 effectiveness and efficiency is the 'Customer Value Chain', which can be described as to *know, target, sell and service* knowledge' (Sage, 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, coping strategies, perceptions, preferences and their willingness to sustain payment for improved services. Key methods for getting to know water users are questionnaire surveys, focus group discussions, customer consultative committees and local observation.

**Target** specific areas or customer groups (market segments) such as: commercial customers, domestic customers in low, middle and high-income areas, with appropriate service options such as house connections, yard taps and water kiosks, at appropriate price levels.

**Sell** options using suitable promotion techniques and plans. This will often require careful planning and implementation, particularly when dealing with groups who use alternative water supplies or who have unauthorized pipe connections and do not currently pay at all.

**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 the utilities to adopt a programme of continual organizational improvement centred around 'the customer'. Servicing the customer will mean, for example, offering payment options to suit their particular needs.

The customer value chain concept is used in Sections 2.4 to 2.6 as a framework for developing marketing approaches in the urban water sector context.

## **2.4 Knowing and understanding all consumer groups**

The staff of a water utility need to have a good knowledge of the different consumer groups if they are to be able to do their work in a manner that increases customer satisfaction and service coverage. There has been a tendency for utility/municipal staff to assume that they already know what the consumer wants. Experience in the business sector shows that good quality information about consumer perceptions, experiences and preferences is required if real improvements are to be made.

Such quality information can only be learned through well-planned interactions with current and potential customers, using methods such as questionnaire surveys, focus group discussions (such as PREPP) and semi-structured interviews. Summaries of such consumer information are also very useful for governments and regulators who are concerned with assessing utility performance and services to consumers.

It is important to gather data on all the key consumer groups in a city or town, so that appropriate marketing strategies can be developed that balance the needs and demands of each group. The next section, on market segmentation, considers how best to define these groups or market segments. This is followed by an overview of different survey techniques.

### ***Market segmentation***

It is not possible to get to know individual water customers, except perhaps for the few largest consumers or perhaps the constant complainers. The marketing approach therefore divides up customers into a manageable number of groups of customers, a process that is known as 'segmentation.' This dividing up for conventional marketing can follow 'social class' lines that incorporate aspects of income or it can follow 'lifestyle' patterns that have been found to be better predictors of consumer behaviour for particular products. Segmentation has been defined as 'the process of identifying groups of customers with enough characteristics in common to make possible the design and presentation of a product or service each group needs' (Heskett, 1986). The concept of market segmentation is based on the belief that 'people with broadly similar economic, social and lifestyle characteristics tend to congregate in particular neighbourhoods and exhibit similar patterns of purchasing behaviour and outlook' (Wilson and Gilligan, 1997).

One of the main reasons for market segmentation is to understand consumer perspectives and develop viable plans to serve the specific needs and demands of all consumer groups,

and thus avoid missing out some groups, which otherwise often occurs. If we are to 'target specific customer groups or market segments with suitable service and payment options, at appropriate price levels', as is proposed in the 'customer value chain', then we need to think carefully about how we define our consumer groups or segment the market.

Selection of criteria for market segmentation in the water sector should consider factors such as:

- Is market segmentation feasible and practical using the selected criteria?
- Will the segments be sufficiently unique to be distinguishable from each other?
- Will the segments be adequately stable so that their present and future characteristics can be predicted with a sufficient degree of confidence?

In many cities in developing countries, needs and conditions differ substantially from one neighbourhood to the next. For example, viable service options in higher income low-density housing areas (such as in-house connections with full internal plumbing) will be quite different from those in informal settlements. It is not realistic, therefore, for the water utility to provide a uniform service to customers whose needs, wants and willingness to pay are so different. It is for this reason that market segmentation can be used as a means of targeting viable options to appropriate user groups.

For urban water and sewerage services, potential variables for segmentation that have emerged from strategic marketing research include:

- the type of dwelling and location (e.g. bungalows, flats, informal housing and mixed) which can serve as a proxy for income;
- roofing materials;
- housing densities (e.g. high, medium and low-density); and
- socio-economic information using recent census data (where available).

Based on research in East Africa and India, a suitable and practical criterion for segmentation that emerged is the 'type of dwelling or building'. In many urban areas of developing countries, the type of dwelling that people live in is generally a reflection of their socio-economic status. The people who live in slums and other informal settlements are generally the poor. Those in well-planned residential estates tend to be the more affluent in the population or living in housing provided by government for its employees. This may of course not apply in every case, but we are seeking a planning framework that is 'good enough' for effective decision-making.

Table 2.1 illustrates the use of 'type of dwelling' as a basis for market segmentation that was used in the Guntur Strategic Marketing Plan (SMP) from India. It is clear that income levels vary substantially between each of these segments.

Use of type of dwelling or type of building criteria for market segmentation is relatively easy to implement in the field, since dwellings are visible and can easily fit into one of the specified market segments. Another advantage of this type of segmentation is that viable technical and management options for water provision can be provided to suit different market segments on the basis of type of dwelling.



**Table 2.1. Guntur average household income by market segment<sup>1</sup>**

Market segment	Average household income (estimated in Rs.*)
Bungalows	11,765
Independent houses in planned areas	7,833
Independent houses in unplanned areas	4,625
Flats in planned areas	10,078
Flats in unplanned areas	11,180
Slums having some water supply coverage	2,113
Slums having no water supply coverage	605

1. Source: Narender Chary and Sansom, 2004

\*Note: the exchange rate is Rs.42 = US\$1

If there are doubts about segmenting the water market in a particular city by house type or roof type, then it is possible to compare sample areas with socio-economic data that may be available from a recent census. If there is a clear correlation between, say, house type and factors such income levels and current water service options, then segmentation can proceed using this criteria.

### ***Use of segmented plans and data***

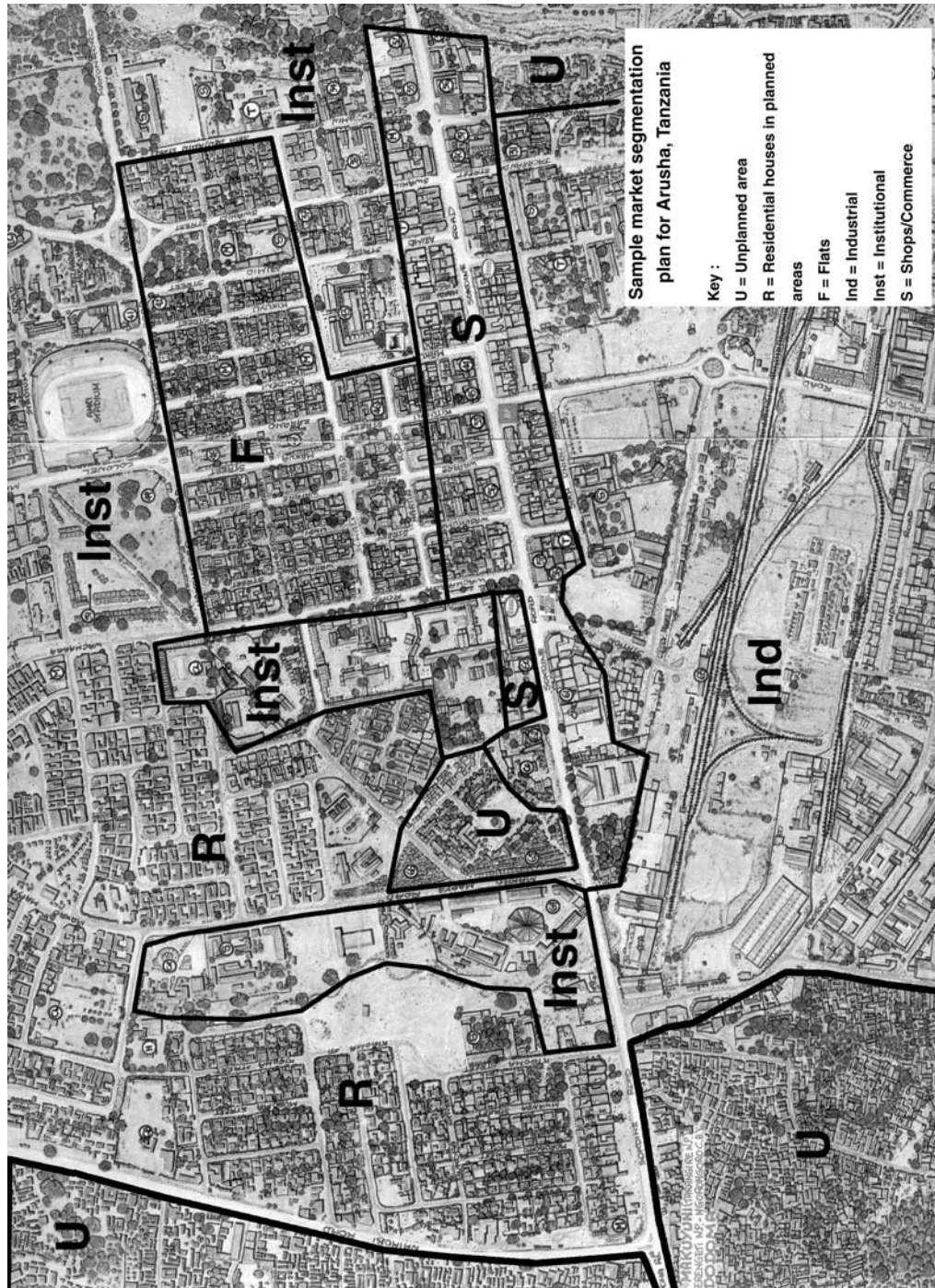
An example of a market segmentation plan for an area of Arusha in Tanzania is shown in Figure 2.2. The validity of the segmented areas would of course need to be verified on the ground. Such plans are useful for:

- consumer survey purposes - ensuring that each consumer group and area is adequately represented in the survey;
- developing and implementing marketing strategies for each segment and area;
- linking the location of water infrastructure and service levels with each market segment and area; and
- planning service improvements to poorly served areas or informal settlements.

