DISCUSSION PAPER

Strategic marketing to improve both water utility finances and services to poor urban water consumers

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This paper has been developed from ongoing WEDC/IHE research into how to adapt and apply commercial marketing techniques to the urban water sector in developing countries, in the context of emerging service, payment and management options. DFID-supported field research is being conducted in East and Southern Africa, as well as in India. Please refer to the back page for further details.

1. Introduction

In developing countries, many urban water utilities and municipalities are not providing services directly to as many as 50 to 70% of the people living in those cities. In fact, many existing customers also rely on other water sources for part of their water consumption. Such alternative non-utility water sources are invariably supplied through water vendors to whom poor consumers usually pay high prices. In addition other water sources such as wells, springs and rivers though often contaminated, are also relied upon. The situation is becoming worse with urban population growths of 2 to 6% per year and higher. However, there are potential solutions for meeting the needs of the consumer *and* the utility.

There are in effect many other players in the urban 'water market', such as water vendors, tanker suppliers etc. Good opportunities exist for water utilities and municipalities to use *commercial marketing techniques* to capture a higher percentage of the water market and

provide improved services, *while* improving the utility's financial sustainability. Indeed capacity to pay for services is in part revealed by the fact that people pay vendor water prices that are often higher than European water prices, refer to Box 1 overleaf.

In many cases, vendors do not pay the utility for the water that they sell on to their customers, which is therefore lost income. In addition, the potential time saving by residents if a utility provides adequate water points closer to people's homes has benefits for the local economy.

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Box 1.

In Nairobi, Mombassa and Kampala, the common price for water from a kiosk vendor in informal settlements ranges from $1 to $5 per cubic metre. Only about 30% of the people living in these cities have direct access to piped water. The rest depend on point sources (shallow wells etc.) and on small-scale independent providers (SSIPs) such as water kiosk operators, hand-cart vendors, tanker suppliers and bore-well operators.

Source: UNDP–World Bank WSP, Nairobi, Field Note Number 6

More satisfied customers also means that a greater willingness to *sustain* payment exists amongst those customers, which amounts to greater income potential for the utility. A win-win situation, satisfying the needs of the utility and the demands of the customer, can then develop.

2. Constraints in implementing improvements

Why are so many urban water supply organisations slow or reluctant to provide improved water services to un-served areas or informal settlements? An often-cited reason is the political and legal issues associated with land tenure, but there are many instances of these problems being overcome particularly where there is a willingness to communicate and collaborate. For example, Urban Poverty Alleviation projects, such as those supported by the UK Department for International Development (DFID), through their programmes in India and Kenya address this issue.

A more persistent cause of lack of action is associated with the difficulties of making the case to key stakeholders for more investment and loans to implement improvements.

3. Strategic Marketing Framework

3.1 Strategic marketing

An approach common throughout the business world, can assist in the justification of new projects to serve different customer groups. It allows organisations to make the case for investment through initially understanding the perceptions and preferences of different customer groups. This leads to the development of *viable marketing plans* that target and promote appropriate service, payment and management options that can be provided reliably at appropriate prices to each of those customer groups or *market segments*.

Determining which options existing and potential customers prefer and at what prices and conditions, together with how the options can be provided reliably requires careful studies and planning. Strategic marketing provides a framework for this work to be done.

4. Strategic marketing for the urban water sector

4.1 A menu of options

For those people who receive good 24-hour water services, the service options to consider promoting at first may seem somewhat limited. International water utilities, however, seek to introduce viable options wherever they can, particularly payment options, in order to improve customer satisfaction. The potential to introduce more service and shared management options increases substantially in situations where services are currently intermittent and/or inadequate, particularly in developing countries. An outline list of potential options for a developing country context is shown in Figure 1: Product Differentiation – Options for Urban Water Utilities.