Note that people living in one unplanned settlement may have quite different service levels, perceptions, and demands from another unplanned settlement in the city. So it is important to sample each area.

Whatever method of segmentation is chosen, the data to support it should be readily available and there should be correlation with what is visible on the ground. It is for this reason that housing types or roof materials are perhaps the easiest means of segmentation.

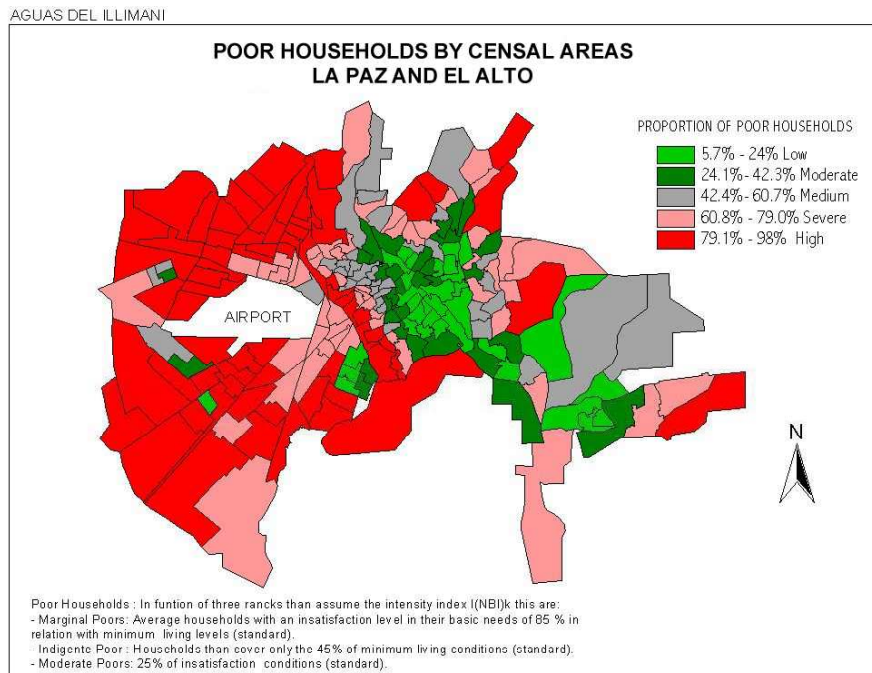
One means of illustrating the resulting segmentation of present and potential consumer groups is through 'social mapping.' An example of a social map from Bolivia is shown in Figure 2.3. Data obtained from a consumer survey was collected and presented on the basis of the identified market segments in order to provide useful decision-support information.



**Figure 2.2. Arusha sample market segmentation plan**

### **Use of GIS**

A significant challenge when seeking to improve water services to informal settlements, is obtaining comprehensive information on precisely where all the poor and unserved houses are located. Updating existing maps by manually surveying all the new houses and drawing the new buildings on the utility maps is a laborious task that often does not get done regularly.



**Figure 2.3. Social map of La Paz and El Alto, Bolivia**

A number of utilities, for example in Kampala and Durban, are now using GIS (Geographical Information Systems), which are based on aerial photographs of the utility service area. The photographs are digitally stored on the utility computers and can be used to produce accurate maps to the required scale for whatever purpose. Some of the key features of the GIS used at Durban Metro Water in South Africa are briefly discussed in Box 2.2.

It is clear from Durban Metro Water's GIS experience that having such valuable and up to date information at a 'press of few buttons' has a number advantages:

- Good access to data and management information summaries about different consumer groups (or market segments) including those in poorer areas, which enables well informed and quick decision making;
- Where repairs, maintenance work or new connections are required, key technical information about the existing water infrastructure is readily available.
- Enables effective strategic planning for providing services to unserved areas.
- Enables more accurate and speedy responses to customer requests and complaints.

Such benefits are best achieved by obtaining and maintaining good quality data on the GIS. Other utilities and government may, therefore, wish to consider this approach.

### **Overview of consumer survey techniques**

Consumer and demand-assessment surveys enable a water supply organization to collect data that will be used:

### **Box 2.2. GIS at Durban Metro Water<sup>1</sup>**

Durban Metro Water (now called Ethekewini Water) in South Africa have developed their GIS (Geographical Information Systems) in recent years to enhance the management of water and sanitation services to over 3 million consumers.

The aerial photographic surveys for the GIS are redone each year to produce up to date digitized maps of all properties, at a "relatively cheap cost". Such maps are very useful, particularly for locating recently constructed properties in informal settlements, that may otherwise be unknown to utility service providers. The Durban GIS system has more than 30 different layers of relevant information that can be shown on its digitized computer maps including the following:

- The precise location of all connected and unconnected properties
- The location of all water and sewer pipes and utility facilities
- The location of all water meters (to enable quick meter reading)
- Records of repairs over the years on each water main
- Links to each customer's water consumption
- Links to each customer's payment records
- Links to customer complaint records
- Unique numbers for all properties (to enable the speedy location of properties and maintenance problems)
- Roads and street furniture
- Links to the design or 'as built' drawings of each pipeline

These various layers can be turned on or off to suite the purpose of the member of staff using the GIS, and printouts can be made of the map area under consideration at an appropriate scale.

Durban Metro Water has 700,000 connections and it has connected 98,000 new customers in the last 8 years. Each connected property has a unique property number that can be quoted by the customer from which the utility can locate that property immediately using the GIS

1. Source: Presentation by Neil McLeod, Head of Ethekewini Water and summarised by Kevin Sansom in December 2003.

- to understand the different customer and potential customer groups, including their attitudes, practices, perceptions and preferences, as well as water use and buying habits, so that affordable service improvements can be devised;
- to develop new service options or modify existing service options and carry out service differentiation;
- to estimate future demand;
- to estimate affordability to pay for services;
- to establish maximum willingness-to-pay levels for service options; and
- to enables the water utility to develop a customer care programme and monitor the progress of customer service initiatives.

Many organizations use the traditional method of monitoring complaints and compliments in order to keep track of the views of their customers. By being proactive in finding out about customer concerns and taking prompt action on customers' complaints, the organization saves, rather than spends money.

Depending on the objective of the survey, the types of consumer being surveyed and the intended use of the data, an organization may decide to use one or several of these research methods for data collection:

- Self-completed questionnaires
- Enumerator-completed questionnaires
- Face-to-face interviews
- Focus group discussions
- Telephone surveys

Enumerator-completed questionnaires are particularly useful and are a generally reliable means for obtaining accurate data both for consumer surveys and willingness-to-pay surveys. A two-page consumer survey questionnaire for water services and coping strategies in informal settlements is included in Annex 2. This survey format was field-tested in five towns in Uganda in June 2003 and it provides independent information against key indicators which are discussed further in Chapter 3.

Focus group discussions are appropriate for obtaining good in-depth qualitative data and improving dialogue with groups such as communities in informal settlements.

Experience in the UK has shown that disputes can arise where the regulator and the private water utilities have both conducted consumer surveys and each questions the validity of the others' survey data.

In response to this problem, the regulator, utilities and the relevant government department have jointly commissioned a variety of consumer surveys with specific terms of reference to avoid potential disputes over data validity. This idea is potentially transferable elsewhere.

### ***Focus group discussions and the 'PREPP' approach***

People living in informal settlements may have limited trust in or experience of dealing with public utilities. Focus group discussions (FGD) offer an effective technique for a utility to develop an understanding of the attitudes, practices, perceptions and preferences of its customers. It can also be the basis for ongoing dialogue.

A refinement of focus group discussions, PREPP - 'Participation, Ranking, Experience, Perception and Partnership', has been developed and tested in East Africa and India (Book 3, Coates et al., 2004). This approach provides a reasonably rapid method of directly addressing some of the issues that arise from miscommunication between the utility and the poor. Too often that relationship is one where low-income consumers do not see themselves as valued customers now or in the future.

PREPP is a practical method for utilities to consult low-income consumers. Developed with the assistance of utility engineers, social scientists and economists and piloted in low-income communities in Kenya, Uganda, Zambia and India, PREPP is grounded in the belief that a utility and a low-income consumer can have a mutually profitable relationship.

The costed option ranking stage of PREPP also provides valuable information on user demand for the targeting phase. Guidance on the use of this very useful and streamlined approach is described in Book 3.

## **2.5 Targeting low-income consumers**

Targeting or prioritizing future investments and efforts is best done on the basis of agreed objectives, using the best available information about the needs and demands of consumers for different service and payment options. The following sections consider the selection of priority areas and the challenges of working in informal settlements. This is followed by the development of feasible service, payment and management options and a brief discussion of demand assessment techniques that provide valuable information for the selection of the preferred service options. Opportunities for working with other stakeholders such as CBOs, NGOs and small water enterprises are considered as a means of maximizing the effectiveness of services for low income consumer groups.

### ***Selecting priority areas***

As funds are invariably limited, utilities need to agree which areas are a priority for improved services. Market segmentation plans, utility performance data, as well as the results of consumer surveys and demand assessment surveys provide an effective and impartial basis for selecting the priority areas, thus avoiding the potential criticism of favouritism during the selection process.

As many low-income consumers often live in informal or unplanned areas that typically experience inadequate services, these are often likely to be priority areas for improvement. Governments with clear poverty reduction strategies are likely to encourage utilities and other stakeholders to improve services in such areas.

Initially, when comprehensive city-wide data may not be available, a utility may want to target certain low-income areas to pilot work based on limited information. This is a sensible strategy initially, because there is a need to 'learn by doing', but ultimately when planning for city-wide services this needs to be done based on more comprehensive survey information.

The needs of consumer groups in other market segments, such as middle and high-income residential areas, also needs to be catered for as part of the utility's strategic planning, and this is discussed in Section 2.8.

### ***Working in informal settlements***

Informal housing settlements, slums, compounds, or peri-urban areas provide viable though often unexplored revenue bases for utilities. The fact is that many of the consumers who are not served directly by the utility live in such areas and continue to have inadequate access to basic water and sanitation services. This means that they need to obtain water from elsewhere, often paying inflated prices for water of poor quality. For

the community and household this means that related social and economic factors, including chronic health problems, are made worse. For the utility a sizeable percentage of its potential revenue base remains untapped. This need not be the case.

The following statements are often made to explain why informal settlements are left without utility provided services:

*'the poor can't pay'*

*'they (the poor) are looked after by donors and NGOs'*

*'we (the utility) are only just managing to serve the rest of the city without supplying people who are living on land illegally'*

The challenge for utilities and governments is to change the assumptions that exist about informal settlements and their potential for revenue. This means recognising the scope for growth in these areas and devising simple and achievable methods for capturing people's willingness to pay for services.

Working in informal settlements has opportunities and particular features. Where water is often a scarce commodity and prices are high, people develop coping strategies to ensure a reasonable supply to suit their household needs. Water is both a social and an economic issue, central to the daily pattern of people's lives. If a utility aims to capture the informal settlement market, it must understand the perceptions and preferences of the people who live there, perhaps more than for any other social group that they may wish to attract. This can only be achieved by meeting the residents face-to-face and establishing meaningful and continued dialogue with them.

Key challenges that are common in informal settlements are the limited ability or willingness-to-pay of many users, and the restricted space available for infrastructure such as water mains. It is therefore necessary to be more creative in developing appropriate service, payment and management options.

### ***Developing options***

For those people who receive good full pressure 24 hour water services, the service options to consider promoting may seem somewhat limited. Effective water utilities, however, seek to introduce viable options wherever they can, such as payment and service options, in order to improve customer satisfaction. The potential to introduce more options increases substantially in situations where services are currently intermittent and/or inadequate, particularly in developing countries.

Some of the potential improved service options that can be offered to consumers compared to typical existing water sources are illustrated in Table 2.2. The existing water sources are listed in the left-hand column and potential options as part of incremental improvements are in the right-hand column.

**Table 2.2. Examples of existing and improved water options in informal settlements**

Typical existing water sources	Potential improved service options
<ul style="list-style-type: none"> <li>• Unregulated water kiosks</li> <li>• Handcart vendors (expensive)</li> <li>• Unauthorised connections</li> <li>• Public standposts from which little or no revenue is collected</li> <li>• Contaminated pools or rivers</li> <li>• Distant springs or boreholes</li> <li>• Seasonal dug wells</li> </ul>	<ul style="list-style-type: none"> <li>• Utility-supported private water kiosks</li> <li>• Regulated small-scale providers or vendors</li> <li>• Community-managed kiosks</li> <li>• Community-managed local water distribution pipes</li> <li>• Shared water connections with on-selling to neighbours</li> <li>• Individual connections</li> <li>• Prepaid metered kiosks</li> <li>• Water kiosks with storage tanks</li> </ul>

Such incremental improvements are often a more realistic process, particularly where a utility is trying to improve services to as many people as possible. Whatever options are developed, key objectives for the utility are generally to recoup investments and increase coverage.

The following sections on service options, payment options and management options give examples of successful innovative approaches to improving services from around the world. If utilities are to offer more of such options to existing and potential customers, then they will invariably need to be more flexible in terms of their design standards and procedures, as part of an effective marketing strategy.

### **Service options**

Many water utilities provide limited options such as house connections and standpipes or water kiosks, but the scope for introducing more options to improve customer satisfaction is considerable. A key aspect to improving customer services is development of different service options that can be used and address the demands of consumers in different market segments. These options should be both technically feasible and financially viable. They should be priced according to peoples' willingness to pay and should also be environmentally feasible.

In technical terms in the context of utility provision, water service options may generally be grouped into seven basic categories:

- **Individual house connections** with various pressure regimes and frequency of water supply. There may be a variety of means of connecting to the water mains, by conventional buried pipe, possibly metered, or through informal connections to an individual manifold or meter some distance from the dwelling. Water is obtained from a tap in the house which is usually the desired level of service.
- **Individual yard connections** at various pressure regimes and frequency of supply, where water is obtained from a tap outside the house. The house is unlikely to have internal plumbing.
- **Shared group connections** with a few households or a 'street' sharing one connection at various pressure regimes and frequency of supply in order to minimize connection charges and any fixed standing charges
- **Bulk supply connections** where the utility sells water through a bulk meter at special rates to a community or private contractor, possibly with on-site storage capacity, for



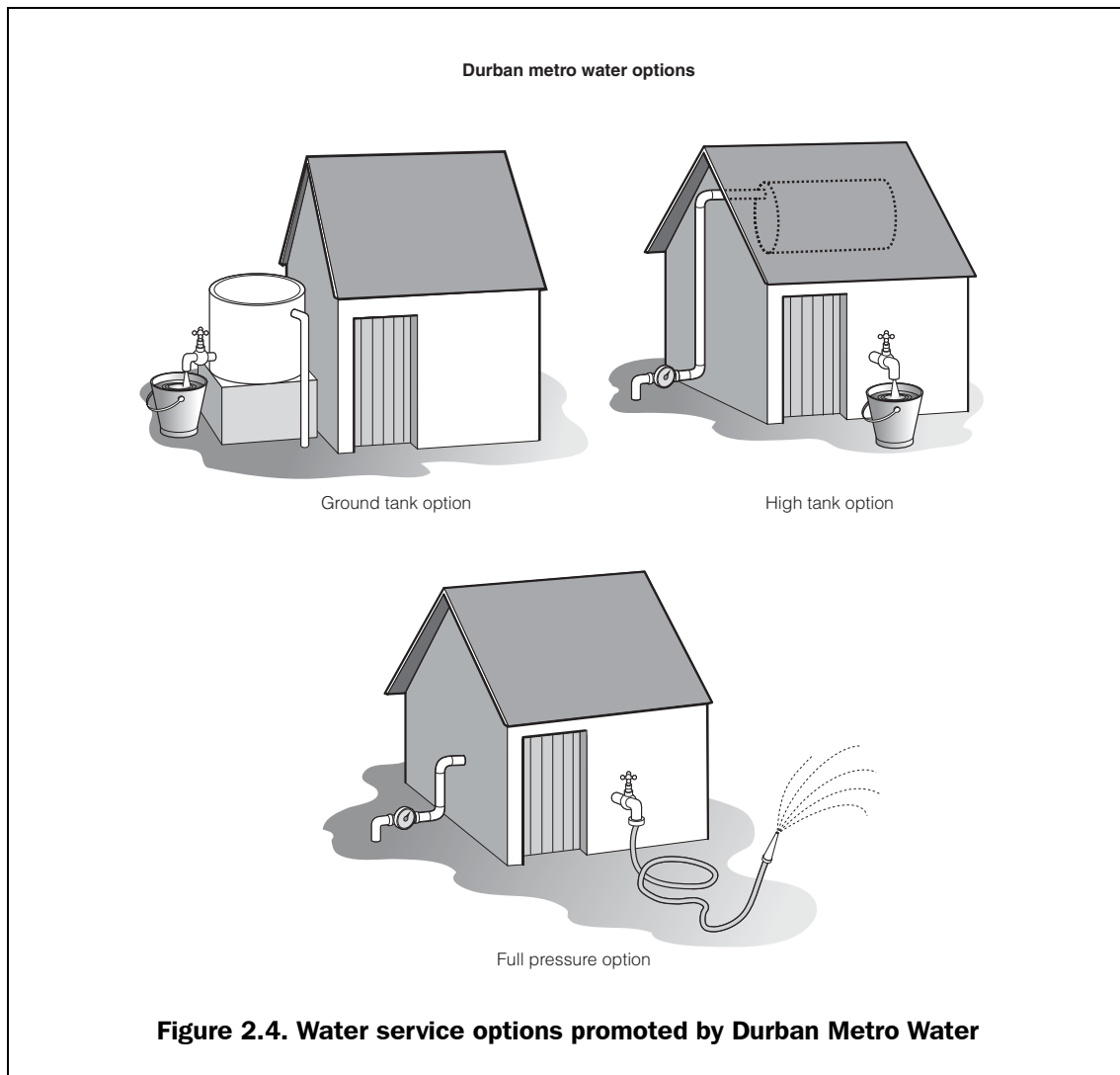
on-selling through a private distribution network to household connections or even to water kiosks.

- **Water kiosks**, essentially communal/public waterpoints, technically similar to 'standposts' where people buy water. A water kiosk may be sheltered (with a structure) or open, and may include storage and/or bathing facilities. A utility, a private operator or a community group may manage the water kiosk and sell water at a predetermined price per container, although different payment methods may be adopted.
- **Standposts** are communal/public points where water is collected by many people. Standposts, as opposed to kiosks, are usually unmanned and there is no direct charge for the water provided (particularly in South Asia).
- **Supply by vendors** who may use various modes of transporting water such as bicycles, handcarts, animal-drawn carts and motorised delivery vehicles (trucks) to deliver water to consumers.
- **Supply by water tankers.** The utility or a private provider may deliver water to an area using a water tanker, especially in cases of water shortages.

For each of the above basic service options, different payment mechanisms and management systems can be adopted. Apart from these basic service options, others can be developed depending on the particular circumstances faced by respective water utilities. The basic options can also be modified to suit customer requirements. A broader range of water supply options that have been used around the world are listed in Table 2.3.

**Table 2.3. Water service options for selected variables in urban areas**

Location of water delivery point	Max 100m away	Max 25m away	Yard	House
Pressure	As in conventional network	Roof (first storey)	Ground	Trickle feed
Hours of supply	24, 12, 9, 6, 2 hours			
Type of dwellings	Bungalows and maisonettes (with internal plumbing)	Flats (with internal plumbing)	1,2 or 3-roomed dwellings (without internal plumbing)	Dwellings in informal settlements
	Commercial premises	Single or two-storey	Multi-storey	Tenement rooms/flats
Water point delivery	Multiple taps	Single tap	Water kiosks	Valve clusters with hosepipe offtakes
	Standposts	Standpost vendors	Locked shared standposts	Machine dispensers
	Storage standposts	Smart card or pre-payment meters	Neighbourhood reselling	Handcart vendors
	Flow restrictors / trickle Flow	Storage containers	Shared connections	Water regulator CSIR
	Site storage	Area storage		Tanker vendors



In developing service options that are suitable for their consumer groups or market segments or selected consumer groups, it is worthwhile for utilities to learn from elsewhere. Sketches of three options that were promoted by Durban Metro Water in selected unplanned areas are shown in Figure 2.4.