Many water supply organisations provide some limited options (e.g. house connections and standpipes or water kiosks) but the scope for introducing more options to improve customer satisfaction is considerable. Durban Metro Water in South Africa, for example, has successfully marketed four options below. A list of

Figure 1. Product differentiation – Options for urban water utilities

Water				
Location of water point	Max 100m	Max 25m	Yard	House
Pressure	Full	Roof (1st storey)	Ground	Trickle feed
Hours of supply	24, 12, 9, 6, 2 hours			
Target dwellings	Owner occupiers	Tenants	Informal dwellings	Illegal dwellings
	Commercial premises	Single or two storey	Multiple 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 meters	Neighbourhood reselling	Handcart vendors
	Flow restrictors /trickle flow	Storage containers	Shared connections	Water regulator CSIR
	Site storage	Area storage		Tanker vendors
Payment options	Household collectors	Water stamps	Pay points	Bank debits
	Central office	District office	Local (very local) office	Local shopkeepers
	Collective (bulk) billing	Street billing	Household billing	Owners billing
	Per house value	Per plot area	Prepaid tokens	Agree with community groups
	In advance	On delivery	In arrears	Fixed credits
	Per day	Per month	Per container	Per m^3
	Flat rate	Metered	Flow restricted	Time restricted
	Fixed charge	Volumetric charge	Fixed/ volumetric	Marginal cost pricing
	Rising block tariff	Falling block tariff	Lifeline block tariff	Single block tariff
Connection cost options	Connection fee (% of fixed assets)	Cost (piping, road cut & meters & storage & labour)	In advance	Amortised connections costs
			Labour contribution	Micro credit schemes
Shared management options	Utility supplies water to private or community managed kiosks	Utility supplies in bulk to community group who manage limited water distribution	Utility supplies in bulk to local operator who manages water distribution	Pipe connection shared by number of designated households with only one water bill

Sanitation (as normally provided by a utility – ie omitting on-plot sanitaiton and on-site disposal)				
Conventional utility/municipal sewerage network	Low cost sewerage	Local sewerage network managed by community	Public toilets	Bath houses
Conventional sewage treatment	Disposal facilities for suction trucks			

viable options for each community area was agreed from this list and promoted in poorer areas.

- water kiosk where people pay per jerrican
- individual ground yard tank with trickl feed
- roof tank with a trickle feed
- 24 hour supply with full pressure

There is also considerable scope for different shared management options either between a utility and small-scale independent providers (SSIPs) or between the utility and community based organisations (CBOs) or groups. Small private operators play an important part in the provision of water services in Africa, serving over 75% of the urban poor (Collignon B. and M. Vezina, WSP, 2000). There is potential for improved collaboration between the utility and these private operators, particularly in areas where the utility is unable to provide adequate services. 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 increasing customer satisfaction, while improving the utility's revenue base.

Shared management of water supplies between a utility and community group is becoming more common. This arrangement can reduce the utility's operational management costs, empower communities to manage their services and enable improved service provision in areas where a utility may be reluctant or unable to work. For example, in Arusha, Tanzania and Dhaka in Bangladesh, community groups manage water kiosks that are supplied with water by the utility and payment is based on meter readings. Whereas in Nairobi, Haiti and Dakar (Senegal), community groups manage small tertiary water distribution systems and pay the utility or municipal council for the bulk water supply.

4.2 The customer value chain

Progressive water utilities now appreciate that the '*Customer is King'* and that they should therefore be treated as the fountain of knowledge (Sage R., Water Services, 2000) and that it is important to build enduring profitable relationships with current and potential customers. A useful concept to achieve this is the *'Customer Value Chain'*, which is to *know, target, sell and service*. This concept is increasingly used in the commercial sector and in the context of the water sector, it involves the following:

Know and understand the different customer and potential customer groups, including their attitudes, practices, perceptions, preferences and their willingness to sustain payment for improved services.