Book 2 of *Serving all urban consumers* examines 14 different water supply service options that have been used in different parts of the world. The potential advantages and disadvantages of the options from both the utility's and the consumers' point of view are also provided.

### ***Payment options***

Successful international water utility companies generally have a wide variety of payment options for their customers. This is essentially because they know that the easier they make it for customers to pay, the more likely those customers are to pay promptly. They know that people living in a city have a variety of different lifestyles and preferred payment methods. Severn Trent Water in the UK, for example, offers a number of payment options including:

- by post

- by direct debit
- at a bank
- at a building society
- at a post office
- at a payment point ('Paypoint') in a shop
- by home or telephone banking
- through the internet, via the utility's web-site
- by a Watercard.

Severn Trent Water have also found that not all customers are able to pay in the normal pattern of two payments per year. They have had to accept small payments on a monthly and even weekly basis to help those on low-incomes or social welfare benefits.

While a utility in a developing country may not offer quite the same list of options to its customers, they also have to think about suitable payment options for their high, medium and low-income customers. The method of payment is most important in urban areas of low-income countries where many households have a low disposable income.

Utilities serving low-income communities may wish to consider more flexible payment options, rather than monthly payments for individual connections. Utilities could negotiate with community groups or private individuals to manage water kiosks or shared connections, so that consumers pay the owners of the kiosk or shared connections small sums of money when they take water and the kiosk or shared connection owners pay the utility each month. Alternatively a utility could open customer offices in or near poor areas to enable more regular payments of water bills, such as weekly instalments.

### ***Shared management options***

It can be beneficial for a utility to share the management of water services with other partners such as community groups or vendor groups (small-scale water providers), particularly in low-income communities or areas that are poorly served. Such arrangements can reduce the utility's operational management costs and enable the vendors or community groups to be more effective in service provision.

#### ***Shared management with small water enterprises***

There is potential for improved collaboration between the utility and small-scale providers or small water enterprises (SWEs), particularly in areas where the utility is unable to provide adequate services for some time. Alternatively, where the private vendors are charging high prices, which is very common, the utility can seek to capture more of the water market in those areas, by competing with vendors, and so increase customer satisfaction.

#### ***Shared management with community groups***

Shared management of water services between a utility and local community groups can be cost efficient and can empower communities to manage their services and enable improved service provision in areas where a utility may be unable or reluctant to operate. For example, in Arusha, Tanzania and Dhaka, Bangladesh, community groups manage water kiosks that are supplied with water by the utility and payment is based on meter

readings. Whereas in parts of Kibera (Nairobi), Haiti and Dakar (Senegal), community groups manage small tertiary water distribution systems and pay the utility or municipal council for the water supply on the basis of bulk meter readings.

Where a utility or municipality experiences difficulties in serving informal settlements; partnerships between a utility and community groups or with small water enterprises can be explored as a means of improving services. Intermediary organizations such as NGOs, consultants or university departments can contribute effectively to developing such partnerships, while the government departments concerned can encourage or create a supportive environment.

### ***Partners for improved services to the poor***

There are usually a number of stakeholders already working in slums or unplanned areas, such as local government, NGOs, CBOs, small water enterprises, etc. A key question for a utility is how could they best work with such organizations, taking advantage of their particular strengths, to improve services. Perhaps other organizations such as consultants could also contribute.

Utilities may consider setting up an inter-disciplinary team or an inter-departmental unit within the utility that can focus solely on services for informal settlements and liaison with other concerned stakeholders. Opportunities for collaboration with a variety of potential partners are discussed below. Opportunities for working with other stakeholders is best addressed as part of the process of deciding where to target efforts and resources.

### ***Potential partners***

#### *Local authorities*

Municipal officials often interact with local communities when dealing with a variety of services. In some cases municipal officers may have some responsibilities for improving sanitation or even water services in their area of jurisdiction. Local authorities will also usually have established structures for mobilising communities.

Local authorities may, in conjunction with the water utilities, also act as regulators of water vendors and other delegated enterprises, particularly if the municipality has a clear environmental health responsibility which relates to issues of water quality and sanitation. Municipalities dealing with the promotion of on-plot sanitation are also important partners for utilities who are contemplating extending service options such as sewerage and disposal facilities for suction trucks.

#### *Small water enterprises or vendors*

These are individual persons or groups who collect and sell water to households or other establishments in poorly served areas. Small water enterprises or small-scale providers have a number of positive aspects including those listed in Box 2.3.

Examples of the different types of small water enterprises (SWEs) or small-scale providers and the countries where they are used are listed in Table 2.4. Some SWEs are licensed while others are not.

It may be beneficial for the utility or municipality to assist in forming an association of SWEs in a city, or at least to collaborate with SWE groups, for the following reasons:

**Box 2.3. Success factors of small-scale independent providers (SSIPs)<sup>1</sup>****Small service providers make a difference**

Studies conducted in the four East African cities of Dar Es Salaam, Kampala, Mombasa and Nairobi in 1998 and 1999 listed the following success factors of small-scale independent providers (SSIP) in the water supply and sanitation services:

- Monopolistic public enterprises are often unable to respond to the dynamics of market demand.
- SSIP can access peri-urban areas not covered by the public enterprise.
- SSIP are commercially oriented.
- SSIP respond to the needs of the market by accessing high population density communities through the provision of standpipes and water kiosks.
- SSIP operate other business in addition to provision of urban environmental services.

1. Source: World Bank (2000)

**Table 2.4. Examples of small water enterprises<sup>1</sup>**

Type of small water enterprises	Examples of countries where used
<b>Water trucks</b> Sell water to distributing vendors or direct to consumers	Haiti, Mauritania, Tanzania and Uganda
<b>Animal-drawn carts</b> Vendors selling water to consumers or water carriers from donkey, camel or horse-pulled carts	Senegal, Mali, Mauritania
<b>Water kiosk or standpipe vendors</b> Engaged by utility, community or private owners to sell water to consumers	Kenya, Senegal, Uganda and Tanzania
<b>Hand carts</b> Selling water direct to consumers at or near their homes	Indonesia, Kenya, Vietnam, Burkina Faso
<b>Water carriers by hand or cycles</b> They sell water direct to consumers at or near their homes	Mali, Haiti, Uganda and India
<b>Private boreholes</b> May be connected to standpipes or house connections	Kenya and Mauritania
<b>Small private pipe networks</b>	Benin, Philippines, Guinea and Mali
<b>On-selling to neighbours</b> May be from yard taps or flexible pipe from neighbour's house	Kenya, Cote d'Ivoire, India, Uganda

1. Source: Derived from Collignon and Vezina (2000) and Lyonnaise des Eaux now Ondeo, Suez (1998)

- To share experiences about service provision in poorly served areas and how they may be improved.
- To provide a forum to consider how the utility could support SWEs in providing improved services, particularly where the utility is unable to serve for some time.

- To provide a forum for the utility/municipality to regulate the activities of SWEs in terms of price and quality of service.

#### *Community-based organizations (CBOs)*

To compensate for the limited capacities of municipalities and other public sector service providers in many low-income countries, civil society are forming community-based associations organized alongside various activities, such as micro-credit schemes, water and sanitation, health, church, youth, women's, or security neighbourhood associations. Many of these associations are interested in getting involved in determining the community's destiny in terms of major public services such as water, education, and health. CBOs can be effective partners in shared management arrangements for water services such as those discussed in the Kibera case study summarized in Box 2.4.

#### **Box 2.4. Co-operative management of water distribution in Kibera, Nairobi**

Kibera is one of the largest informal settlements in Africa, with a population of about 500,000 people and an estimated population density of 2,000 people per hectare. According to a survey conducted by the Water and Sanitation Program in Nairobi in Laini Saba, one of the nine villages in Kibera, the residents consider sanitation and water supply as the most crucial problems they face.

In response to the water supply problems in the area, Ushirika, a community-based organization in Laini Saba, created a partnership with a local NGO, Maji Ufanisi, to extend piped water services to the area. Maji Ufanisi provided materials and technical expertise, while the local community arranged for labour to lay the pipeline and construct the water kiosks. In collaboration with Nairobi City Council, a new distribution pipeline was extended to Laini Saba, which was commissioned in 1998.

A bulk flow meter was installed on the main distribution network where the Ushirika pipe connected and the Ushirika Co-operative Water Society are issued water bills on the basis of the bulk meter readings. A management committee was set up to manage the water project on behalf of Ushirika. Consumers pay for the water by volume at the new water kiosks. The tariff is higher than the bulk cost price charged by Nairobi City Council but less than other local vendors' prices. Ushirika hire staff to sell the water at 2 Kenyan shillings per jerry can. These staff are paid a proportion of the money they collect according to the water meter at the kiosk. The surplus funds are then invested in other projects funded by Ushirika in Kibera

#### *Water management committees*

These committees are often set up during development projects to ensure sustainability through community management. The committee members could be elected by a ward council to manage water services in their area. These organizations can be useful partners if they are active and are considered reasonably representative of their community.

#### *Non-government Organizations (NGOs) and university departments*

The process of becoming involved with potential customers in their own environment in informal settlements involves skills, knowledge and experience that the utility may not have. This need not be a prohibiting factor as a number of options exist to bring such attributes in to the utility. For example, collaboration can be explored with local NGOs, civil society groups and social development specialists in universities. NGOs usually deal with a number of problems of concern to the community such as water, sanitation, income generation, solid waste management, etc. These organizations typically have good skills

in facilitation, negotiation, and participatory planning which could be used by utilities intending to work in informal settlements.

*Private consultancy companies*

A wide range of consultancy companies are becoming more common in developing countries, and they are often able to offer expertise in working with community-based organizations, fulfilling similar roles to NGOs. They may also be able to provide technical expertise. People who have gained experience with either NGOs or the public sector may move on to work as private consultants.

It would be beneficial for utilities and concerned government departments to consider the merits of either collaborating with or contracting such organizations to undertake defined roles in improving services in low-income areas. Further discussion of potential collaborations between utilities and government are included in Chapters 3 and 4.

***Demand assessment - willingness-to-pay surveys***

When it is proposed to improve services to parts of a utility's service area, viable service, payment and management options need to be developed after both learning lessons from elsewhere and consulting with key stakeholders. Demand assessment studies can then be carried out using methods such as willingness-to-pay surveys, where the user's maximum willingness to pay is determined for selected viable service options amongst each of the selected consumer groups or areas.

Determining which service options have clear demand and in which areas is a key part of the *targeting* process that leads to viable investment proposals.

Investment proposals in the water sector are best justified by using accurate demand assessment techniques such as willingness-to-pay surveys. There are various definitions of willingness to pay (WTP), but the most common one states that:

*"WTP is the maximum amount that an individual states they are willing to pay for a good or service"* (DFID Demand Assessment Seminar, December, 1997).

The urban water sector in low and middle-income countries (LMICs) require good quality data in order to:

- justify future investment proposals;
- develop a better understanding of user perceptions and preferences;
- support the selection of preferred service options; and
- set out the scope for future tariff increases and subsidy reduction plans.

Such information is vital for cost-effective sector development in the urban water sector. There are three main ways to estimate WTP:

- a) Observe the prices that people are already paying for goods in various markets (i.e. water vending, buying from neighbours, paying local taxes).

- b) Observe individual expenditures of money, time, labour, etc. to obtain goods - or to avoid their loss. This method might involve an assessment of coping strategies and involve observations, focus group discussions and even household surveys.
- c) Asking people directly what they are willing to pay for goods or services in the future.

The first two approaches are based on observations of behaviour and are called Revealed Preference techniques. They can be very informative for studies on both vendor prices and on the coping costs and strategies of different consumer groups, and should be undertaken in each city/town in order to inform the scope for improvements by a utility.

The third technique (c) is based on stated preferences and includes the contingent valuation methodology (CVM). This technique is the most useful in that it determines the average *maximum willingness to pay* for different service options by each of the consumer groups where the options are viable. Book 2 provides examples of calculating coping costs for different consumer groups and information on conducting CVM surveys.

In order to ensure that sufficiently reliable data is obtained, use a robust contingent valuation survey methodology together with accurately priced and technically viable options. This will help to ensure that the results can be easily interpreted to produce useful design, implementation and policy recommendations. Offering between three and five options in the CVM survey is normally considered practical, although there are no firm rules (Wedgwood and Sansom, 2003).

An example of willingness-to-pay survey results for one market segment are shown in Tables 2.5. Note that both the weighted mean willingness-to-pay results and the 2/3 values given in these tables reveal a WTP that is much higher than the current tariff level in Mombasa in Kenya.

**Table 2.5. WTP results for people in one to three-roomed dwellings in Mombasa<sup>1</sup>**

Brief description of service option	Percentage of respondents within market segment who bid for the stated service option	Weighted mean WTP (KSh)	Amount which two-thirds of respondents are WTP (KSh)
1. Continuous supply at yard connection	100%	1124	834
2. Continuous supply with storage tank at shared yard connection	100%	1023	800
3. 12-hr supply at shared yard connection, rationing	62%	537	447
4. 4-Hr supply at shared yard connection	54%	395	336

1. Source: Njiru and Sansom, 2004  
(Exchange rate was KSh73 to US\$1)



These results, along with the consumer survey information, can therefore be used to advocate for adequate tariff levels and flexible service options amongst key decision-makers. This information can then be used to determine an appropriate tariff policy and financing projection for the improved water supply services, often involving the allocation of appropriate subsidies for less convenient services.

Other techniques, such as the costed option ranking that is incorporated in the PREPP methodology described in Book 3 of *Serving all urban consumers*, can also be used to assess demand. The PREPP approach is particularly useful when working in informal settlements or for pilot projects that would not warrant the expense of a full WTP study.

## **2.6 Selling and providing services to low-income consumers**

Once a utility has targeted areas where it wants to improve services, established partnerships with other stakeholders, and assessed demand for new options, it needs to consider how it can sell and provide service options on a sustainable basis, as part of the final step in the customer value chain. One useful marketing framework for developing appropriate strategies is the marketing mix.

### ***The marketing mix***

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 will be different from situation to situation, but will always contain elements of product, price, promotion, place, people, process and presence, or the *7Ps of marketing*.

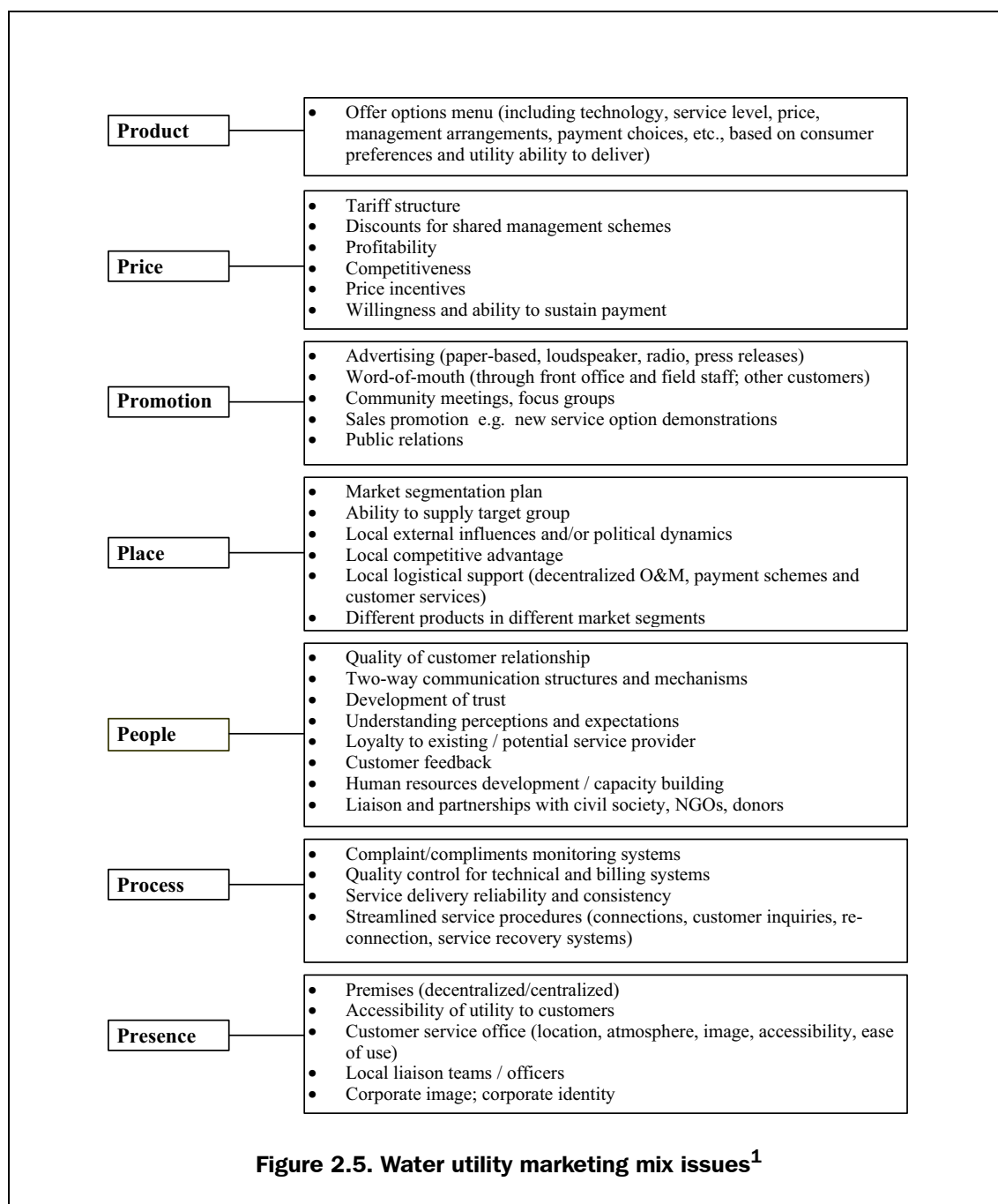
A marketing mix is the means by which being demand responsive can become a reality. Development of a marketing mix involves creating a menu of service options that are based on reliable knowledge of the consumer's known preferences and an assessment of what the utility can realistically provide. Getting the marketing mix right involves the utility in a number of activities and areas of responsibility, such as those summarized in Figure 2.5.

The 'mix' in marketing is useful because, for example, 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.

The 7Ps is a simple marketing framework that can easily be used in workshops and meetings as a means of capturing the ideas of concerned staff and stakeholders. A more comprehensive approach for a utility to plan for a sustainable improvement in services to all consumer groups is the strategic marketing approach, which is outlined in Section 2.7

## **2.7 Pilot programmes in low-income areas and scaling up**

For utilities who wish to use marketing approaches in low-income areas, it is advisable initially to develop pilot programmes in a few areas and learn lessons from those pilots. It is also important to demonstrate that it is possible to serve the poor effectively on a pilot basis in the city or town in question, before considering an integrated methodology for city-wide and long-term scaling up using the necessary strategic planning.



1. Adapted from: Brassington and Pettitt, (2000)

Serving the poor is made more possible in the average utility because of the availability of 'surplus water' that is lost through leakage, illegal connections and other means. Water saved through activities such as leak reduction programmes can be directed towards immediate service improvement to the poor. There does not usually have to be any parallel delivery of new water sources and treatment in order to demonstrate the viability of delivery to informal areas because of the extent of non-revenue water, which can be as high as 50-60 per cent. Indeed, the apparent reason for one water utility to serve the unplanned areas around their city was the embarrassment of surplus water achieved through a leakage reduction programme. They needed to do something with it and recognized the ready market on their doorstep (Nickson, 2001).