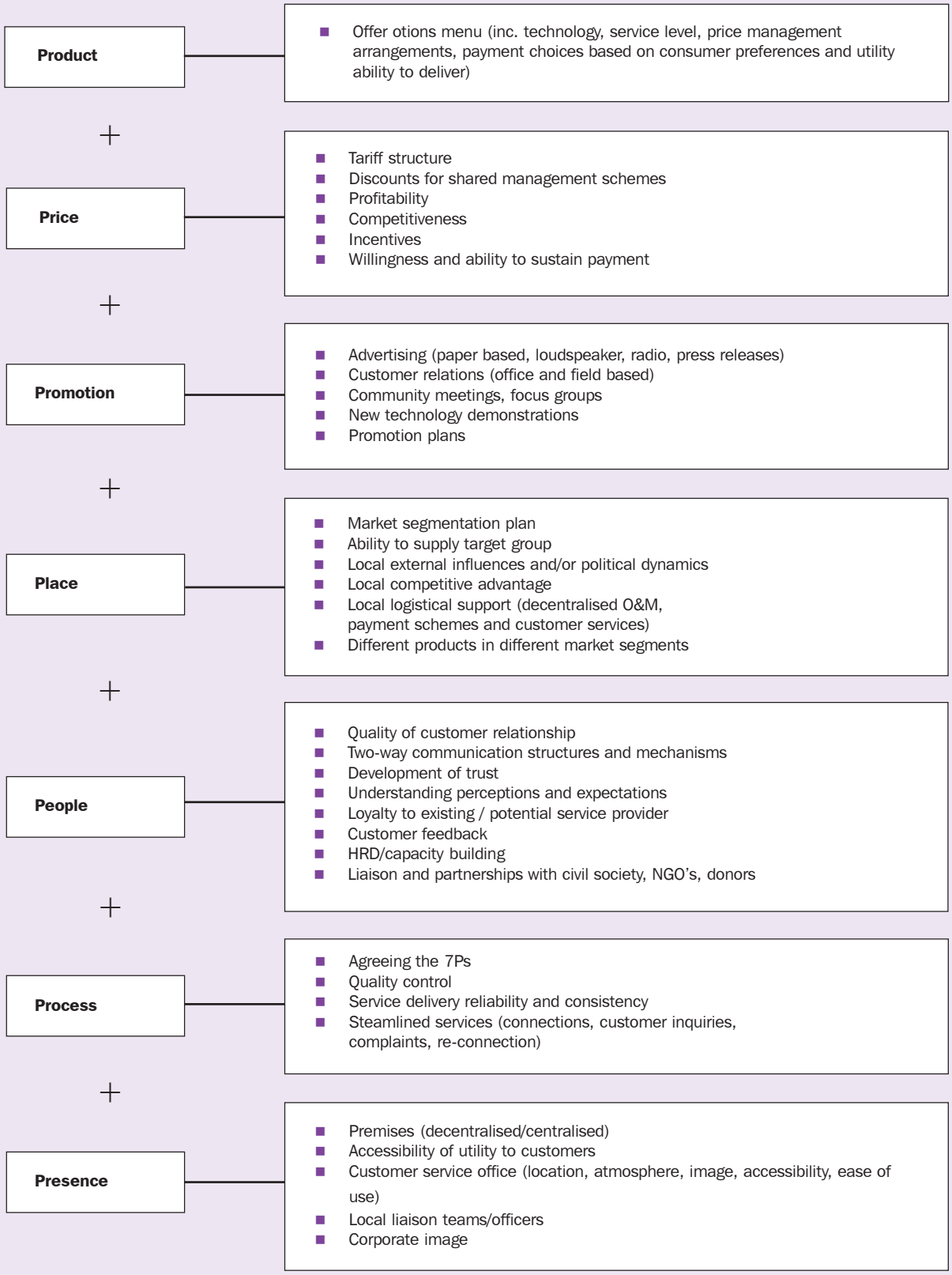
Water and sanitation is often perceived as a 'social good' as well as an 'economic good' and this complicates matters, so more efforts are needed to understand people's perceptions. Key methods for getting to know water users better are through questionnaire surveys, focus group discussions, customer consultative committees and local observation.

Target specific customer groups or market segments. For example, commercial customers and domestic customers in high, medium and low-income areas, with appropriate service options, such as house connections, yard taps and water kiosks, with or without storage tanks, at appropriate price levels. Other options that can be offered are payment options (e.g. by post, at a bank, or at a local/zone office) and shared management options.

Sell options using suitable promotion techniques. This will often require careful planning and implementation particularly when dealing with groups who use alternative water supplies or if they have unauthorised pipe connections and do not currently pay.

Services provided to a high quality standard, delivered through a balance of people, processes and technology by knowledgeable staff. To provide such a standard of service requires utilities to adopt a programme of continual organisational improvement centred round 'the customer'. In addition, effective collaboration between different departments within a utility (such as customer relations, billing, operation and maintenance, financial management etc.) can enable the resolution of typical customer problems.

Figure 2. The water utility marketing mix – 7Ps



Source: Adapted from Brassington and Pettitt, 2000

4.3 The water utility marketing mix – 7Ps

Implicit in strategic marketing is the satisfying of customer needs and demands. In the water and sanitation sector this concept is increasingly expressed as the ability to be 'demand responsive'. This is a deliberate move away from the supply driven traditions of large-scale water and sanitation projects that in the past have often proved unsustainable. Being 'demand responsive' involves the development of a process approach to service delivery that is based on dialogue and trust between the supplier (in this case the utility) and the consumer (the household and/or community). This process of understanding the nature of consumers, their current practices, needs and demands coupled with their, and the utility's ideas, innovation and expertise is known as the *'marketing mix'* (Brassington and Pettitt, 2000).