When selecting pilot areas, it is worthwhile choosing communities where there is a clear demand for improved services and where there are community groups who are willing to collaborate in developing appropriate service, payment and management options. Capable intermediaries such as NGOs or consultants can assist in developing and maintaining effective dialogue with community groups. For the initial pilot projects it is preferable to work in areas where there are good prospects for success so that partners can learn what works best before taking on more difficult areas.

When scaling up to city-wide approaches, it is beneficial to gather information about the experiences, perceptions and preferences of *all* consumer groups. This enables a utility to develop valuable comparative data to prioritize its investments and resources, as well developing appropriate and specific marketing strategies for each consumer group.

Scaling up to meet the needs of a larger city or town entails balancing price and service differentiation between the various consumer groups. This necessitates a 'Strategic Marketing' approach as part of city-wide planning. These aspects are discussed in the next section.

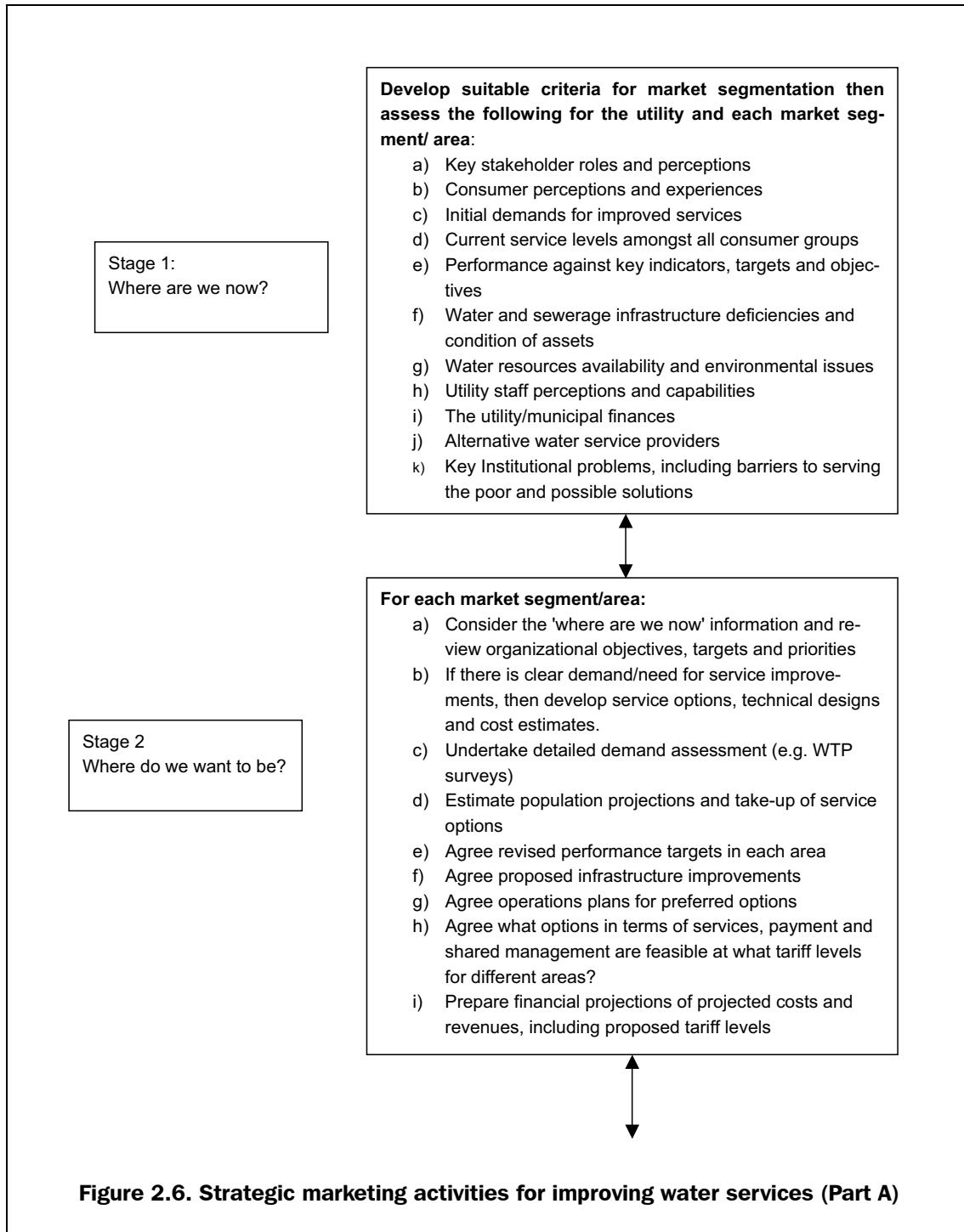
## **2.8 The strategic marketing framework**

The examples given so far indicate how the demand/responsive marketing approach can be used to pilot water (and possibly sanitation) services to low-income consumers by using innovative and participatory ways of working. To ensure that this type of approach can be replicated across all low-income areas in a city with long-term sustainability ensured, a strategic marketing approach is required. What can be made to work with special effort in a few low-income areas in a city can have a different impact on a utility's operations when it has to be scaled up across the entire city, particularly when up to 60 per cent of the population may be living in informal low-income housing areas.

There are a number of reasons why, after initial piloting work, marketing plans for urban water services needs to be reasonably strategic and comprehensive, including the following:

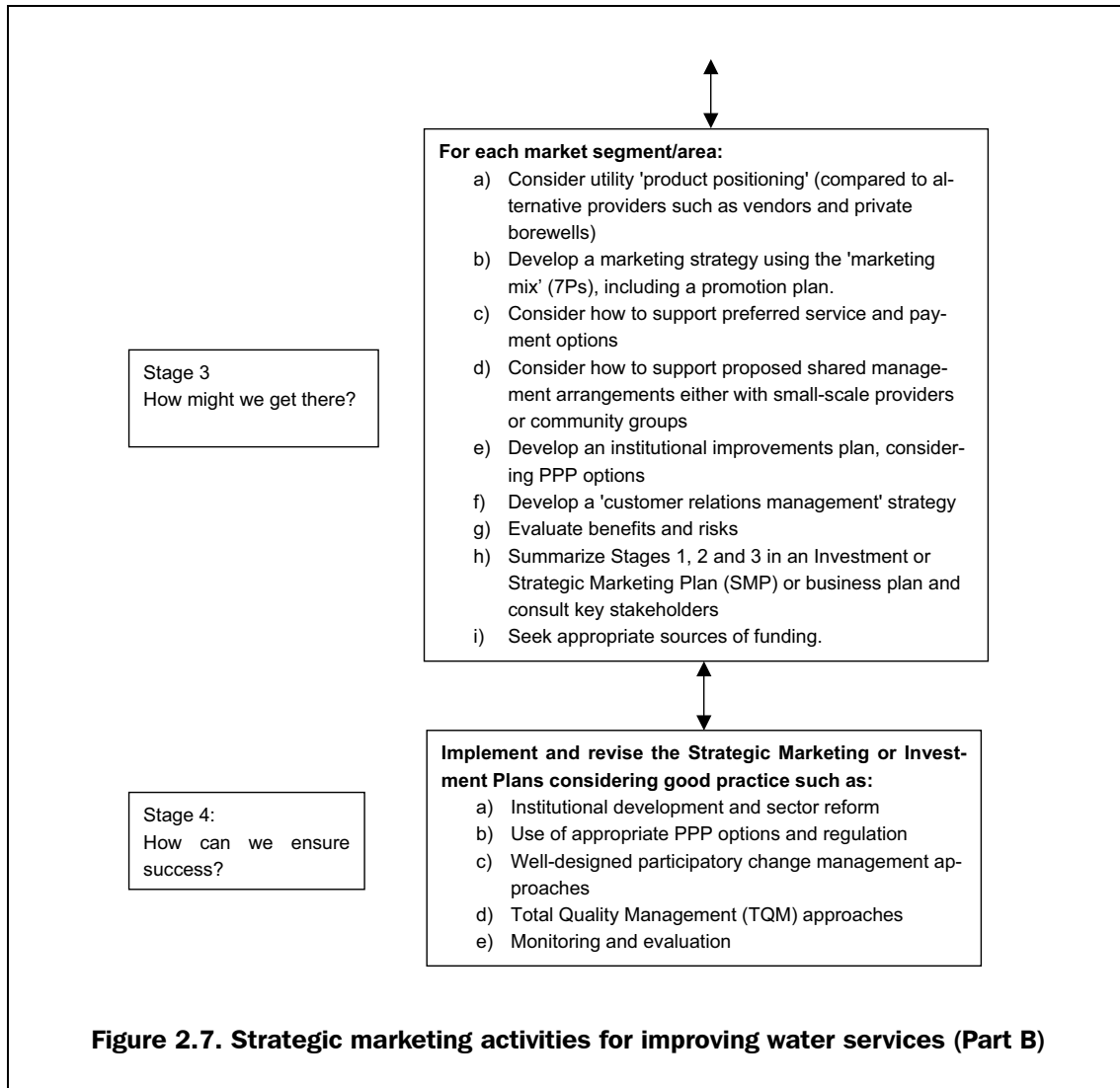
- Utilities need to feel confident that if they offer new options and services, then they can provide them on a sustainable and reliable basis. Comprehensive investment and strategic marketing planning can contribute to increasing this level of confidence, particularly when potential financiers agree to fund agreed investment plans.
- Precedence and equity are also important considerations. If one slum area has new service options, there will eventually be a lot of pressure to serve other slums in a similar way, so broader strategic planning is required.
- The proportion of urban residents living in informal settlements or unplanned areas is growing, hence the need to address the perception, needs and preferences of this important group in utility-wide investment planning and institutional development.

Strategic marketing is a comprehensive approach 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.



A strategic marketing methodology developed by Wilson and Gilligan (1997) has been used and adapted in these publications as part of the research programme in Africa and India. During the research, Strategic Marketing Plans (SMPs) for Water Services were developed to test the methodology in 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 are available on the WEDC web-site at: [www.lboro.ac.uk/wedc/projects/psd/](http://www.lboro.ac.uk/wedc/projects/psd/).