Getting the marketing mix right involves the utility in devoting time to key aspects that are summarised in Figure 2.- *the 7ps of marketing* which are product, price, promotion, place, people, process and presence (Brassington and Pettitt (2000) and Booms and Bitner (1981) cited Brassington and Pettitt, 2000:27). Typical issues for the urban water sector for each of these elements are also summarised in Figure 2.

The 'mix' in marketing is key because successfully satisfying customer need is dependent on adequate attention to all the marketing mix elements. For example, the introduction of utility supplied communal managed standposts *(product)*, will be more effective with good communication *(people and promotion)*, in appropriate areas *(place),* at competitive and fair tariffs *(price)*, through a *process of* developing trust between parties so that a win-win outcome results. Adequate *presence* of the utility is also very important. This includes its accessibility to customers and other key stakeholders, as well as projecting a positive self-image as a capable organisation devoted to service improvement for all consumer groups.

4.4 Key marketing concepts

4.4.1 Marketing

Marketing is about satisfying customers. Jones (1989) has defined marketing as:

'*The management process responsible for identifying, anticipating and satisfying customer requirements profitably*.'

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

There are several ways of looking at marketing:

- as a business philosophy,
- as a management process and
- as a set of tools (the marketing mix - 7Ps) used to respond to demand.

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

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

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

Based upon a careful analysis of alternative opportunities, and organisational strengths and weaknesses, '*Strategic Marketing Plans'* are compiled and implemented to achieve these marketing objectives.

Figure 3: – *The Strategic Marketing Process*, illustrates how strategic marketing plans may be developed and implemented for a water utility in developing countries, as part of five key stages. This process is comprehensive and indeed needs to be if a utility is to reliably provide a range of service, payment and management options for increased customer satisfaction on a financially sustainable basis.

4.4.2 Market segmentation

In many cities in developing countries, needs and conditions differ substantially from one neighbourhood to the next. For example, viable service options in rich low density housing areas 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 means of targeting viable options to appropriate user groups.

Heskett (1986) defined market segmentation as the process of identifying groups of customers with enough characteristics in common to make possible the design and promotion of products or services each group needs and is willing to pay for. By identifying a particular segment's special needs, the service provider such as a water utility can then design service options to meet needs in a better way and in a financially sustainable manner. Wilson and Gilligan (1997) have grouped the variables that could be used to segment markets into four categories:

- Geographic and geo-demographic,
- Demographic
- Behavioural and
- Psychographic.

For urban water and sewerage services, potential variables for segmentation include:

- the type of dwelling and location (e.g. bungalows, flats, informal housing and mixed)
- housing densities (e.g. high medium and low density)
- socio-economic data, such as income levels.

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 are perhaps the easiest means of segmentation. If the market segments are shown on *social maps* of the city, these can be used for planning service improvements to un-served areas or informal settlements.

Once a utility has assessed which options people prefer in different market segments, it can determine the options that are viable to promote in each segment as part of the *Customer Value Chain* of Know, Target, Sell and Service.