Typical key activities involved in the strategic marketing process for urban water services are set out in Figure 2.6 and Figure 2.7. The main stages ask the questions:



- *Where are we now?*
- *Where do we want to be?*
- *How might we get there?*
- *How do we ensure success?*

Note that there are double arrows between each stage in the figures, which emphasizes that these are iterative processes where it may be necessary to go back one or two stages at certain times. These four questions can form a natural structure for an SMP report. However, a utility needs to be mindful of the preferred report formats of potential financiers.

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 do we ensure success?) we recommend publications on marketing, Public Private Partnerships, institutional development and change management, Total Quality Management (TQM), and other conventional business manuals.

It may be tempting for utility managers to complete each of the four stages of strategic marketing in very broad terms. For example at the end of the 'where do we want to be?' stage, if the final output is just a statement of the utility's objectives, then the strategic marketing plan and process will be of limited benefit.

This exercise is much more useful if at the end of the 'where do we want to be' phase there are detailed utility financial projections of future costs and revenues, based on a thorough analysis of the factors listed in Stage 1, for all consumer groups. This is a key finding of research in Africa and India conducted by the research partners involved in this publication.

### ***Typical strategic marketing outputs***

Some of the key outputs that can be produced at each stage as part of an effective strategic marketing process typically include:

**Stage 1: Where are we now?** Utility situation assessment report(s) with comprehensive documentation and analysis of aspects listed in Figure 2.6, such as: service levels, perceptions of all consumer groups, utility performance, alternative service providers, institutional issues and barriers to serving the poor, etc., provide a good basis for proceeding to Stage 2.

**Stage 2: Where do we want to be?** Suggested outputs from this stage, assuming an investment plan for service improvement is being developed for the different consumer groups, are:

- outline design options and proposals;
- a detailed demand assessment (e.g. WTP survey report) for target areas;
- proposed service/payment and management options to be offered for each market segment or area;
- a review of utility objectives, targets and priorities; and
- financial projections of cost and revenues as part of an investment plan, including different investment scenarios. The preferred financial plans need to be both realistic and affordable.

**Stage 3: How might we get there?** Outputs could include: a review of the proposed investment options or scenarios, and an institutional development report that may include PPP options and a strategic marketing or investment plan for potential financiers and other key stakeholders.

The outputs from Stage 4 (*How do we ensure success?*) will be the successful implementation of activities that have been planned in Stages 2 and 3, making any required changes to the plans in the light of experience.

It is important that an element of realism is used in the planning process, as unrealistic plans tend to get ignored. In addition, it is beneficial to involve as many staff and key stakeholders in the planning process as is feasible, and in a participatory manner, as this is likely to lead to better commitment at the implementation stage. Developing a shared

understanding and agreement about the plans being developed can be done through small group consultations, meetings and workshops.

The overall extent to which the organization is commercially and customer-orientated will have a significant impact on the successful implementation of a marketing strategy. In the context of the water sector in developing countries, the strategic marketing plan (SMP) is a framework for the sustainable improvement of water services and mainstreaming of poverty reduction in the utility's business. A good strategic marketing plan (SMP) shows how the utility can improve services to customers and potential customers and at the same time be financially sustainable.

The three stages of strategic marketing planning are briefly considered in the following sections. More detailed guidance on completing these stages is contained in *Book 2* for managers.

## **2.9 Stage 1: Where are we now?**

It is important for an organization to objectively establish its current position. Information on 'Where are we now?' can be obtained by carrying out institutional analysis of the utility, including an assessment of the utility's existing water-supply infrastructure and services.

High-quality consumer surveys provide useful information on the water market, such as the perceptions and preferences of existing and potential customers for improvements in services. Such consumer data provides a good starting point for developing the analysis of the utility's performance and opportunities for improvement.

Reliable data compared against key indicators forms the basis of effective performance measurement, which is important to utilities and to government departments as well in their role as creators of enabling environments and as regulators. Section 3.6 in the next chapter provides a summary of the benefits and main steps entailed in performance measurement.

A comprehensive assessment of where the utility is now using a variety of survey and appraisal techniques is required so that adequate plans can be developed for improved and more reliable services to all consumer groups.

Tools such as PEST analysis (political, environmental, social and technological) and SWOT analysis (strengths, weaknesses, opportunities and threats) are very useful in understanding an institution and its environment, and these are discussed further in *Book 2*. The analysis should also include progress on reform issues and services to the poor. A SWOT analysis is a good way of summarizing all the quantitative and qualitative information collected to help the utility answer the question 'where are we now?'.

### ***Typical urban water indicators***

Performance should be assessed in terms of trends over a number of years, rather than snapshots of performance. The most common performance indicators for water supply utilities relate to the dimensions of production, delivery, consumption, efficiency, effectiveness and finance. It is important to note that no single indicator is sufficient to provide a meaningful picture.

Table 2.6 shows examples of finance and economic indicators and ratios that are important for a utility's financial health. Table 2.7 shows typical key performance indicators and ratios that could be adapted for a given utility. Note that there are columns in the tables for recording actual values and target values. This is a useful means of planning improvements and monitoring progress. When assessing utility finances it is important to examine both hidden and apparent subsidies.

**Table 2.6. Financial indicator and ratio examples**

Category	Indicator or ratio	Formulae	Previous years value	Latest actual value	Target for next year
Marketing	Socio-economic GNP per capita				
	Average WTP to vendors				
Financial sustainability	Average domestic tariff				
	Community standpost tariff				
	Sewerage tariff				
Profitability	Operating ratio	$\frac{\text{total cost}}{\text{total revenue}}$			
	Return on fixed assets	$\frac{\text{profit after depreciation}}{\text{net fixed assets}}$			
Liquidity	Current ratio	$\frac{\text{current assets}}{\text{current liabilities}}$			
Credit-worthiness	Debt:equity ratio	$\frac{\text{Long-term loans}}{\text{equity}}$			
Financial efficiency	Days receivable ratio	$\frac{365 \times \text{accounts receivable}}{\text{annual billed revenue}}$			
	Bill collection efficiency	% of bills collected			

Those utilities who are considering a benchmarking programme, should refer to the World Bank benchmarking toolkit for water and sanitation on their website. It is also beneficial to collect data per market segment or area, so that priority areas for improvement amongst each consumer group can be identified. A sample format for indicators and ratios by market segment, particularly for serving low-income areas, is given in Section 3.6.

Where possible the data based on these indicators can be from utility databases or collected using regular well-designed consumer surveys that are representative of each market segment or consumer group. This process also enables ongoing effective monitoring against agreed targets in conjunction with the regulator or appropriate government department.



# MARKETING WATER SERVICES FOR ALL CONSUMER GROUPS

**Table 2.7. Financial indicator and ratio examples**

Category	Indicator or ratio	Formulae	Previous years value	Latest actual value	Target for next year
<b>Water production</b>	Quantity of water produced	Volume treated/per target population			
	Quality of water produced	Percentage samples acceptable			
	Production factor	Energy and chemicals costs as percentage of operating costs			
<b>Water delivery (for whole city)</b>	Target population				
	Average no. of people/ connection	Total population/no. of connections			
	Standpipe use	Percentage of population who use standpipes or kiosks			
	Service delivery (use)	Percentage of people who use house or yard connections			
	Supply hours	Average supply hours per day at acceptable pressure			
<b>Efficiency</b>	Unaccounted for water	Percentage of water paid for/water produced			
	Maintenance efficiency	Frequency of burst/km pipes			
	Maintenance efficiency	Average downtime of electromechanical plant			
	Maintenance spending	Percentage maintenance expenditure of total operating expenses			
<b>Consumption</b>	Quantity of water consumed per person	Served population/water consumed			
	Working meters	Percentage of working consumption meters			
	Quality of water delivered	Percentage samples acceptable			
<b>Sewerage</b>	Service coverage	Percentage population connected to sewers			
		Percentage population with acceptable on-site sanitation			
	Maintenance	Frequency of failure/km sewers			
	Treatment	Percentage of wastewater treated			
<b>Effectiveness</b>	Extent of water related diseases	Diarrhoea /cholera/ typhoid cases per million per year			
	Customer satisfaction surveys	Proportion customers questioned expressing satisfaction			
<b>Productivity</b>	Staffing levels	Staff per thousand connections			
		Staffing costs as percentage of operating costs			

## 2.10 Stage 2: Where do we want to be?

The completion of a thorough situation analysis (Stage 1) of the utility, and its' services, consumer groups and working environment, provides a good basis for beginning to answer the question *Where do we want to be?* It is necessary to review and agree utility objectives and targets in the light of information collected at the *Where are we now stage*.

Specific objectives need to be considered for different parts of the services provided. For example, specific and realistic targets are required for water and sanitation as well as for the different segments of the customer base, as a basis for investment planning.

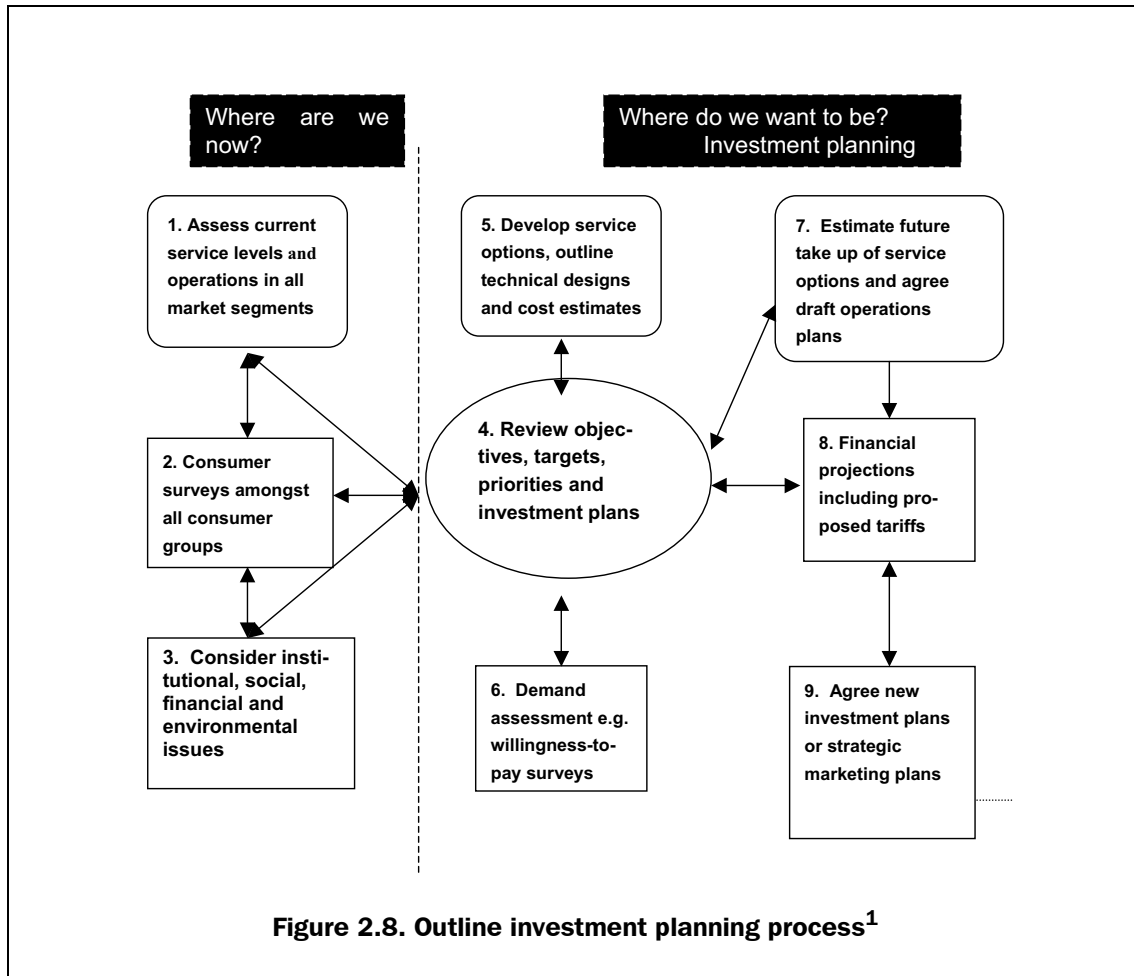
Viable service options need to be selected, for each market segment, at appropriate prices. Part of the process of selecting feasible options and determining tariffs is to ensure that the views of customers have been taken into account, whether through customer committees, or information derived from customer surveys and willingness-to-pay studies. Verification of demand assessment data can be very useful. For example, using WTP or PREPP results as a basis for discussions with community groups or customer committees can increase the level of support for new proposals.

Projections of costs for improvements and the revenues that the utility can obtain should also be carefully made. In particular, the projections should show how the utility can improve water services to existing and potential customers and achieve financial sustainability. Estimates for option take-up will therefore need to be made, and spreadsheet calculations undertaken to project future revenues. An example of a financial projections summary sheet for a strategic marketing plan from Kampala can be seen in Annex 1.

As the ultimate aim in the process is to develop viable and comprehensive investment or strategic marketing plans, it is useful to think about a typical investment planning process and the inter-linkages between the various key activities and at what stages the key sets of information are used. An outline process showing these inter-linkages is shown in Figure 2.8. The process begins with Box 1: an assessment of current service levels and operations which should reveal key problems and any need for service improvements. It is also important to regularly conduct consumer surveys (Box 2) to find out consumers' (existing and potential customers) perceptions about both the service provision and the utility. Activities in Boxes 1 to 3 help answer the question *Where are we now?*

The key stage in the *Where we want to be?* section of the flowchart in Figure 2.8 is Box 4: 'Review objectives, targets, priorities and investment plans'. This should be done with the best available information, such as the data from the 'assessment of current service levels and operations (Box 1) and well-designed consumer surveys (Box 2), as well as the issues in Box 3.

If significant new or revised investments are proposed, then it is worthwhile developing 'service options, outline technical designs and cost estimates' (Box 5) and conducting 'Demand assessment e.g. willingness-to-pay surveys' (Box 6). Both these activities provide valuable information for developing the 'Financial projections including proposed tariffs' - Box 8, as well as the 'operations plans for preferred options' - Box 7. The willingness-to-pay survey results not only provide useful data on consumer preferences, but also the average maximum willingness-to-pay data is valuable in



1. Source: K. Sansom adapted from Revels (2002)

determining tariff policies. Note that many of the arrows in the outline investment planning process figure point in both directions. This emphasizes that the process is both iterative and ongoing.

Potential infrastructure development may include bulk water supply, treatment, transmission and distribution to meet both current and future needs. Key areas for improvement are likely to be customer services such as billing, revenue collection, general customer relations and services to low-income areas. These 'software' issues ought to go hand-in-hand with 'hardware' issues such as infrastructure improvements and O&M that together constitute service quality. Improvements in service quality can result in the enhancement of customers' perception of the value of the service. Customers are often willing to pay more for a perceived increase in service quality, so the scope for increasing water tariffs increases.

The financial projections are best done using a number of investment scenarios. Refer to Box 2.5 for discussion of investment scenarios used for a draft Strategic Marketing Plan for Kampala. The preferred investment scenario can then form the basis of the agreed investment plan, which needs to be discussed with key stakeholders. A sample investment plan that was developed as part of a strategic marketing plan is shown in Annexe 2.

### Box 2.5. Example financial projections for investments in Kampala<sup>1</sup>

During the dictatorial regime in Uganda in 1970-80 the service coverage of the corporatized urban water utility, National Water & Sewerage Corporation (NWSC), suffered in two major ways: there was virtually no investment into expanding water service coverage, and the existing infrastructure deteriorated because of poor O&M practices. Consequently, since 1986, NWSC has injected substantial investment funds into its infrastructure, using grants and loans sourced by the government from bilateral and multi-lateral financing institutions, with a loan repayment period ranging between 10 years and 30 years. Since the early 1990s, the loan portfolio for Kampala water supply service area has accumulated to about US\$64 million.

Scrutiny of the investments carried out shows that expansion of water treatment plant was not matched by extension and rehabilitation of NWSC's water reticulation network, a situation that has resulted into a low service coverage of about 40 per cent of the total population in Kampala. On top of the high un-accounted-for-water and low collection efficiency, the low coverage contributed low revenue collection. Subsequently, NWSC asked for a reschedule of loan repayments as follows:

US\$7.5 million in 2002/2003

US\$8.3 million in 2003/2004

US\$8.8 million in 2004/2005, leaving a principal balance of US\$14.45 million on the historical loans.

Analysis carried out shows that it is not possible to both conform with this loan repayment schedule and use internal sources to capitalize the infrastructure expansion projects that are critical for the growth of NWSC. Consequently, to illustrate how to derive a 25-year strategic marketing plan for NWSC Kampala supply area, four scenarios were considered:

- *Scenario 1:* Assumptions were made that the central government will take on payment of historical loans, and treat it as equity contribution. In this case, revenue collection would fully cater for operation and maintenance costs, as well as service expansion to cover 100 per cent of projected population by year 25 of the project. The average tariff would be US\$0.67 per cubic metre.
- *Scenario 2:* Assumptions were that revenue collection would cater for historical loans and service expansion to enable 100 per cent population coverage by year 25 of the project cycle. However, NWSC would have to negotiate for loan rescheduling to the last 10 years of the 25-year project cycle. The average tariff would be US\$0.76 per cubic metre.
- *Scenario 3:* Assumptions were that the Central Government will take on payment of historical loans, and revenue collection would cater for service expansion to enable 100 per cent population coverage by year 25 of the project cycle. Kampala Area could also provide cross-subsidies of US\$8 million in the first six years and step it up appropriately thereafter to cater for operation and maintenance of other secondary towns under NWSC. The average tariff would be US\$0.76 per cubic metre.
- *Scenario 4:* Revenue collection to cater for both historical loan repayment and subsidies specified in Scenario 3. The major assumption is that NWSC would negotiate for rescheduling of loan repayment to after year 15 of the project, to enable capitalization of service expansion in the early period of the project. The tariff would be US\$0.78 per cubic metre.

All the above scenarios ensured that there are no cash-flow problems in the daily operations of NWSC.

1. Source: Kayaga and Sansom (2003)

The potential revenues are compared with projected costs for each investment scenario to check for financial sustainability. This is an iterative activity that may have to be done several times until an acceptable combination of service options, costs and prices is achieved, each time keeping in mind customer's requirements and willingness to pay. When an acceptable combination is achieved, the utility should then move to the next stage of 'How might we get there?'. There may of course be more than one viable investment scenario in the financial projections, all of which might require further assessment.

The goal of financial sustainability, a return on capital employed, will place a heavy burden on customers who may have been used to receiving subsidized water (though it may deliver a dramatic reduction in prices to the poorest who have been purchasing water from vendors). This higher price burden is only fair if the water utility also bears its share through delivering services in the most efficient manner. 'Where do we want to be?' must also be answered in terms of a 'least-cost provider'.

### **2.11 Stage 3: How might the water utility get there?**

The financial projections for new investment programmes and the most viable investment scenarios developed need to be assessed, after consideration of marketing and institutional issues, in order to develop the final strategic marketing plan, or investment plan.

The development of a viable marketing strategy, perhaps using the 7Ps (product, price, promotion, place, people, process and presence) is important, as are the development of institutional development proposals, including any public-private partnership options. It is also advisable to assess the potential risks and benefits of the preferred SMP.

Full consultation of the preferred strategic marketing plan among key stakeholders will assist in achieving a realistic plan and will help gain commitment. Negotiations with potential financiers are advisable, whether they be donors, banks or private operators seeking PPP arrangements. This is particularly important during the '*How might we get there?*' stage, so that project proposals can be prepared in the preferred format of interested funding organizations.

More information on how a water utility can successfully implement its strategic marketing or investment plans is provided in Chapter 8 of Book 2. Potential initiatives for governments to support these approaches are discussed in Section 3.2 and Chapter 4 of this book.