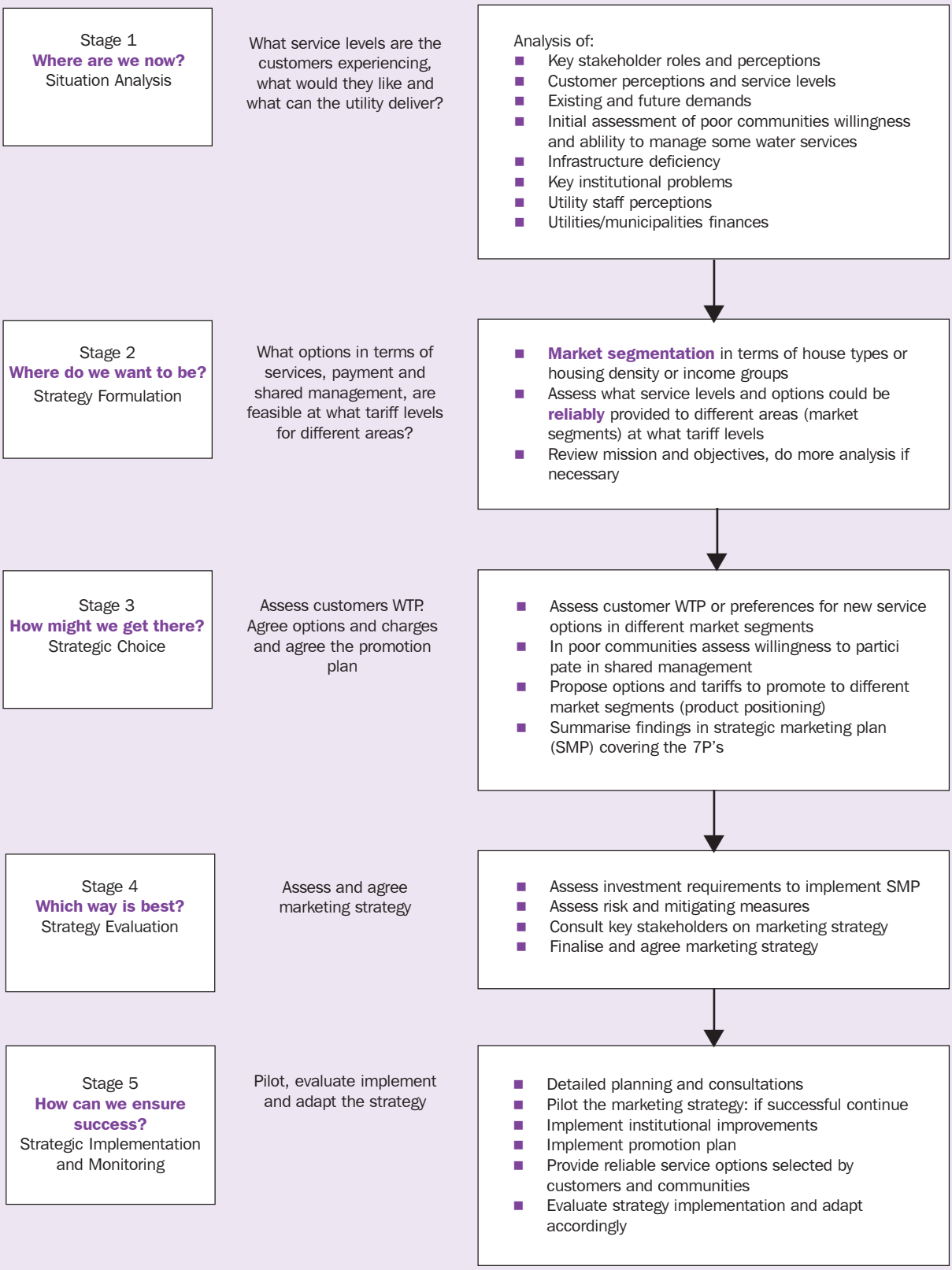
5. Balancing projected income from each option with total utility costs

Strategic marketing can be used to justify investment decisions as well as establishing plans for generating income from customers to pay for those investments. For financial sustainability, the total projected costs should preferably be less than the projected total income from customers, plus any subsidies (which are likely to diminish). This can be achieved by the following key strategies:

a) reducing costs
b) maximising the number of paying customers by reliably providing and promoting options that they prefer
c) setting appropriate tariff levels.

Strategy a can be achieved through actions such as reducing unaccounted for water and improved maintenance etc. While strategy b is essentially achieved through effective marketing and is the subject of this paper. Using an appropriate means of tariff calculation based on future discounted costs is the best way to set appropriate tariffs. A suitable approach is the Average Incremental Cost (AIC) method. For further information refer to the WHO Handbook on Financial Management (1994). By offering different options to different customer groups, opportunities exist for setting lower water prices for options that cost the utility less to provide. For example a water kiosk that is managed by a community group has less operational costs for a utility than a kiosk managed by the utility itself. Trickle feed supplies are cheaper than full water pressure, so tariffs can be lowered accordingly to capture people's willingness to pay. Box 2 shows an

Figure 3. Strategic marketing process for intermittent water supply services



Source: Based on Wilson and Gilligan, 1997

Box 2. Example of balancing projected income for each option with utility costs

If we assume that the average calculated tariff for financial sustainability for a city is say $1.0 per cubic metre and that the average consumption per household is 10 cubic metres a month. For 50,000 paying households in a city, the total domestic water income for the utility will be:

$1.00 X 10 cubic metres X 12 months X 50,000 households = $6 million

(Average tariff X Water Volume Sold = Total Domestic Water Sales Income)
(excluding connection charges etc)

If the total expected income from commercial/industrial and other institutions in the city is $2 million at the same tariff level, then the total projected yearly income for financial sustainability is:

$6 million + $2 million = $8 million

The tariff levels for each service option offered will need to be adapted to generate this same level of income ($8 million) as is shown in the simplified calculation in the table below. Note the tariffs can be adjusted to match the WTP of customers for each option offered, as well as reflecting the reduced costs of provision for the different service levels offered to poor or un-served communities.

Service Option	*Proposed Option Tariff ($ per cubic metre)*		*Projected Sales Volume (cubic metres of water)*		*Projected Income from each Option*
Utility managed water kiosks	$0.8	X	300,000	=	$0.24 million
Community managed water kiosks	$0.6	X	400,000	=	$0.24 million
Yard connection with storage tank and trickle feed	$0.8	X	500,000	=	$0.4 million
Individual house connection with 12 hours supply to roof tank at full pressure	$1.0	X	4.8 million	=	$4.8 million
Commercial/ industrial users	$1.16	X	2 million	=	$2.32 million
			Total Income		$8.0 million

income for each service option with utility costs, which is essential for long-term financial sustainability of an urban water supply authority.

It is preferable that the selected tariff levels for each option are compatible with the willingness to pay (WTP) expressed by users for each option. Currently the most common way of determining the maximum WTP is through the Contingent Valuation Method that is a form of bidding game.

The figures in Box 2 do not include sewerage charges which would need to be added for household supplies where on plot disposal is not feasible. The calculation is rather simplified, as demand for water will vary with price, but it offers the basic approach of differentiating service options (products) at appropriate prices, in order to maximise both income and the numbers of satisfied customers.

6. Informal settlements

Informal settlements sometimes also known as slums, compounds and peri-urban areas, provide viable though often under explored 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 necessitates that they obtain water from elsewhere often at over inflated prices and 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.

Commonly the following statements are made in relation to why informal settlements are left without utility provided services.

- *'the poor can't pay…'*
- *'they (the poor) are looked after by donors and NGOs, small scale providers…'*
- *'we (the utility) are only just managing to serve the rest of the city without supplying people who are living on land illegally…'*

At worse many utilities simply do not recognise informal settlements as a customer base. The challenge for utilities 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 sustain payment for services.

Working in informal settlement areas 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 succeed in capturing the informal settlement market, perhaps more than in any other social group, it must understand the perceptions of the people who live there. This can only be achieved by meeting the residents face to face and establishing meaningful and continued dialogue with them.

Using commercial and social research methods, for example focus group discussions and observation, a utility can build its understanding of how people perceive their current and future needs and how they cope in the absence of a reliable utility supply. It can learn about what service levels or options people prefer and what they would be willing to sustain payment for. If all parties are open and honest about what is feasible, flexible strategies can then be deployed to establish an acceptable level of service and insure against problems that might occur later. Services are therefore tailored to meet the objectives of both the consumer and the utility on a sustainable basis.

Essentially the utility is involved in a process of *negotiating demand* for services. This process of becoming involved with potential customers in their own environment will involve 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 NGO's, civil society groups and social development specialists in local universities and so on. Such collaboration has value added benefits for all stakeholders and contributes to the development, expertise and breadth of knowledge of existing utility staff. Investment in informal settlements requires time and commitment. Utilities may consider the setting up of an inter-disciplinary team or an inter-departmental unit within the utility that can focus solely on services for informal settlements as in the case of Lusaka, Zambia.

7. Next steps

There appears to be plenty of scope for water utilities in developing countries to utilise commercial strategic marketing techniques in the urban water sector. This has become even more apparent as more service, payment and management options emerge. Comments would be appreciated on the ideas contained in this discussion paper. Please send any comments you have to Kevin Sansom at the address or e-mail given overleaf.

The detailed application of the strategic marketing approach to the urban water sector is being tested as part of ongoing WEDC/IHE research in Africa and India.

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Pricing and service differentiation of utility watsan for the poor research project

The Water, Engineering and Development Centre (WEDC) has commenced this research project, funded by the Department for International Development, UK. The purpose of the research is to develop guidance to enable water utilities to structure and market service options at appropriate price levels to meet the needs of low income groups. Key outputs from the research should be available in 2001. For further information, please contact:

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